

COMMONWEALTH OF PENNSYLVANIA



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January 5, 2010

James J. McNulty
Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

RE: Petition of West Penn Power Company
d/b/a Allegheny Power for Expedited
Approval of its Smart Meter Technology
Procurement and Installation Plan
Docket No. M-2009-2123951

Dear Secretary McNulty:

Enclosed for filing is the Reply Brief of the Office of Consumer Advocate, in the above-referenced proceeding.

Copies have been served as indicated on the enclosed Certificate of Service.

Respectfully Submitted,

A handwritten signature in cursive script that reads "Tanya J. McCloskey".

Tanya J. McCloskey
Senior Assistant Consumer Advocate
PA Attorney I.D. # 50044

cc: Honorable Mark A. Hoyer

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BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of West Penn Power Company :
d/b/a Allegheny Power for Expedited : Docket No. M-2009-2123951
Approval of its Smart Meter Technology :
Procurement and Installation Plan :

REPLY BRIEF OF THE
OFFICE OF CONSUMER ADVOCATE

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I. INTRODUCTION

As the Office of Consumer Advocate (OCA) demonstrated in its Main Brief and through the testimony of its expert witnesses in this proceeding, the original Smart Meter Procurement and Installation Plan (SMIP or Plan) filed by West Penn Power Company d/b/a Allegheny Power (Allegheny Power or Company) in this proceeding is unreasonable and must be rejected in its entirety. Allegheny Power's Plan comes at a net cost of \$580 million to its Pennsylvania ratepayers over a four year and four month period, even after accounting for the expected savings from the Plan. Through an automatically adjusting and reconciling surcharge, Allegheny Power will increase the rates of its residential customers by \$5.86 in early 2010, more than doubling its current customer charge. The surcharge will quickly increase to \$14.34 per month in June of 2011, increase to \$15.57 per month in June of 2012, and then increase to \$15.77 per month by June of 2013. The Smart Meter Technology surcharge (SMT surcharge) is by far the highest proposed by any Pennsylvania EDC, and despite its claimed need for expedited deployment of its smart meters, the Company did not even file an Application for Phase 1 stimulus grant money under the American Recovery and Reinvestment Act (ARRA) to mitigate this impact on ratepayers.

In its Main Brief, the Company continues to support its Plan for an exceedingly aggressive deployment of smart meters throughout its service territory. The Company urges approval of its Plan, arguing that it is necessary to the implementation of its Energy Efficiency and Conservation Plan (EE&C Plan) that has already been approved by the Commission. The Company also tries to argue that its aggressive and costly deployment of smart meters and the associated infrastructure is demanded by the provisions of Act 129. The Company's arguments fall far short of supporting this aggressive and costly Plan. At an installed cost of \$600 per meter

as compared to other smart meter deployments of \$250 per meter, and a significant impact on residential customer bills of 34% for a 500 kwh customer and 18% for a 1,000 kwh customer, it is wholly unsupportable to argue that the Commission has already sanctioned this Plan through a ruling on the EE&C Plan or that Act 129 envisions such a Plan.

The OCA has recommended that the Commission reject this Plan in its entirety and direct Allegheny Power to utilize the grace period provided by the Commission's Smart Meter Implementation Order to develop a reasonable and cost-effective deployment strategy. It is important to note at this time that the Company recently filed a Petition with the Commission seeking to reopen the record in this case to revise its Smart Meter Plan in significant respects to address the concerns raised by the OCA and other parties in this proceeding. The OCA welcomes this step by Allegheny Power to develop a more reasonable Plan that addresses some of the concerns that have been raised by the parties to this proceeding. The OCA filed an Answer supporting the Company's request to reopen the record and to submit a revised Plan, but the OCA pointed out that the schedule proposed by the Company provides insufficient time to consider the many modifications that will be needed to Allegheny Power's original Plan. Also, as the OCA noted, additional changes beyond those proposed by Allegheny Power in its Petition will still be needed.

For the Plan that is currently before the ALJ, however, the OCA submits that it fails to represent a reasonable and cost-effective approach to meeting the Company's statutory obligations under Act 129. Allegheny Power has presented a Plan that is difficult to deploy, costly to implement, and fraught with significant public policy concerns that have barely begun to be addressed. The OCA submits that the original SMIP must be rejected in its entirety and the

Company directed to use the grace period to develop a smart meter deployment plan that is reasonable and reflects reasonable costs to consumers.

It is not the purpose of this Reply Brief to respond to all of the arguments contained in the Company's or other parties' Main Briefs. The OCA's Main Brief fully addressed and responded to the arguments presented by the Company and other parties. The OCA will limit its reply to those issues requiring further clarification or response. Any failure of the OCA to address specific arguments contained on the Company's or other parties' Briefs does not mean that the OCA agrees with that argument or has revised its position.

II. PROCEDURAL HISTORY

A. Act 129.

No Reply Necessary.

B. History of the Case.

No Reply Necessary.

III. DESCRIPTION OF WEST PENN'S PLAN

No Reply Necessary.

IV. SUMMARY OF THE ARGUMENT

As explained in the OCA's Main Brief and further set forth in this Reply Brief, Allegheny Power's original SMIP is unreasonable and must be rejected. Allegheny Power has failed to demonstrate the prudence or necessity for forcing the full deployment of smart meters on the extremely expedited schedule that it has proposed and it has failed to adequately consider the impact of its Plan on its customers. In addition, Allegheny Power has failed to show that the costs it seeks to include in its Smart Meter Technology surcharge are reasonable or properly included in the Smart Meter Technology surcharge. Allegheny Power's SMIP is unnecessarily

and unreasonably burdensome to its customers, charging them by far the highest smart meter charge in Pennsylvania.

Also as explained in the OCA's Main Brief and further detailed herein, the Company's proposal to allocate the joint and common costs of its SMIP based on the number of customers fails to follow reasonable cost of service practices or the Commission's Smart Meter Implementation Order. The number of customers is neither a measure of the cause of these joint and common smart meter costs nor a measure of the benefits derived from the smart meter system. The joint and common costs here do not benefit one class solely nor do they benefit all classes equally. These costs are being incurred pursuant to Act 129 whose purpose is to alter energy usage and peak demand and correspondingly to reduce energy prices. As such, the OCA's proposal to allocate the joint and common costs on an energy and demand allocator properly reflects cost causation and the benefits of the smart meter deployment in accordance with reasonable cost of service practices.

Finally, several elements of the Company's proposed revenue requirement require modification. Specifically, the OCA submits that the Company's requested 11.5% return on equity is unreasonable. The OCA's proposal to use an interim return on equity of 10.1% is reasonable and should be adopted. In addition, the Company's proposal to use a 10 year meter asset life for depreciation purposes is unreasonable. The OCA's proposal to use a 15 year meter asset life for depreciation purposes in the Smart Meter Technology surcharge revenue requirement is reasonable and should be adopted. Further, the Company's claim for stranded cost should not be included in the SMT surcharge. Rather, the Company should be directed to make its claim for stranded cost in its next distribution rate proceeding so that all interrelated components of distribution rates can be properly adjusted.

V. ARGUMENT

A. Act 129 Requirements.

1. Deployment Schedule.

Allegheny Power proposed a rapid deployment of smart meters throughout its service territory based on its decision to utilize smart meters to meet the energy and demand reduction requirements of Act 129 in its Energy Efficiency and Conservation (EE&C) Plan. The Company proposed to deploy 725,248 smart meters by the end of 2014, with the bulk of the installations being accomplished in 2011 and 2012, at an estimated net cost to Pennsylvania customers of \$580 million over this period. AP Exh. 1, SMIP at 28, 94. As the OCA set forth in its Main Brief, Allegheny Power's proposed accelerated deployment is unreasonable and must be rejected. Allegheny Power has failed to show that its proposal is a cost-effective means of meeting its obligations under Act 129 or that the costs it will incur are reasonable or prudent. Allegheny Power has presented a Plan that is difficult to deploy, fraught with uncertainty, and fraught with public policy issues that have barely begun to be addressed by Allegheny Power.

The OCA has recommended that Allegheny Power be directed to utilize the grace period provided by the Commission in its Smart Meter Implementation Order to develop a more reasonable and cost-effective deployment strategy. A full scale smart meter deployment plan that is reasonable in cost and scope, addresses the many policy implications of smart meter deployment, including the impacts on low income and otherwise vulnerable customers, would be more in keeping with the requirements of Act 129 and the approach pursued by other electric distribution companies (EDCs) in Pennsylvania.¹

¹ As noted, Allegheny Power has recently filed a Petition to Reopen the Record to revise its original Smart Meter Plan in significant respects to address the concerns raised by the OCA and other parties. The OCA welcomes these efforts to develop a more reasonable plan, but as the OCA noted above, additional changes beyond those proposed by the Company will be needed.

In its Main Brief, the Company sought to support its original proposal and criticized the recommendations of the OCA. For the reasons set forth in the OCA's Main Brief and herein, the Company's arguments fail to support its aggressive and costly Plan.

a. Company Proposal.

In its Main Brief, the Company continues to rely on its Energy Efficiency and Conservation Plan as the reason for its accelerated smart meter deployment schedule. The Company makes no showing that its smart meter deployment plan is reasonable or cost-effective by any measure; it simply argues that since it has based its EE&C Plan on smart meter deployment, it must be allowed to move forward. AP M.B. at 16-22. To further support its position, the Company attempts to rely on the Commission's Order approving its EE&C Plan, arguing that the Commission has already noted the necessity of the rapid deployment of smart meters. AP M.B. at 17. The Company's arguments are fundamentally flawed and overlook key passages in the Commission's Order as well as details regarding its own EE&C Plan.

The Company rests its aggressive deployment schedule on the need to implement its EE&C Plan to meet the near term mandates for energy and demand reductions required by Act 129. As detailed in the OCA's Main Brief, Allegheny Power, alone among EDCs in Pennsylvania, chose a strategy to meet its Act 129 energy and demand reduction goals that relied upon immediate smart meter deployment. OCA M.B. at 26; OCA St. 2 at 11. This strategy was neither required by Act 129 nor contemplated by Act 129.² This strategy is also not supported by the Company's own EE&C Plan or the Commission's Order approving the EE&C Plan.

The Company's attempt to rely on the Commission's approval of its EE&C Plan to support its extremely aggressive smart meter deployment plan is misplaced. AP M.B. at 16-

² As discussed further in Section V.A.1.b.iii of this Reply Brief, the near term energy efficiency and demand reduction requirements of Act 129 are not linked to the smart meter deployment requirements as Allegheny Power argues.

17. The Company points to portions of the Commission's EE&C Order where the Commission notes the relationship between Allegheny Power's EE&C Plan and its SMIP. AP Exc. at 16-17. The OCA submits, though, that Allegheny Power should take no comfort in these passages. What the Commission clearly recognized was that Allegheny Power was taking a risk and that it was Allegheny Power that bears the risk of significant penalties for failure to meet its Act 129 goals. Rather than an endorsement of Allegheny Power's EE&C Plan, the Commission issued a caution and urged the Company to come up with a back up plan. The Commission stated:

Allegheny's reliance on the rapid deployment of smart meters and the associated network infrastructure does add an element of increased risk to its [EE&C] Plan. As Allegheny bears the sole risk of significant penalties if it fails to meet the mandated targets, we will not direct Allegheny to eliminate the proposed programs that rely on smart meter deployment, except where otherwise directed in this Opinion and Order. In recognizing this increased risk, the Commission strongly encourages Allegheny to develop an alternate "back-up" plan that is less reliant on smart meter deployment. Such an alternate plan would be a readily available option that can be implemented on short notice, after Commission approval, should any unforeseen circumstances delay or disrupt Allegheny's smart meter deployment. The Commission will closely monitor this element of Allegheny's Plan during the annual plan reviews and its review and monitoring of Allegheny's Smart Meter Procurement and Installation Plan.

Petition of West Penn Power Company d/b/a Allegheny Power for Approval of its Energy Efficiency and Conservation Plan, Docket No. M-2009-2093218, *slip op.* at 21 (Order entered October 23, 2009).

Further, as OCA witnesses Brockway and Hornby demonstrated in this proceeding, Allegheny Power's reliance on its EE&C Plan to support its aggressive smart meter deployment is overstated. OCA St. 2 at 11-12; OCA St. 1 at 21-22. The OCA submits that a back up plan that does not rely on aggressive smart meter deployment could address the demand reduction needs in a more economical manner. OCA witness Brockway noted that of the four

smart meter supported residential programs, three programs produced less than 1% of the Company's overall demand response goal. The fourth program produced only 4% of the total Company goal. OCA St. 2 at 12. When the programs for all customer classes are included, the aggressive smart meter deployment to all customers through 2012 is expected to yield less than 20% of the Act 129 demand reduction goal. OCA St. 1 at 22, Chart. The Company seeks to install over 400,000 meters by 2012, at a cost of \$580 million, to achieve a small, and uncertain, reduction in peak load. OCA St. 1 at 27. OCA witness Hornby captured the flaw in the Company's position as follows:

The Company's proposed SMIP is far out of proportion to the role it can play in achieving the goals of Act 129 within the next five years. It is a case of the tail wagging the dog. From a policy perspective I would be extremely surprised if the General Assembly expected, or intended, any EDC to spend approximately six times more on its SMIP than on its EE&C programs in the first four to five years of those initiatives, and to spend almost the same annual amount on SMIP as on EE&C once deployment of smart meters was complete. I would be even more surprised if the General Assembly expected the SMIP to achieve benefits worth only 20% of the SMIP's projected costs and to produce SMT surcharges for residential customers in excess of \$15 per month!

OCA St. 1-S at 4 (emphasis in original).

As discussed further in Section V.A.1.b.ii below, OCA witness Hornby provided several means for the Company to achieve the demand reduction requirements of Act 129 without the massive immediate smart meter deployment, *i.e.*, the back up plan that the Commission urged the Company to develop. The OCA submits that Allegheny Power cannot rely on its EE&C Plan or the Commission's Order approving its EE&C Plan to support this unreasonable approach to meeting the smart meter requirements of Act 129.

b. Other Parties' Positions.

i. Introduction.

As noted above, it is the OCA's position that Allegheny Power's aggressive smart meter deployment plan is fundamentally flawed and unreasonable. The OCA recommends that the Commission direct the Company to utilize the grace period provided by the Commission in the Smart Meter Implementation Order to develop a more reasonable and cost effective plan that is more in keeping with the intent of Act 129. Allegheny Power argues in its Main Brief that the OCA's position does not recognize the specific and near term deadlines for accomplishing the energy and demand reduction targets of Act 129 and tries to fault the OCA for not presenting a deployment schedule that would complement its EE&C Plan. AP M.B. at 22-25. Next, the Company argues that the OCA's analysis of the cost-effectiveness of the Plan is not required by Act 129. AP M.B. at 25. Finally, the Company argues that OCA's position does not consider other provisions of Act 129 such as the time of use rate filing provisions. AP M.B. at 24. The Company's arguments are based on serious misinterpretations of Act 129 and fail to consider the OCA's extensive testimony on these points.

ii. The OCA Recognized The Near Term Deadlines For Energy Efficiency And Demand Reduction And Provided A Roadmap As To How To Achieve Those Requirements Without Aggressive Smart Meter Deployment.

Initially, the OCA would note that OCA witness Hornby specifically recognized the need to meet the near term energy and demand reduction goals of Act 129 and showed how the Company could meet these goals without reliance on smart meter deployment. OCA St. 1 at 21-23; OCA St. 1-S at 18-19. As OCA witness Hornby showed, the Company could replace the small amount of demand reduction expected from the smart meter enabled programs through

incremental reductions in demand by just a few C&I customers with their existing interval meters. OCA St. 1 at 22. These customers are already participating in demand response programs using their existing meters and communications systems. OCA St. 1 at 22. Mr. Hornby demonstrated that additional participation by these customers could be targeted through enlisting curtailment service providers. Id. OCA witness Hornby also pointed out that the Company could employ direct load control (DLC) programs for residential customers with central air conditioning to achieve the necessary reductions. OCA St. 1 at 23; OCA St. 1-S at 17-18. As Mr. Hornby pointed out, other utilities are using both of these approaches. As to the direct load control programs for residential customers, Mr. Hornby noted:

Public Service Electric and Gas and Atlantic City Electric are enrolling residential customers in their DLC programs in a manner designed to allow easy transition to smart meters if, and when, they are deployed. Similarly, in Maryland, Baltimore Gas and Electric and Potomac Electric Company are each offering “smart meter compatible” DLC programs to residential customers, as described in their filings in Cases 9208 and 9207 respectively.

OCA St. 1-S at 19.

The OCA submits that it has adduced more than sufficient evidence to show how Allegheny Power can meet its near term demand reduction goals without reliance on its aggressive smart meter deployment plan.³ As such, the Company’s criticism is without merit.

iii. An Analysis Of The Cost Effectiveness Of The Plan Is Fundamental To Determining Whether The Costs Are Reasonable And Prudent.

The Company next argues that Act 129 does not require it to show that its Smart Meter Plan is a cost effective means of meeting the smart meter requirements of Act 129. Such

³ The Company’s argument that the OCA failed to present a smart meter deployment schedule that complements its EE&C Plan misses the point. AP M.B. at 25. The Company’s reliance on its EE&C Plan is what is unreasonable in the first instance. In the OCA’s view, the Company must develop a back up plan for its demand reduction goals that does not rely on a smart meter deployment schedule.

an argument is misplaced. AP M.B. at 25. Act 129 is clear that an EDC may only recover costs for smart meter deployment that have been found to be reasonable and prudent. 66 Pa.C.S. § 2807(f)(7). A critical analysis in determining whether the costs being incurred are reasonable and prudent is whether the plan is the most cost-effective means of achieving the goals. Even Company witness Graves acknowledged this point. Mr. Graves testified:

Ideally, any program or investment that the Company or any utility pursues would have benefits that exceed costs, i.e., a B/C ratio equal to or exceeding 1.0. However, this test is not imposed on all utility investments. There is often a presumption that the benefits or need are so high that the problem only requires a finding the least-cost alternative. Long term resource planning to satisfy reliability needs – whether for generation, transmission or distribution expansion – are generally handled this way. Resources that are obtained or developed in response to a legislative mandate are also often just evaluated for cost-effectiveness, such as environmental controls or renewable generation that responds to an RPS requirement. In such cases, *the goal is to find the most cost-effective alternative, i.e., the alternative with the lowest present value cost that satisfies the need or the obligation.*

Allegheny Power St. 6-R at 4 (emphasis added). This is precisely the point that OCA witness Hornby makes. Allegheny Power must show that its plan is the most cost-effective alternative to meeting the obligation of Act 129.⁴ OCA St. 1 at 10-11.

The burden is squarely on the Company to show that its plan is a cost-effective means to meet the statutory obligation so that its costs can be found to be reasonable and prudent and the resulting rates just and reasonable. 66 Pa.C.S. §§ 1301, 2807(f)(7). A thorough cost-effectiveness analysis is a well-established standard to consider in making these determinations. As OCA witness Hornby's analysis shows, and as discussed further in Section V.B.1.b below, the Company's Plan, with a benefit to cost ratio of only 0.2, is not reasonable.

⁴ The Company also suggests that it is the OCA's position that the benefit to cost ratio must be 1 or above. AP M.B. at 25. This is not the OCA's position. As OCA witness Hornby explained, the plan should be the most cost-effective alternative out of the range of available alternatives. The Company has made no such showing.

iv. Allegheny Power's Arguments Are Based On A Misreading Of Act 129.

Allegheny Power also argues that the OCA has failed to recognize the linkage between various sections of Act 129. AP M.B. at 22-25. In particular, the Company points to Section 2806.1 regarding the energy efficiency and demand reduction requirements and Section 2807(f)(5) regarding the time of use rate filing provisions. The Company's arguments are based on fundamental misreading and misinterpretation of Act 129.

The Company first tries to read into Act 129 a mandatory linkage between the energy efficiency and demand reduction provisions of Section 2806.1 and the smart meter provisions of Section 2807(f). While both provisions seek to move the Commonwealth toward the goal of energy efficiency, demand reduction, and energy price stability, the General Assembly established separate proceedings for the required filings and different time frames for compliance. Of particular note, the EE&C Plans required implementation of Plans and mandated results within one and three years. 66 Pa.C.S. § 2806.1(b) and (c). In contrast, Section 2807(f)(2) contemplates deployment of smart meters in accordance with "a depreciation schedule not to exceed 15 years." 66 Pa.C.S. § 2807(f)(2)(iii). Early deployment of smart meters, such as that proposed by Allegheny Power, is to be at the customer's request or in new construction. 66 Pa.C.S. § 2807(f)(2)(i) and (ii). There is clearly no link between the schedules set forth in Sections 2806.1 and 2807(f) as the Company describes.

Equally off the mark is the Company's assertion that Section 2807(f)(5) regarding time of use (TOU) rates establishes the need for its aggressive smart meter deployment schedule. AP M.B. at 24. The Company argues that the General Assembly expected smart meter enabled

TOU rates to be in effect around 2011. AP M.B. at 24. Allegheny Power's conclusion is based on a serious misreading of Section 2807(f)(5). Section 2807(f)(5) states in relevant part:

By January 1, 2010, or at the end of the applicable generation rate cap period, whichever is later, a default service provider *shall submit* to the commission one or more proposed time-of-use rates and real-time price plans. The commission shall approve or modify the time-of-use rates and real-time price plan within six months of submittal. The default service provider *shall offer the time-of-use rates and real-time price plan to all customers that have been provided with smart meter technology under paragraph (2)(iii)*.

66 Pa.C.S. § 2807(f)(5)(emphasis added). What Section 2807(f)(5) requires for Allegheny Power is a *filing* by January 1, 2011 that offers TOU rates for those customers that have already been provided a smart meter, not all customers as Allegheny Power argues. Paragraph (2)(iii) referenced in the section is the requirement for deployment in accordance with a depreciation schedule of no more than 15 years. This reference makes clear that there was no expectation that TOU rates or smart meters be made universally available in the short term. Section 2807(f)(5) provides no requirement that all customers have smart meters or TOU rates in 2011 as Allegheny Power argues.

OCA witness Hornby explained the proper interpretation of the provisions of Act 129:

My position is based upon the differences in specificity in Act 129 between Section 2806.1 regarding an EE&C program and Section 2807 (f) regarding a SMIP. Section 2807 (f) does not specify the date by which smart meter technology and time-of-use rates must be available on a system-wide basis, instead it simply requires deployment according to "...a depreciation schedule not to exceed 15 years". Section 2807 (f) does not specify reductions in annual consumption and peak load that EDCs must achieve through the deployment of smart meter technology and time-of-use rates. Instead it simply states that these rates must be offered to customers who have smart meters. Finally, Section 2807 (f) does

not specify an explicit cost-effectiveness standard that the SMIP must meet nor does it set an explicit limit on the cost of the SMIP.

The Allegheny Power witnesses apparently interpret Section 2807 (f) as a mandate to deploy smart meter technology and time of use rates on a system-wide basis as fast as possible regardless of the resulting increases in customer bills, the absence of projected equal or greater offsetting savings and the absence of an explicit commitment to improvements in the quality of distribution service. My interpretation of Act 129, from a policy perspective, is quite different from that of Allegheny Power. My interpretation is that the Act requires EDCs to achieve specific reductions in annual energy use and peak load in the near-term through their EE&C programs and that it requires EDCs to deploy smart meter technology and time of use rates gradually over time in general support of its energy and environmental policy goals.

OCA St. 1-S at 4-5.

The OCA submits that the purpose of the EE&C requirements of Act 129 was to have EDCs quickly enter into energy efficiency and demand response to provide immediate, near term impacts. The Smart Meter provisions would then allow for smart meter deployment in a reasoned fashion and the development of further rate initiatives to build on the energy efficiency and demand response already being achieved by the EE&C Plan. The Company's argument that these provisions must all be merged, and that the OCA has failed to recognize this fact, is not supported by Act 129.

v. Conclusion.

The Company's defense of its aggressive and costly smart meter deployment plan is based on a misreading of Act 129 and a failure to recognize the substantial credible evidence presented by the OCA. The Company has not, and cannot, show that its aggressive smart meter deployment plan is reasonable or a cost-effective alternative to meeting its statutory obligations. For the reasons set forth herein, and in the OCA's Main Brief, Allegheny Power's SMIP must be rejected.

2. Smart Meter Capabilities and Related Technologies.
 - a. Company Proposal.

No Reply Necessary.

- b. Use of In-Home Displays/Devices (IHDs).
 - i. Introduction.

The OCA argued in its testimony and Main Brief that Allegheny Power's proposal for the universal installation of IHDs in all residential customers' homes at a cost of over \$100 million was unreasonable, unsupported, and could result in negative customer response to smart meters. As such, the OCA recommended that the universal deployment of in-home displays be rejected. In its Main Brief, the Company seeks to support its proposal for the universal deployment of in-home displays and devices to all residential customers. The Company argues that there is substantial, "empirical" evidence in the record to support its position that IHDs are a cost-effective energy reduction tool that can assist customers in reducing their energy usage by an average of 15%. AP M.B. at 28-29. The Company also argues that its failure to address installation plan issues at this time is "prudent." AP M.B. at 29-30. The Company's arguments misconstrue the record evidence in this regard and fail to support its costly plan to universally deploy IHDs, even to those customers who do not request such devices and who may never use them.

- ii. The Research Relied Upon By The Company Does Not Support Over \$100 Million In Expenditures For Universal IHD Deployment.

The "empirical" evidence that the Company appears to reference in its Main Brief were studies that have been conducted of pilot deployments of smart meters, not all using the same type of IHDs proposed by Allegheny Power. OCA witness Brockway reviewed these

studies in detail in her direct testimony and then again in her surrebuttal testimony. As Ms. Brockway testified, there has been very little wide scale deployment of IHDs such as that planned by Allegheny Power. OCA St. 2 at 27. The information that is available at this juncture is based on pilot studies of direct feedback in an attempt to determine the benefits of in-home displays. OCA witness Brockway reviewed three key studies that the Company witnesses cited in Rebuttal for the support of their estimates of energy usage savings of 15% on average. See, OCA St. 2 at 27-31; OCA St. 2-S at 12-14. As Ms. Brockway concluded, the literature on these feedback studies does not paint a very clear picture of the likely responses to in-home displays. OCA St. 2 at 27.

One of the often referenced studies on in-home displays is a literature review conducted in 2006 by Sarah Darby referred to as the Darby Study. Company witness Graves references the Darby Study in support of his assertion that customers will reduce energy usage by an average of 15% with an IHD. Allegheny Power St. 6-R at 11-15; Allegheny Power St. 5-RJ at 6. Ms. Brockway explained, however, why reliance on the Darby Study to support the universal deployment of IHDs, and the estimates of energy savings, was misplaced. Ms. Brockway testified:

The Darby study does collect some apparent support for the idea that some kinds of feedback can induce energy conservation, and suggests usage reductions could range from 5% to 15%. However, Darby's conclusions should not be the basis for \$100 million in investments for immediate universal deployment of in-home displays. The results cited in the study are mixed, some of the often-cited studies are not relevant to North America, and the studies do not yet answer all the relevant questions, as can be seen from the characteristics of the studies Darby reviewed. Darby looked at a total of 38 studies. However, only 18 of them were related to the kinds of direct feedback that Allegheny Power asserts will lead to significant conservation, such as in-home displays. Of these, only four actually studied effects of in-home-displays; the balance involved improving feedback by going from bimonthly

billing to monthly billing. Ten of the relevant studies were done in Europe; Darby herself acknowledges that cultural and other differences can affect the results. Darby Report, at p. 9. Of the 18 relevant studies, six included intensive education (such as home visits or conservation affinity groups), which is not proposed for the Allegheny Power service territory. Seven of the 18 had no controls, or very small sample sizes, including three of the studies of some form of in-home display. Fourteen were done before 2000 (including two of the four studies of in-home displays). Eight of the studies were done before 1990 (including one of the four in-home display studies). Half the studies ran 5 months or fewer, with 6 running only 1 or 2 months in total. Sustainability over several years was not established by these studies.

OCA St. 2 at 28.

The Company witnesses also rely upon a study conducted by Ahmed Faruqui of the Brattle Group as empirical evidence of their assumptions regarding energy usage reductions from IHDs. Allegheny Power St. 6-R at 19. Ms. Brockway also reviewed that study and reached the following conclusion:

The Faruqui et al survey of recent studies of responses to IHDs cannot support the decision to invest tens of millions of dollars in the universal deployment of IHDs. The authors reviewed 12 reports on customer response to feedback. Of these, only 4 studied the impact of IHDs per se. Only 7 of the 12 evaluated consumption impacts. Also, the study designs varied greatly from one another. One program was limited to customers with central air conditioning and similar high uses, two were conducted only in the summer months, and two defined IHD as the prepayment metering display for such a rate scheme.

OCA St. 2-S at 14.

As Ms. Brockway further pointed out, the studies and analyses point out that much remains to be learned about the impact of IHDs and direct feedback on customer usage. OCA St. 2-S at 12-13. Research continues to be needed on the persistence of feedback effects, the relative value of different types of devices, the dynamic pricing interactions, and the effects

among different demographic groups. OCA St. 2-S at 13, citing Electric Power Research Institute Feedback Research Synthesis, Executive Summary.

The “empirical” evidence that the Company relies on to support the universal deployment of IHDs is far from substantial and presents an uncertain picture of the level of energy usage savings that can be achieved through the use of IHDs and the sustainability of those savings. The evidence does not support the robust predictions of energy usage reductions that the Company claims and does not support over \$100 million in cost being imposed on residential ratepayers. The Company’s arguments that the universal deployment of IHDs is cost-effective and reasonable based on unsupported estimates of energy usage reductions must be dismissed.

iii. The Proposals For The Delivery Of IHDs To Customers Are Uncertain And Raise Issues That Are Unaddressed.

The Company also argues that the fact that it has not yet selected a delivery and installation plan for the IHDs is “prudent” and not cause for concern. AP M.B. at 29-30. While the Company tries to dismiss the OCA’s concerns with this uncertainty, Allegheny Power’s failure to address a key component of this major undertaking is cause for significant concern.

Universal deployment of IHDs will unnecessarily complicate smart meter deployment and could create significant negative response to the smart meter deployment. The methods under consideration by Allegheny Power—mailing the IHDs to all customers or having a contractor install the IHD in a separate home visit—both can present significant problems and customer backlash. Ms. Brockway explained:

Based on my thirty years in consumer representation and utility regulation, I believe consumers would be upset to be asked to make arrangements to miss a half day or more of work to wait for an installer, and to take the time to be educated on a device they did not ask for. Many would be equally upset if they had to install the in-home display themselves, and call the utility to “provision”

the in-home display to the particular smart meter at the premises. Many would resent having the utility make follow-up calls, as an intrusion on their privacy.

OCA St. 2 at 23. Under either method, the IHDs will be arriving at the customer's home at the same time as the increased monthly bill to pay for the smart meter initiative. One need look no further than Allegheny Power's affiliate in Maryland or FirstEnergy in Ohio to gauge the negative customer reaction of customers to receiving items they did not request from a utility.

OCA St. 2 at 24.

The OCA submits that Allegheny Power's failure to develop a delivery plan and to address the potential problems with universal deployment is far from "prudent." Rather, it again demonstrates that the plan, including the universal deployment of IHDs, cannot be supported.

iv. Conclusion.

Given the present level of knowledge about the impacts of IHDs, the OCA submits that the universal deployment of IHDs to residential customers should be rejected. Allegheny Power's proposal is costly, adding over \$100 million to the cost of the Plan, has not been shown to be cost-effective, and risks significant customer backlash particularly as customers see their monthly bills increase dramatically as a result of Allegheny Power's proposed SMIP surcharge. As such, the universal deployment of IHDs is unreasonable.

c. Remote Disconnection.

In its Main Brief at pages 30-31, the Company has reiterated the commitments made in its testimony regarding the use of the remote disconnection feature that were important to the OCA. The Company specifically stated as follows:

- If Allegheny Power pursues remote disconnection for nonpayment, it will not implement such a

program without first conducting a pilot program and/or obtaining approval from the Commission. AP M.B. at 31.

- Prior to using remote disconnection, the Company will review the process to ensure that a property is vacant and will obtain appropriate information from the customer to minimize the possibility of disconnections occurring in error. AP M.B. at 31.

The OCA submits that these commitments are critical if the remote disconnect feature is to be included in the smart meter and utilized by the Company. These commitments should be included in the Commission's Order.

d. Prepayment Service.

In its Main Brief, the OCA noted that Allegheny Power witness Spoljarik testified that Allegheny Power will use the prepayment functionality only for its voluntary EE&C Plan program at this time. OCA M.B. at 36; Allegheny Power St. 8-R at 14, 16. The OCA further recommended that if the Company sought to extend the prepayment service beyond the voluntary EE&C Plan program, particularly if it sought to use the functionality for payment-troubled, low income or otherwise vulnerable customers, it should await the Commission's separate proceeding on these issues and conduct a pilot program to identify the many policy issues that would accompany a pre-payment program in such situations. OCA M.B. at 36. The Company, in its Brief, seems to now suggest a broader application of the prepayment service beyond its EE&C Plan without any further consideration of the many critical issues that are presented by prepayment metering. AP M.B. at 32.

The OCA submits that the Commission should clarify that the only approved use of the prepayment feature by Allegheny Power is for the voluntary participation by customers in the EE&C Plan program, the Pay Ahead Service Rate. While the OCA generally does not

support the use of prepayment programs such as the Pay Ahead Service Rate as an energy efficiency measure, the Commission approved this limited use of the feature for Allegheny Power's EE&C Plan. An important part of the EE&C Plan program, though, is that service will not be disconnected when the pre-paid amount is used up. As detailed in the OCA's Main Brief, extending the use of this feature beyond this limited and controlled design would raise significant public policy issues that must be thoroughly explored. OCA M.B. at 35-36.

As such, the OCA submits that the Commission should clarify that the only use of the prepayment feature authorized for Allegheny Power is that contained in the approved EE&C program. If Allegheny Power wishes to extend the use of this feature, the Commission should make clear that Allegheny Power cannot do so until the Commission completes its separate proceeding and the Commission reviews and approves a specific program proposal.

3. Smart Meter And Data Access.

a. Company Proposal.

No Reply Necessary.

b. Customer And 3rd-Party Access.

No Reply Necessary.

c. Security And Privacy.

In its testimony and Main Brief, the OCA raised a concern that Allegheny Power's accelerated smart meter deployment may get ahead of the development of national standards for some of the critical security and privacy issues inherent in smart meter deployment. OCA M.B. at 36-40. OCA witness Brockway testified that the fact that some technical standards are still being developed creates a risk that additional costs may need to be incurred if the technologies being deployed now prove to be incompatible with the standards that are ultimately

established. OCA St. 2 at 42. In its Main Brief, the Company argues that it has made full use of the existing standards and that its SMIP is designed to incorporate developing security standards if necessary. AP M.B. at 36.

The Company's assertion that it can implement its Plan on an expedited basis and still incorporate these yet to be developed security and privacy standards may be overly optimistic. As OCA witness Brockway testified:

Mr. Arthur's testimony does not satisfy the concerns I have raised about risks to the security and reliability of the risks of SMIP obsolescence, and risks to consumer privacy. Mr. Arthur stresses the fact that the Company's design elements satisfy a number of existing industry standards, and he lists these standards at pp. 13 and 23. This fact completely sidesteps the problem that hundreds of other standards will be needed for a fully interoperable and secure smart grid, and that the industry and government are only at the early stages of development of these other standards. Mr. Arthur's argument that it will monitor the development of industry standards and will be able to upgrade its SMIP to take into account changes in the standards reflects a greater confidence than is warranted in the circumstances. Mr. Arthur does not explain why Allegheny Power should have more certainty about the ability of its SMIP to adapt to rapidly evolving standards than the United States Secretary of Commerce, the National Institute for Standards and Technology, and other institutions I cited in my Direct Testimony that are working hard to try to pull together standards that they deem necessary preconditions of a working smart grid. Similarly, with respect to privacy of personally-identifiable information, the fact that the Company has unspecified policies for each of the ten high-level principles outlined by the NIST task force on privacy does not explain how the Company's present policies can comply with NIST-developed privacy standards that do not yet exist, and will not exist until at least next year, if then. Mr. Arthur's assertions regarding the NIST high-level principles are insufficient to assure the Commission that customer privacy can and will be protected at the detailed operational level where actual decisions are made and actions are taken.

OCA St. 2-S at 10.⁵ In fact, when questioned on cross examination about the policies and standards regarding the protection of personally identifiable information, Company witness Arthur stated that none had been developed yet. Tr. at 219.

The Company's accelerated deployment plan places a significant risk on the Company and its ratepayers in meeting the necessary national standards. Allegheny Power should use the grace period provided by the Company to develop full policy and procedures in accordance with the national standards that are being developed.

B. Cost Issues.

1. Reasonableness and Prudence.

a. Company Position.

In this section of its Main Brief, the Company reviews its estimation procedures to argue that its costs are reasonable and prudent. AP M.B. at 39-41. The OCA does not take issue with the Company's procedures for making its estimates, but the OCA does take significant issue with the overall cost of the Plan and the reasonableness of the Plan. The Company also argues that comparison of the costs of its Plan to other plans is flawed as the comparisons would be apples-to-oranges. AP M.B. at 40. Specifically, the Company argues that its SMIP contains far more costs for items such as IHDs, a Customer Information system (CIS) and Network Infrastructure that are not included in other filings. AP M.B. at 40-41. This, however, is precisely the point of the comparisons. As discussed in more detail below, the Company has loaded up its SMIP and its surcharge with items that are not properly included as part of the SMIP. The result of the Company's proposal is an installed cost of \$600 per meter, compared to

⁵ In its Main Brief, the Company argues that OCA witness Brockway confuses the Smart Grid Standards with the Smart Meter standards. AP M.B. at 36. Such is not the case. While there are standards for each, the fact remains that the smart grid and smart meters must be interoperable. OCA St. 2 at 37. As Ms. Brockway explains, work continues on both sets of standards but each will impact the other. OCA St. 2 at 37.

an average for other utilities of \$250 per meter. OCA St. 1 at 15. The Company has simply failed to show that its Plan and the associated costs are reasonable and prudent.⁶

b. Total Benefits and Costs.

As detailed in the OCA's Main Brief, the Company estimates that its SMIP will result in a net cost to Pennsylvania ratepayers of \$580 million through 2014. Included within this estimate are savings for Pennsylvania customers in the amount of \$36 million. OCA M.B. at 40-43; AP Exh. 1, SMIP at 94; Tr. at 231. When the benefits estimated by the Company are compared to the costs of the Plan, the SMIP has a benefit to cost ratio of 0.11. OCA St. 1 at 18. When a reasonable level of generation savings are added as a benefit of the SMIP in accordance with the Company's own estimates in its EE&C Plan, the benefit to cost ratio improves to only 0.2. OCA St. 1 at 19. While it is not the OCA's position that the SMIP must have a benefit to cost ratio of 1 or above to be approved, the Company's proposed SMIP has not been shown to be a cost-effective means of meeting the policy objectives of Act 129.

The Company made no attempt to quantify or calculate the benefits of its plan beyond the distribution operation savings of \$36 million for Pennsylvania customers in its case in chief. In its Main Brief, however, the Company lists many "perceived benefits" from its smart meter deployment that its customers will take notice of at some point. AP M.B. at 42-43. While the Company presents an interesting list of the potential benefits of smart metering at the end of the day, what customers will immediately see is a surcharge on their bills beginning at \$5.86 per month in 2010, increasing rapidly to \$14.34 in June 2011, increasing to \$15.57 in June of 2012 and then to \$15.77 in June of 2013. By June of 2013, a residential customer using 500 kwh per month will see a 34% increase over 2009 rates and a residential customer using 1,000 kwh per

⁶ As discussed in Section V.B.1.c, the Company also has not shown why many of these costs should be collected through a surcharge rather than through base rates.

month will see an 18% increase over 2009 rates solely due to the smart meter surcharge. OCA St. 1, Exh. JRH-6. Added to these increases will be the cost of the Company's EE&C Plan and the increased cost of generation supply at the end of the rate cap period in January 2011.

Despite the Company's listing of potential benefits that it argues will accrue directly or indirectly to its customers, the Company made no attempt in its case in chief to quantify these potential benefits or determine the benefit to cost ratio of its own Plan. After the OCA performed an analysis, and indeed quantified and reflected many of the potential benefits that the Company argues should be considered, the benefit to cost ratio of the plan only reaches 0.2, far below that of other utilities proposing smart meter plans. OCA St. 1 at 15; Allegheny Power St 6-R, Figure FCG-2. The Company criticizes the OCA's analysis in its Brief, arguing that additional benefits beyond those estimated by the OCA should be included in the analysis and that higher values should be used for some of the benefits that the OCA did reflect in its analysis. AP M.B. at 46. The Company points to the Rebuttal testimony of Company witness Graves who, late in the proceeding, provided a benefit to cost analysis. Mr. Graves' benefit to cost analysis used assumptions of higher distribution operation savings than the Company calculated and higher energy and capacity savings than those used by OCA witness Hornby. Mr. Graves also sought to quantify environmental benefits and include those benefits in his analysis. AP M.B. at 45-47. Even with these assumptions, the benefit to cost ratio of the Company's SMIP remains far below all other utility filings evaluated by OCA witness Hornby or Allegheny Power witness Graves.⁷ See, OCA St. 1 at 19-20; Allegheny Power St. 6-R, Figure FCG-2.

⁷ The OCA wishes to be clear that the low benefit to cost ratio of Allegheny Power's Plan is not directly related to smart meter installation *per se*, but to Allegheny Power's particular proposal for smart meter installation. As the record shows, most other deployments had benefit to cost ratios of close to 1 or even above 1. Allegheny Power St. 6-R, Figure FCG-2; OCA St. 1 at 19-20.

The Company presented the testimony of Mr. Graves at the Rebuttal phase of the case when the responding parties had a very short time for response. The OCA was not able to evaluate the myriad of assumptions used in Mr. Graves' analysis in any detail. From the supporting material in the Rebuttal testimony, though, OCA witness Hornby was able to review his three major estimates of increased benefits that Mr. Graves added to Mr. Hornby's analysis to develop his benefit to cost ratios of 0.46 and 0.74. As OCA witness Hornby testified, however, the higher level of benefits -- increased distribution operation savings, higher energy savings, and higher capacity savings -- that Mr. Graves used in his analysis are overstated, thus calling into question even his modest benefit to cost ratios.

The first additional benefit calculated by Mr. Graves was an increase in the distribution system savings projected to result from the smart meter plan. In his benefit to cost analysis, Mr. Graves doubled the Company's estimate of distribution system savings. The Company, however, did not adopt Mr. Graves' estimate for the purpose of calculating its surcharge to customers. OCA witness Hornby explained this estimate and his concern:

Mr. Graves estimates an additional amount of distribution system operational savings (\$72 million). This amount reflects his assumption that Allegheny Power could achieve almost double the level of distribution savings per meter reflected in its SMIP (Graves rebuttal, p.8.). However, in his rebuttal Company witness Valdes did not file a revised, lower surcharge to reflect a doubling in distribution service savings. Thus, the real test of whether Mr. Grave's estimate of higher distribution system operational savings is reasonable is if the Company accepts that estimate, establishes explicit baselines against which to measure and report those savings, and revises its proposed surcharge downward to reflect those higher projected savings.

OCA St. 1-S at 14. When asked if the Company would include this higher estimate of distribution operation savings in its Smart Meter surcharge, the Company said no. Tr. at 227. The Company also has no process in place to track or reconcile the savings, leaving little chance

that customers will see any additional benefits before the next distribution base rate case. Tr. at 228-229.

Mr. Graves next assumed higher avoided capacity costs in determining the benefits of the smart meter deployment than the avoided cost used by OCA witness Hornby. Mr. Hornby addressed this assumption as follows:

Mr. Graves estimates higher avoided capacity costs (\$27 million) under a scenario in which the market price of capacity for the AP zone rises to \$101 per kW year by 2017. That estimate of higher capacity savings is not consistent with my high-level analysis of future demand and supply fundamentals in the PJM capacity market (OCA response to Allegheny Power Data request I -14). My analysis indicates that the market price of capacity for the AP zone in 2017 will be closer to \$40 per kW year than \$101 per kW year. For example, a price of \$101 per kW year would be more than 5 times the market price of \$16 per kW year set for the 2012/2013 power year.

OCA St. 1-S at 15. On cross examination, Mr. Graves also acknowledged that he had used the net cost of new entry (CONE) of \$276.09 per megawatt per day for the 2012/2013 PJM Base Residual Auction for a portion of his capacity cost savings but that the price that cleared in the Allegheny Power zone was \$16.46 per megawatt day. Tr. at 178-179; OCA Cross Exam Exh. 2. Clearly the capacity prices assumed by Mr. Graves are generous in determining the benefits of Allegheny Power's smart meter deployment.

In his third modification to OCA witness Hornby's analysis, Mr. Graves assumed higher reductions in energy usage due to the in home displays and added the value of avoided CO₂ emissions associated with these reductions. Mr. Graves used estimates of energy usage reductions that exceeded those of the Company. OCA St. 1-S at 15. OCA witness Hornby testified as to this assumption:

Mr. Graves estimates higher annual reductions in energy due to in home displays (\$109 million to \$226 million) and the value of

avoided carbon associated with those annual energy reductions from IHDs (\$13 million to \$50 million). These estimates of energy and environmental benefits from in-home displays are based upon a low case with 5 percent reductions in annual use due to in-home displays and a high case with 10 percent reductions. Both his low and high case estimates are unreasonable. In its EE&C filing as well as in this proceeding the Company estimated zero reduction from in-home displays. As noted earlier, Mr. Graves' discussion of the literature underlying his projections does not respond to Ms. Brockway's critique of that literature. In Maryland, Baltimore Gas and Electric and Potomac Electric Company have estimated reductions in the order of 1 to 1.5 percent in their smart meter proceedings. Dr. Ahmed Faruqui, a leading expert on this issue and a colleague of Mr. Graves at the Brattle Group, is a witness for each of those companies in those proceedings.

OCA St. 1-S at 15.

Moreover, on cross examination it became clear that Mr. Graves estimated that every single customer that was mailed an IHD by the Company would install the IHD and achieve either 5% (low case) or 10% (high case) usage reduction for the first three years. Tr. at 173-175. There is simply no basis in the literature, or in fact, to assume that every customer will utilize an IHD even if provided to them and that every customer will achieve such substantial savings. The only studies that have even looked at the potential for energy usage reductions through the use of IHDs were pilot studies where IHDs were given to willing participants. Tr. at 174-175; OCA St. 2 at 27-31; OCA St. 2-S at 12-14.⁸ Mr. Graves' assumption that every customer, willing or not, will install and use the IHD like pilot program participants has no basis.

Even with these generous assumptions, and the addition of environmental benefits to Mr. Hornby's benefit to cost analysis, the Company's SMIP does not approach a reasonable level of cost effectiveness. Mr. Graves calculated a low case benefit to cost ratio of 0.46 and a

⁸ For a further discussion of the literature on the potential for energy usage reductions from the use of IHDs please see Sections V.A.2.b.ii and V.B.1.d of this Reply Brief.

high case of 0.74. As the following excerpt from Mr. Graves' own chart shows, this fails to approach the benefit to cost ratio of almost all of the plans he analyzed:

Comparison of Benefit to Cost Ratios
From Company Witness Graves' Exh. FCG-2

Utility	IHDs	Total Cost NPV/Installed Meter	B/C Ratio
Allegheny	Yes	\$806	0.19
SCE	No	\$371	1.06
SDG&E	No	\$253	.87
PG&E	No	\$434	1.02
PECO	No		
Centerpoint	No		0.15
ConEd	No	\$198	1.10
PEPCO MD	No		1.27
PEPCO DC	No		1.44

Source: Allegheny Power St. 6-R, Figure FCG-2, columns, 1, 3, 4, and 5, as corrected at Tr. at 166-167.

As can be seen, the Company's benefit to cost ratio of even 0.46 to 0.74, if reasonably based, and an installed net present value meter cost of \$806 is completely out of line with most other smart meter deployments.

The Company next argues that its benefit to cost ratio is so low because it has included additional costs in its SMIP that other companies may not incur due to the differences in the nature of its service territory. AP M.B. at 46-47. As the Company explained in its Main Brief, however, Mr. Graves took these differences into account when conducting his benefit to cost analysis. AP M.B. at 46; Allegheny Power St. 6-R at 3. Thus, even with these factors accounted for in the Company's own analysis, the benefit to cost ratio of the SMIP remains far below comparable plans.⁹ More importantly, however, this argument simply reflects the

⁹ Given the time frame for the case and the presentation of the analysis in Rebuttal testimony, the OCA was not able to review or confirm the reasonableness of the differences assumed by Mr. Graves.

“kitchen sink” approach of the Company in including major categories of costs in its smart meter surcharge that other companies account for in their base rates.

The OCA submits that the Company has failed to show that it is pursuing a cost effective means of meeting its obligations under Act 129. A reasonable estimation of the benefit to cost ratio of this Plan performed by Mr. Hornby reveals that the costs outweigh the benefits by almost 5 times. The Company’s late filed attempt to improve this measure through unsupported increases in the benefits cannot even bring the Plan within the range of other similar deployment plans. The Company’s Plan cannot be found to be reasonable and must be rejected.

c. Individual Plan Components.

As the OCA discussed in its Main Brief, the capital costs of Allegheny Power’s proposed SMIP are significantly higher than those of other electric distribution companies in Pennsylvania. The main differences are primarily due to the inclusion of IHDs for all residential customers, the inclusion of costs for a new Customer Information System (CIS), and the inclusion of higher Network and Information Technology (IT) costs. OCA St. 1-S at 8. The OCA has recommended that the proposal to universally deploy IHDs be rejected, thus eliminating those costs from the SMIP. The OCA has also recommended that the costs of the CIS and certain of the IT related costs be removed from the surcharge as these are costs that the Company would incur in the normal course of business. As such, the recovery of these costs should be requested in a distribution base rate case.

The Company argues that recovery of the costs of its CIS and IT upgrades are properly included in its SMT surcharge since Act 129 allows for the inclusion of “any system upgrade” required to enable the use of smart meter technology. AP M.B. at 49. The Company’s argument proves too much.

The OCA submits that Act 129 cannot be read to allow for the inclusion in the SMT surcharge of any and all costs that would be incurred in the normal course of business. To reach Allegheny Power's conclusion, one must assume that, absent a smart meter mandate, an EDC such as Allegheny Power would do nothing at all to keep its billing and computer systems up to date or modernize its systems for efficient operation. It is not these standard updates, upgrades and modernizations that were to be afforded special ratemaking treatment under Act 129. It was only upgrades that were specifically unique to the operation of the smart meter technology that should be at issue.

Allegheny Power's own Brief highlights the inappropriateness of allowing the special surcharge to become a dumping ground for every cost. As Allegheny Power acknowledges: "If the General Assembly had not passed Act 129, Allegheny Power would not be replacing its CIS *at this point in time.*" AP M.B. at 49 (emphasis added). Allegheny Power certainly would need to replace its CIS at some point as it was installed in the 1970s and has not been significantly upgraded since 1999. OCA Cross-Exam Exh. 7, Q.IV-7. Allegheny Power also stated that it considered improvements to the CIS in 2002 but these were not completed due to the corporate financial condition. OCA Cross-Exam Exh. 7, Q. IV-7. Indeed, Allegheny Power acknowledges that its affiliates in Maryland and West Virginia, who will not be deploying smart meters, will seek their shares of these CIS costs in distribution base rate proceedings. OCA St. 1 at 17. These facts clearly demonstrate that Allegheny Power's CIS needed to be replaced and would have been replaced at some point in the normal course of business. The only thing that Act 129 may have arguably done is change the timing of this replacement, not occasion it.

Similarly, IT upgrades that support the normal distribution system operations should be included for recovery in a distribution base rate proceeding, not the SMT surcharge. The OCA identified several IT upgrades, such as the Work Management System, the Geographical Information System, the Outage Management System and the Enterprise Service Bus, that are intended to support normal distribution system operations. These are upgrades the Company should make to support efficient operations, not just to support smart meter deployment or to use smart meters.

The OCA submits that the cost recovery mechanism included in Act 129 was intended to support incremental upgrades related to the use of smart meter technology. The surcharge mechanism should not be expanded to provide a funding mechanism for normal distribution system expenditures that the Company should make to support its distribution system operations.

d. Low Income Impact.

The Company's proposed SMIP comes at a significant cost, increasing residential customer rates by \$15.77 per month by June of 2013. For a residential customer using 500 kwh per month, this will be a 34% increase over 2009 rates and for a residential customer using 1,000 kwh per month, this represents an 18% increase over 2009 rates. OCA St. 1, Exh. JRH-6. These expected increases are in addition to the increases in generation rates expected at the end of the rate cap period and the approximate 2% increase for residential customers from the EE&C Plan surcharge. OCA witness Brockway testified as to the impacts:

These bill impacts will not be trivial, especially in the case of low-income customers. With all their functionalities and the infrastructure investment, the smart meters Allegheny proposes to obtain will cost \$600 apiece. OCA I-40. Altogether, Allegheny Power has estimated by far the largest impact of any Pennsylvania utility for its SMIP. By June 2013, residential customers in the

Allegheny Power service territory will be paying at least \$15 more *per month* because of the SMT surcharge and associated taxes. Response to OCA I-36. Not only is this burden excessive, but in order to economize and take advantage of the rebates, low-income and other vulnerable customers may reduce their usage below levels consistent with health and safety.

OCA St. 2 at 32.

In its Main Brief, the Company points to the potential for energy savings from its new technology and its Low Income Usage Reduction Program (LIURP) as the means to mitigate the impacts of its expensive SMIP. AP M.B. at 50-55. The Company argues that with information on usage, and through its LIURP, low income customers will be able to nearly offset the \$15.77 surcharge. The Company's argument is seriously flawed and reflects the inadequate attention that the Company has given this important issue in its smart meter deployment process.

The Company first argues that the smart meters will provide energy usage information that will allow low income customers to reduce their energy usage by 15%. AP M.B. at 51. Allegheny Power then applies this 15% to a hypothetical \$100 bill for a 1,000 Kwh customer to conclude that nearly all of the \$15.00 surcharge could be offset by the savings. The Company's assumption that every customer, including low income customers, will achieve a 15% reduction in energy usage is completely unsupported.

As the OCA discussed in Section V.A.2.b.ii of this Reply Brief, the Company references a 15% reduction in energy usage from the deployment of IHDs based on pilot studies reported in the industry literature. The studies, however, do not support the Company's assumptions. The studies relied upon by the Company do not present a clear picture that savings of the level assumed by the Company can be achieved or sustained by any customer. OCA St. 2 at 27-31. The caution issued by the Electric Power Research Institute (EPRI) is instructive. OCA witness Brockway testified:

The Electric Power Research Institute (EPRI) recently issued a comprehensive report on the state of current knowledge about the effects of “feedback” on customer usage behavior. EPRI reviewed studies discussed in the Darby and Faruqui papers in an effort to quantify the value of in-home displays in producing a conservation effect (energy savings). EPRI considered the Darby study and others, including studies of the effects of time-varying pricing as a form of feedback. EPRI concluded that “residential electricity use feedback” can be an effective tool. However, *EPRI cautioned that further research is necessary on such points as “participation levels, the persistence of feedback effects, the relative value of different types of feedback, dynamic pricing interactions, and distinguishing the effects of feedback among different demographic groups.”* Feedback Research Synthesis, Executive Summary, p i.

OCA St. 2 at 30 (footnote omitted)(emphasis added). Rather than support the Company’s position, the current studies and industry literature suggest that much more study is necessary to determine the impact of feedback on customer usage.

What the Company fails to note is that the studies it relies upon suggest that low income customers do not respond the same as other customers. Ms. Brockway first referenced a number of studies that suggest that low income customers would have a difficult time moving load off of critical peaks:

One analysis of the California pilot showed that low-use customers did not respond to critical peak pricing, or peak time rebates. Another evaluation found some load response on the part of low-use customers, but significantly less than the response of high-use customers. This stands to reason, as such customers are unlikely to have large amounts of discretionary demand that can be moved off critical peaks. There have been hard-to-explain variations in customer responses to dynamic pricing. For example, in one year of the Chicago pilot offered by Commonwealth Edison, customers living in “low-income” zip codes reduced demand as much as others. The evaluators of the program the same year noted, however, that participants receiving high price notices via computers (still disproportionately absent from low-income homes) had a stronger response.

OCA St. 2 at 33-34. OCA witness Brockway then summarized the results of an analysis of a California special pricing pilot regarding low income, high use customers as follows:

According to Herter's analysis, low-income high-use customers experienced adverse bill impacts (higher bills) under the pilot tariffs, even before counting the cost of the advanced metering infrastructure. For reasons that are not yet well enough understood, they did not reduce loads at the critical peak times. While low-income customers may be expected to try to reduce their bills by taking advantage of the SMIP rate, many will be unable to do so and will not receive rebates.

OCA St. 2 at 34.

The studies and industry literature do not support the Company's assertion that the smart meters and IHDs will enable low income customers to realize benefits from the smart meter deployment anywhere near the increased cost that they must pay. Ms. Brockway provided an important caution regarding low income and otherwise vulnerable customers:

Not all customers can reduce load safely. Customers who cannot reduce critical peak loads must still pay for the AMI system and smart metering investment. These bill impacts will not be trivial, especially in the case of low-income customers. With all their functionalities and the infrastructure investment, the smart meters Allegheny proposes to obtain will cost \$600 apiece. OCA I-40. Altogether, Allegheny Power has estimated by far the largest bill impact of any Pennsylvania utility for its SMIP. By June 2013, residential customers in the Allegheny Power service territory will be paying at least \$15 more *per month* because of the SMT surcharge and associated taxes. Response to OCA I-36. Not only is this burden excessive, but in order to economize and take advantage of the rebates, low-income and other vulnerable customers may reduce their usage below levels consistent with health and safety.

OCA St. 2 at 32.

The Company also points to its LIURP program to support its assertion that low income residential customers could achieve savings on the order of the surcharge amount. AP M.B. at 52-53. The Company first points to customers participating in LIURP to argue that its

low income customers are not low use customers. What the Company fails to acknowledge, however, is that its LIURP targets the highest users with usage of 18,000 kwh per year or more for priority treatment. Allegheny Power St. 8-R at 6. It is thus not unexpected that its LIURP participants would be higher users and realize a higher level of savings from the LIURP treatments. The Company also fails to discuss that it has approximately 98,000 low income customers in its service territory.¹⁰ OCA St. 2-S at 18. In 2008, Allegheny Power completed 960 LIURP jobs, meaning that only 960 of the 98,000 low income customers received assistance in treating their homes to assist in achieving the savings the Company references. AP Exh. 6, ¶1. The LIURP program simply cannot address all of the need of Allegheny Power's low income customers.

Moreover, the Company fails to recognize that the savings produced from its LIURP program are the result of expenditures by the Company on efficiency and conservation measures in the customer home. The individual customer does not make the expenditures for the energy efficiency measures for the very reason that their income is limited. The Company's attempt to argue that all low income customers could achieve energy usage reductions as do their LIURP participants is simply misguided. AP M.B. at 53. The 2008 BCS Report shows that Allegheny Power spends between \$1,194 and \$2,059 to treat a home through its LIURP. AP Exh. 6, ¶5 (2008 BCS Report at 35). There is no basis at all to assume that Allegheny Power's 98,000 low income customers can make expenditures of this level on their own to achieve the level of savings that Allegheny Power wishes to ascribe to them. Allegheny Power's arguments

¹⁰ Allegheny Power notes that it had 38,825 confirmed low income customers in 2008. Confirmed low income customers are not a representation of the entire population of low income customers in the service territory, however. The confirmed low income customers are those that appear in the Company's billing system as universal service participants, LIHEAP recipients, or receiving payment agreements. AP Exh. 6 at ¶¶2, 3.

that low income customers will be able to take advantage of opportunities to conserve energy at the level that Allegheny power now asserts are not well founded.

Allegheny Power further argues that since its rates are low in comparison to other EDCs in Pennsylvania its low income customers should be able to absorb any increase. AP M.B. at 53-54. The Company's argument has no basis at all. Each service territory is unique in regard to the income of the residents, the employment situation, the level of poverty, and the level of wealth. In fact, Allegheny Power tries to use the unique, rural nature of its service territory to differentiate its cost of deployment from that of other EDCs. AP M.B. at 46-47. While the record shows that the rural nature of West Penn's service territory does not account for the high costs of Allegheny Power's Plan, the Company simply cannot have it both ways. The OCA submits that the Company's suggestion that its customers should just absorb these costs since its current rates are lower than other EDCs must be dismissed.

Finally, Allegheny Power argues that its CAP and LIURP funding are adequate to address any increased need for assistance from the SMIP. AP M.B. at 54-55. As to CAP, the budgets for the CAP program would need to increase by over 40% of current CAP funding just to pay for the SMIP surcharge. OCA St. 2-S at 17. The average annual bill credits for low income customers are about \$275 currently. These bill credits would have to increase by about \$190, or to \$465 per year just to address the Smart Meter surcharge. OCA St. 2-S at 17. Similarly, even a tripling of the funding of the LIURP budget would still fall short of reaching Allegheny Power's 98,000 low income customers. Based on the 2008 LIURP jobs, tripling the budget would still only allow for about 3,000 to 4,000 customers to be served each year. AP Exh. 6, ¶1; OCA St. 2-S at 18. The Company has made no showing that increases in the funding of these programs is reasonable or could even be fairly borne by other residential ratepayers,

including other low income customers, who are themselves paying the increased costs of the Smart Meter Plan.

The record is clear that Allegheny Power has failed to give adequate attention to the needs of its low income and otherwise vulnerable customers in its Smart Meter Plan. The Company's arguments in its Main Brief simply reinforce this point.

2. Cost Allocation.
 - a. Company Proposal.
 - b. Cost of Service Study.

No Reply Necessary.

- c. Allocation of Joint and Common Costs.
 - i. Introduction.

The Company, WPPII, and OSBA oppose the OCA proposal to allocate the joint and common costs of smart meter deployment on the basis of energy and demand rather than on the number of customers as proposed by the Company. WPPII argues that allocating the joint and common costs on the basis of energy and demand is inconsistent with traditional cost of service principles and related case law. WPPII also argues that an energy and demand allocation is similar to allocating based on "value of service" not cost of service. WPPII M.B. at 12-20. OSBA also argues that there is no cost basis for the OCA's proposal. OSBA M.B. at 21-23. OSBA further argues that OCA witness Hornby has ignored the environmental benefits that will result from the smart meter deployment. OSBA M.B. at 23. As discussed in the OCA's Main Brief and herein, these arguments fail to recognize the purpose of Act 129 and the benefits that will result from the smart meter deployment.

ii. The OCA's Proposed Allocation Is Consistent With Reasonable Cost of Service Practices And Case Law.

WPPII and OSBA argue that allocating the joint and common costs based on energy and demand does not comport with traditional cost of service principles. WPPII cites Lloyd v. Pa. Pub. Util. Comm'n, 904 A.2d 1010 (Pa. Commw. Ct. 2006) in support of its position. Rather than cost of service, WPPII tries to argue that the OCA's proposal is more like "value of service" allocation which is disfavored. The OCA's proposed allocation methodology is fully in keeping with traditional cost of service principles. The fundamental goal of cost of service studies is to allocate costs based on the cause of the costs. The OCA submits that the joint and common costs at issue here would not be incurred at all if it were not for Act 129 and the expectation that the benefits sought by Act 129 will be realized from the incurrence of the costs. See, OCA St. 1-S at 23. Since it is the resulting energy and demand savings benefits that are causing these costs to be incurred, the OCA submits that its proposal to allocate the costs on the basis of energy and demand is fully consistent with cost causation and does not constitute value of service allocation as WPPII argues.

In making their arguments, the Company, WPPII and the OSBA overlook the basic fact that smart meters are not being installed simply to measure customer usage for billing purposes. Instead, these meters are being installed to impact demand and energy consumption. As noted in the OCA's Main Brief, one must look to the preamble of Act 129 in determining the cost allocation. The preamble sets forth one of the main goals as follows:

The General Assembly recognizes the following public policy findings and declares that the following objectives of the Commonwealth are served by this act:

(1) The health, safety and prosperity of all citizens of this Commonwealth are inherently dependent upon the availability of

adequate, reliable, affordable, efficient and environmentally sustainable electric service at the least cost, taking into account any benefits of price stability over time and the impact on the environment.

66 Pa.C.S. § 2806.1, *et seq.* preamble. The purpose of this massive new investment is not simply to count kilowatt hours and provide accurate bills to each individual customer. Rather, it is to reduce overall demand and energy costs for the benefit of all customers. Allocating these joint and common costs based on energy and demand recognizes that larger customers (in terms of demand and energy usage) will derive far greater benefits from both the smart meter systems and the enhanced technological capabilities.

The Company's own testimony fully supports the purpose of its smart meter investment. In fact, the Company's entire deployment strategy rests on the need for smart meters to meet the energy efficiency and demand reduction goals of Act 129. See, AP M.B. at 16-25. The OCA provided some excerpts from the Company's filing and testimony in its Main Brief to illustrate this point. OCA M.B. at 60-61. By way of further example, the Company has stated as follows:

A crucial tool in effectuating a customer change in behavior that will lead to reductions in electricity consumption and demand is providing customers with information on how they use their energy in conjunction with energy prices. Smart Meters/Smart Meter Infrastructure is the vehicle through which customers will receive such information. (AP M.B. at 2)

The basic demand response program concept is that Smart Metering and associated equipment will be installed to convey energy consumption and price information to customers to enable them to better control their energy consumption and their electricity bills. (AP Exh. 1, SMIP at 12)

Allegheny Power requires smart meters to provide the Customer Load Response and Distributed Generation Programs to all small and large, commercial and industrial, and governmental, non-profit customers as designed. . . . This near, real time, two-way meter

and customer communications provided via the Smart Metering infrastructure, is required for Allegheny Power to effectively target the top 100-hours across all small and large, commercial and industrial and governmental, non-profit customers with limited administration and customer impact. (Allegheny Power St. 1-R at 2-3).

These statements and others within the Company's Plan and testimony confirm that the cause of Allegheny Power's smart meter deployment is Act 129 and Allegheny Power's initiative to reduce energy usage and peak demand. WPPII, the Company and OSBA, however, fail to ask the key question of what factors are causing these costs to be incurred which is fundamental in observing reasonable cost of service practices.

WPPII also argues that the Commonwealth Court decision in Lloyd would hold against the use of energy and capacity benefits as a means of allocating costs. WPPII M.B. at 17. While WPPII cites Lloyd for the proposition that cost of service is the "polestar" of utility ratemaking and argues that allocating costs on the basis of benefits violates cost of service principles, it fails to mention another section of the Lloyd decision which upholds the allocation of Sustainable Energy Fund (SEF) costs to all distribution ratepayers on the basis that all ratepayers benefit from the Fund's activities. Lloyd, Id. at 1024-1027. The SEF costs were charged to all customers on an equal cents per kilowatthour basis, *i.e.*, an energy basis. In the face of an argument by industrial customers that the SEF provides no demonstrable benefits to ratepayers, the Court stated: "What the core of that argument ignores is that the General Assembly has specifically authorized that public service programs such as SEF be funded." Lloyd, Id. at 1025. The Court noted that the purpose of the SEF is "to promote the development and use of renewable energy and clean energy technologies, energy conservation and efficiency which promote clean energy." Lloyd, Id. at 1024. Act 129, which established the Smart Metering program, likewise seeks to further the availability of adequate, reliable, affordable,

efficient and environmentally sustainable electric service at the least cost, taking into account the benefits of price stability over time and the impact on the environment. 66 Pa.C.S. § 2806.1, *et seq.* preamble.

The OCA would also note that an allocation methodology that reflects the relationship between costs and benefits is not uncommon. In the recent case Illinois Commerce Commission v. FERC, hereinafter ICC, the Seventh Circuit stated:

FERC is not authorized to approve a pricing scheme that requires a group of utilities to pay for facilities from which its members derive no benefits, or benefits that are trivial in relation to the costs sought to be shifted to its members...Not surprisingly, we evaluate compliance with this unremarkable principle by comparing the costs assessed against a party to the burdens imposed or benefits drawn by that party.

Illinois Commerce Commission v. FERC, 576 F.3d 470, 476 (Seventh Cir. 2009). Similarly, in a case involving the PJM Interconnection and the MidWest Independent Transmission system Operator, FERC allocated the costs of a transmission project in proportion to the share of the annual benefits to each RTO of the project. Order on Cross-Border Facilities Cost Allocation, 129 FERC ¶61,102 at ¶¶5, 9, 26-27 (2009).

WPPII also argues that even assuming that the costs should be allocated based on the benefits, the industrial customers are unlikely to see much benefit since they already have interval meters and can participate in demand response programs. WPPII M.B. at 20-21. WPPII's view, however, is unnecessarily narrow. WPPII ignores the fact that the smart meters that Allegheny Power will install will expand the options available to the Large C&I class. This expansion will include programs beyond those currently offered in PJM and will include a full menu of dynamic pricing options.

Indeed, Constellation New Energy and Constellation Energy Commodities Group (Constellation) filed testimony in this proceeding addressing how the new smart meter technology will increase the amount of data being collected and will allow EGSs to better understand usage patterns and help customers with functions such as energy efficiency and peak load reductions. Constellation St. 1 at 8-9. Constellation specifically discussed these “increasingly sophisticated energy strategies” for C&I customers and stated:

In today’s competitive business environment, all sizes of [C&I] customers are thinking about energy as a strategic asset integral to every aspect of the bottom line. The capacity to actively monitor and manage usage and adjust operations accordingly reflects the increasingly sophisticated energy strategies now available. Load response solutions, for instance, are particularly attractive to businesses that have already invested in intelligent building designs, and wish to leverage the full spectrum of the energy chain to maximize these energy investment decisions. [Constellation] and other EGSs are helping customers adapt successfully to this new energy paradigm and positioning them to make the most of the opportunity to participate in the emerging energy marketplace of the 21st Century. Overlaying Smart Meter technologies onto existing open platforms makes it possible to more successfully harness and shape load whether the load is distributed across a single facility, college campus, or retail chain with multiple locations throughout a large geographic area. This ability to shift and shape load across multiple buildings is going to reveal itself to be the smartest and most efficient way to create the virtual peaking plans and intelligent buildings of the greener energy grid of the future. Innovations of this magnitude in our built environment, by virtue of its role in consumption, have the potential to shift our understanding of energy generation, demand and load allocation in an entirely new direction. This shift in direction, however, while *possible* is only *likely* to occur if the proper access to data is available to customers and their EGSs in quick, easy and straightforward manners, and if the data provided by such new Smart Meter technologies is as specific and frequent as possible.

Constellation St. 1 at 8-9 (emphasis in original). Further, in its Main Brief, Constellation, which argued for 15-minute interval data to be made available to EGSs on an *hourly* as opposed to a *daily* basis, stated:

...providing 15-minute data *on a daily basis at a minimum* will encourage new innovation and efficiencies in energy use, going beyond this minimum in order to provide such 15-minute data *on an hourly basis* will go even further to allow all C&I customers to take advantage of new energy infrastructure and shape new energy and resource management innovation.

Constellation M.B at 12 (emphasis in original). The testimony and brief of Constellation provide persuasive evidence that, contrary to WPPII's argument, the benefits of smart metering have not been fully tapped by C&I customers.¹¹ To argue that the Large C&I customers have already reaped all of the benefits of smart meters is simply incorrect.

The OSBA and WPPII also argue that while Act 129 also envisions environmental benefits, the OCA has not quantified these benefits and included them in its allocation methodology. WPPII M.B. at 23; OSBA M.B. at 23. WPPII asserts that the OCA has “cherry-picked” benefits by not quantifying the environmental benefits and using that in its allocation methodology. WPPII M.B. at 23. OSBA argues that these environmental benefits are similar to societal benefits which will accrue to all citizens regardless of how much energy they use. OSBA M.B. at 23. The WPPII and OSBA arguments fail to understand the environmental benefits that are expected from smart meter deployment.

While the OCA did not make a specific quantification of the environmental benefits, to quantify the environmental benefits, one must determine the environmental cost of energy consumption. Company witness Graves did make such a calculation and included it in his cost benefit analysis. Allegheny Power St. 6-R at 13-15. Mr. Graves used the cost of complying with CO₂ reduction requirements in valuing the environmental benefits. Allegheny

¹¹ WPPII also argues that since they have already paid for the interval metering they now have that allows for participation in PJM's load response programs, there is now basis for assuming additional benefits. The smart meters that are to be deployed, and the joint and common infrastructure system that is being built to support those meters which are the costs at issue here, are not at all the same as the existing metering infrastructure that now serves the C&I customers. As just noted, the point of this new smart metering infrastructure is to enable even more demand response and energy efficiency than what exists today.

Power St. 6-R at 13-15. As Mr. Graves notes, the cost of this compliance becomes a part of the cost of energy in PJM. Mr. Graves valued this benefit based on the likely rise in the price of PJM power, using a value of between \$0.75 and \$0.80 per MWh on a load weighted basis. Allegheny Power St. 6-R at 14. Thus, reductions in energy usage establish the avoided environmental cost, i.e., the benefit.¹² While the OCA did not perform a specific quantification of the environmental benefits, those benefits directly follow energy consumption. The OCA's proposed allocation does not "cherry pick" benefits as WPPII asserts. Rather, it fully reflects environmental benefits by using an energy and demand allocator.

Finally, WPPII argues that the joint and common costs of Allegheny Power's SMIP are analogous to Customer Assistance Program (CAP) costs. This attempted analogy fails. The benefits of the SMIP are direct benefits to each customer class. There is no societal benefit or indirect benefit as WPPII argues is provided by CAP at issue here. As energy and demand are reduced, and as the price of energy and capacity is reduced, there is a direct benefit to customers based on their energy usage and demand. It is abundantly clear that a customer using 500 kwh is not receiving the same benefit as the customer using 500,000 kwh from these energy price reductions. There is simply no basis to attempt to draw an analogy to CAP costs.

iii. Conclusion.

The OCA submits that the Commission must ensure that the costs of the smart meter plan are allocated to the customer classes in a reasonable and appropriate manner. These joint and common costs are being caused by Act 129 whose purpose is to ensure adequate, reliable, affordable, efficient and environmentally sustainable electric service at the least cost over time. The smart meter network is not being installed simply for the sake of placing new

¹² Even without legislation on CO₂, the cost of controlling other emission for environmental reasons, such as SO₂ and NO_x are well established as being included in the cost of energy.

meters in service, but for the benefits that will result from the creation of a fully integrated Smart Meter network. Those benefits are the reduction in energy usage and demand and the corresponding reduction in energy and capacity prices. The OCA submits that it is fully consistent with cost of service principles and the Commission's Smart Meter Implementation Order to allocate the joint and common costs based on an allocation factor that reflects the energy usage of the classes and the peak demand of the classes.

d. Allocation of Costs to WV and MD.

No Reply Necessary.

3. Rate Design.

a. Company Proposal, Including Variable Rate Proposal Regarding Residential Customers.

The Company originally proposed a fixed monthly SMT surcharge for residential customers projected to start at \$5.86 per customer per month in 2010 and increase to \$14.34 per month in June 2011, \$15.57 per month in June 2012 and \$15.77 per month in 2013. AP Exh. 1, SMIP at 98; OCA St. 1 at 26. Alternatively, the Company stated in the Rebuttal Testimony of witness Valdes that the Company is willing to modify the design of its SMT for residential customers to recover 21% of its SMIP costs via a customer surcharge and 79% via a volumetric surcharge. Allegheny Power St. 4-R at 10; OCA St. 1-S at 23.

The Company in its Main Brief supports its proposal to recover the costs of its SMIP from residential customers on a partially fixed and partially volumetric basis. The Company proposes to recover 21% of the costs through a fixed customer charge and 79% of the costs through a volumetric per kwh charge. While the OCA appreciates the willingness of the Company to attempt to address its concerns with the design of the SMT surcharge for residential

customers, the Company's proposal has two key flaws. First, the change in the rate design does not alleviate the significant burden of the SMT surcharge on residential customers. The Company is still proposing to ultimately collect over \$15 per month from the average residential customers. OCA St. 1-S at 23. This is a significant burden.

Second, there is no basis on the record to confirm the validity of recovering 21% of the costs through a fixed customer charge. It is not clear whether this is intended to reflect the direct cost of the meter or something else. Without an appropriate analysis of the split, the Commission cannot be assured that a reasonable customer charge will result. Even this 21% would result in a fixed customer charge of over \$3, a more than 60% increase in the current customer charge of \$5. OCA St. 1-S at 23-24. Commission precedent and traditional ratemaking principles limit the costs that can be included in fixed customer charges to basic customer costs. Pa. PUC v. West Penn Power Company, 69 PUR 4th 470, 521 (1985); Pa. PUC v. West Penn Power Company, 1994 PaPUC LEXIS 144, 154 (1994).

While Allegheny Power's alternative proposal presented in Rebuttal and supported in its Brief is an improvement to the original design, this proposal has not been shown to result in a reasonable rate design.

b. Cost of Service Study.

No Reply Necessary.

4. Revenue Requirement.

a. Company Proposal.

No Reply Necessary.

b. Rate of Return.

The Company proposes to use a return on equity of 11.5% in determining the revenue requirement for its smart meter surcharge. The Company originally proposed the use of an 11.5% ROE since that was the authorized return on equity awarded in Allegheny Power's last litigated base rate case in 1994. The OCA and OTS challenged the Company's claim. The OCA recommended a return on equity of 10.1% basing its recommendation on a more recent litigated electric distribution base rate case until the Company completes its own base rate or a generic procedure is developed. When the use of such an outdated return on equity determination was challenged by the OCA and OTS, the Company filed the Rebuttal testimony of a rate of return witness, Dr. Avera, to attempt to bolster its claim of an 11.5% return on equity. In its Main Brief, the Company argues that Dr. Avera's analysis should be adopted. AP M.B. at 61-67.

As the Company discusses in its Main Brief, Dr. Avera's recommended ROE of 11.5% is derived from an analysis he conducted of Allegheny Power's affiliates in a proceeding before the West Virginia Public Service Commission.¹³ AP M.B. at 64. OCA witness Kahal addressed Dr. Avera's analysis in some detail and also presented a recent cost of capital analysis he had prepared for an electric distribution company. OCA St. 3-S. As OCA witness Kahal's testimony and analysis shows, a 10.1% return on equity for use in determining the revenue requirement for the SMT surcharge is more than adequate and should be adopted.

The Company emphasizes two points in challenging the OCA's recommended 10.1% return on equity. First, the Company argues that the negative impact of Allegheny

¹³ It is important to note that Company witness Avera's reliance on a study of the Allegheny affiliates is flawed in that the affiliates remain vertically integrated electric utilities dominated by coal-fired generation assets. These companies are not delivery service only companies as is Allegheny Power in Pennsylvania. Credit rating agencies have made it clear that vertically-integrated electric utilities are riskier than delivery service electric utilities. Dr. Avera's proxy group is also dominated by vertically integrated electric utilities with substantial unregulated operations. OCA St. 3-S at 6-7.

Power's specific risk due to the weak credit ratings of Allegheny Power and mediocre Value Line indicators of its parent, Allegheny Energy, is not reflected in the OCA's recommendation. AP M.B. at 64; OCA St. 3-S at 5. Second, the Company argues that the global financial crisis has rendered the Commission's 2006 return on equity award out of date. AP M.B. at 65; OCA St. 3-S at 4. Both of these arguments, along with the cost of capital study provided by Company witness Avera, must fail.

The Company's reliance on a weak bond rating and its parent company's mediocre Value Line indicators is sorely misplaced. As OCA witness Kahal explained:

Those mediocre ratings clearly are the result of the misadventures of Allegheny Energy management in the unregulated merchant generation market. They certainly are *not* the result of Allegheny's status as a monopoly delivery service electric utility or PaPUC regulation. I find it unacceptable that Dr. Avera would attempt to use Allegheny Energy's disastrous experience in the deregulated generation market (which nearly led to its bankruptcy) to leverage its rate of return request in this case for its captive utility customers.

OCA St. 3-S at 5-6.

Moreover, as OCA witness Kahal noted, his cost of equity analysis, which fully supports his recommended 10.1% return on equity, is based on a proxy group of electric and gas delivery companies that have business risks comparable to Allegheny Power. OCA St. 3-S at 11. While the proxy group companies may have credit ratings stronger than Allegheny Power at this time, this provides no basis for increasing the return on equity. OCA witness Kahal explained:

Allegheny's low triple-B ratings are lower than we normally would expect for a delivery service gas or electric utility. But this is undoubtedly related to its affiliation with Allegheny Energy and its historic merchant power issues. I have seen no evidence that Allegheny's delivery service utility operations are unusually risky, and Allegheny therefore should be viewed as having an investment risk profile that is typical of a delivery service utility. An even more important point is that the SMT reconcilable surcharge

method of cost recovery must be considered in setting the fair return on SMT investment. My cost of equity study is largely based on the proxy companies experiencing cost recovery and earning their returns through “standard regulation.” In that context my 10.1 percent cost of equity estimate is conservatively high for Allegheny’s SMT proposal.

OCA St. 3-S at 11-12. As can be seen, Allegheny Power’s arguments that its credit ratings support a high return on equity are wholly without merit.

Allegheny Power also points to the global financial crisis to challenge the reliance on the return on equity authorized in the 2006 Pennsylvania base rate case referenced by OCA witness Hornby. AP M.B. at 65. As OCA witness Kahal testified, though, currently available market data suggests that there has been little change in utility cost of equity today as compared to 2006. OCA St. 3-S at 5. Mr. Kahal analyzed the cost of capital conditions today compared to 2006 when the Commission issued its decision on the return on equity for an electric distribution company and compared to 1994 when Allegheny Power was awarded its 11.5% ROE. OCA St.3-S at 7-8, Table 1. When reviewing the indicators of ten-year Treasury yields, Moody’s Single-A utility bond yields, and nationwide electric utility ROE awards, Mr. Kahal concluded that “cost of capital conditions are comparable to or better than in 2006 and far better than 1994 when Allegheny was awarded its 11.5 percent ROE.” OCA St. 3-S at 7.

In addition, Mr. Kahal concluded that the global financial crisis does not suggest a significantly higher utility cost of equity as compared to 2006 as Company witness Avera argues.

Mr. Kahal testified:

Clearly, there was a financial crisis in the fourth quarter of 2008 (and perhaps early 2009) that for a short period raised the corporate cost of capital. Indeed, serious problems remain even today for distressed companies, commercial real estate, small businesses and certain other classes of borrowers with respect to the availability and cost of capital. Nonetheless, conditions have

dramatically improved from a year ago and are quite favorable for credit-worthy utilities.

OCA St. 3-S at 7.

As noted, OCA witness Kahal presented a recent cost of equity study that he recently prepared and submitted pertaining to electric distribution utility service using both the discounted cash flow (DCF) and capital asset pricing model (CAPM). OCA St. 3-S, Appendix B. Based on two proxy groups with business risk comparable to Allegheny Power, the studies produced the following results:

1. Electric distribution group DCF : 9.7 to 10.7%, midpoint = 10.2%
2. Gas distribution group DCF : 9.7 to 10.2%, midpoint = 10.0%
3. CAPM Study : 7.5 to 9.6%, midpoint = 8.6%

OCA St. 3-S at 11. The OCA submits that these results fully support the OCA's recommended return on equity of 10.1% for use in establishing the revenue requirements for the SMT surcharge.¹⁴

The OCA submits that in determining the revenue requirement for the SMT surcharge, the Company should use a 10.1% return on equity until such time as it files its next distribution base rate case or the Commission establishes a procedure to set the ROE between distribution base rate cases for all electric distribution companies. The 10.1% return on equity reflects current market conditions and an appropriately conducted cost of capital study. If anything, the 10.1% return on equity is conservatively high as it is being used in a reconcilable surcharge method of cost recovery with little or no risk. OCA St. 3-S at 8-9, 12.

¹⁴ As noted, Dr. Avera's analysis suffers from several flaws that render it unreasonable for use in this proceeding. The use of vertically integrated utilities in his proxy group, as well as his reliance on the global financial crisis and Allegheny Power's bond ratings upwardly bias his analysis. The OCA would note as well that the West Virginia testimony of Dr. Avera is the Company's request in the West Virginia proceeding and has not been adopted by the West Virginia Commission. In the previously litigated proceedings in West Virginia in 2007, Dr. Avera recommended a return on equity of 11.75% for the Allegheny Power affiliates and the West Virginia Commission awarded a return on equity of 10.5% for these vertically integrated companies. Re: Monongahela Power Company and The Potomac Edison Company, 2007 W. Va. PUC LEXIS 1611; 257 PUR 4th 186 (2007).

c. Meter Asset Life.

The Company has proposed a meter asset life of 10 years for purposes of depreciation. Based on Act 129, which calls for the deployment of smart meters in accordance with a depreciation schedule not to exceed 15 years, and the Company's own testimony that it expects the smart meter to be functional for 15 years, the OCA recommends a meter asset life of 15 years for depreciation purposes. See, Tr. at 136; OCA Cross-Exam Exh. 1; 66 Pa.C.S. § 2807(f)(2)(iii).

In its Main Brief, the Company argues that since the Internal Revenue Service has set a depreciable tax life of 10 years for smart meters, its use of a 10 year life for ratemaking purposes is reasonable. AP M.B. at 69. The OCA submits, however, that the life of an asset for tax purposes is certainly not determinative of the appropriate life of an asset for ratemaking purposes. The Commission and the Courts have long recognized that there are differences between depreciation for tax purposes and depreciation for ratemaking purposes. Barasch v. Pa. Pub. Util. Comm'n, 491 A.2d 94, 97 (Pa. 1985) (“The difference between the tax expense allowable for rate purposes under straight line depreciation and the tax deduction allowable under accelerated depreciation”); Pa. PUC v. Cont'l Tel. Co. of Pa., 1986 PaPUC LEXIS 144 at *75, 61 Pa. PUC 46 (1986) (acknowledging “the use of different methods of depreciation for ratemaking purposes and for federal income tax purposes”); Pa. PUC v. W. Penn Power Co., 1981 PaPUC LEXIS 94 at *42, 54 Pa. PUC 602 (1981) (acknowledging “the difference between straight-line depreciation and the methods of accelerated depreciation used by West Penn in the computation of its federal income taxes”); Pa. PUC v. Pa. Power Co., 1978 PaPUC LEXIS 78 at *47-*48, 52 Pa. PUC 459 (1978) (“Due to the differences in computing depreciation for financial reporting purposes and for income tax purposes, there is often a difference between net income

as reported in a utility's financial statements for ratemaking purposes and for income tax purposes.”)

In addition, as for estimates of the life of a particular asset, the Commission has tried to ascertain the life span of an asset using engineering principles, as opposed to “tax lives” set by the Internal Revenue Service:

Life estimates are essentially based upon engineering judgment and, where possible such judgment should, to an extent, be predicated upon respondent's actual retirement experience, together with future plans with respect to the specific plant in question. In the absence of these data, average service lives, which appear reasonable, should be selected. The experience of comparable utilities, though not controlling, has certain probative value in developing estimated average service lives and may be considered.

Pa. PUC v. Pennsylvania-American Water Co., 2002 PaPUC LEXIS 1 at *68 (2002) (quoting Pa. PUC v. The York Water Company, 44 Pa. PUC 1, 12 (1968)).

As noted, the Company expects a useful life of the smart meters to be 15 years. Tr. at 136; OCA Cross Exam Exh. 1. As OCA witness Hornby also testified, each of the other EDCs subject to Act 129 has proposed a depreciable life for smart meters of 15 years. OCA St. 1 at 29. PPL, which previously deployed smart meters, adopted a 15 year life for its smart metering equipment when it put its smart meters into rate base several years ago. OCA St. 1 at 29.

The OCA submits that the Company should be directed to use a meter asset life for ratemaking purposes of 15 years. There is no basis for the shorter 10 year life proposed by the Company for ratemaking purposes.

d. Recovery of Stranded Investment.

In its Main Brief, the Company argues that the OCA’s recommendation to defer recovery of any stranded cost to a base rate case should not be adopted. Allegheny Power argues

that the Commission's Smart Meter Implementation Order provides for recovery of stranded costs through the surcharge mechanism. AP M.B. at 70. The OCA submits, however, that the Commission's Smart Meter Implementation Order cannot be read as a determination that stranded costs must be recovered through the surcharge.

The Commission's Smart Meter Implementation Order makes two key points regarding stranded cost. First, the Order sets forth the Commission's expectation that stranded cost will be minimized in the smart meter plan. The Commission stated:

The Commission believes the EDCs should install smart meters in a manner that coincides with the full depreciation of existing meters, so as to minimize the stranded costs.

Smart Meter Procurement and Installation, Docket No. M-2009-2092655, at 33 (Order entered June 24, 2009)(Smart Meter Implementation Order). Clearly, Allegheny Power's accelerated deployment Plan and its \$24 million in stranded cost did not achieve this Commission goal.

Second, the Commission's Order directed EDCs to include an accelerated depreciation schedule with their cost recovery *plan*. The Commission stated:

However, in the event that there are stranded costs that need to be recovered the Commission agrees with EA, PECO and Duquesne that the EDCs should be allowed to seek recovery of those costs through an accelerated depreciation schedule, to be included in the EDC's cost recovery plan.

Smart Meter Implementation Order at 33. The Commission did not specify that these stranded costs were only to be included in a surcharge mechanism as Allegheny Power argues. Rather, the Commission directed that an accelerated depreciation schedule be included in the cost recovery portion of the plan.

As OCA witness Hornby testified, the stranded cost claim and accelerated depreciation will have a number of impacts on Allegheny Power's distribution base rates that are best examined in the context of a distribution base rate case. There is an impact on the rate base, which impacts the return requirement, and there is a build up of accumulated depreciation that must be recognized. OCA St. 1 at 29. If Allegheny Power's stranded cost claim is to be permitted at all, it should be considered in a distribution base rate case where all effects can be properly reflected.

The OCA continues to submit, however, that Allegheny Power's proposed accelerated depreciation based on its rapid deployment schedule is contrary to the intent of the Act and the Smart Meter Implementation Order.

e. Capital Structure.

No Reply Necessary.

f. Cost Rate For Debt And Preferred Stock.

No Reply Necessary.

5. Interest.

a. Company Proposal.

b. Interest For Over- And Under-Collections.

c. Applicable Rate And Computation Of Rate.

d. One Directional Interest.

e. Deferral.

The OCA is not addressing the issues in Section V.B.5.

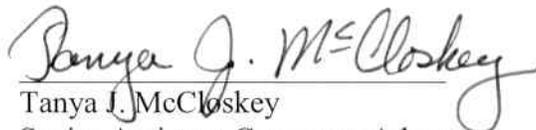
6. Cost Recovery Mechanism Review Process.
 - a. Annual Review Schedule Proposed By OTS.
 - b. Quarterly Updates Proposed By OTS.

The OCA is not addressing the issues in Section V.B.6.

IV. CONCLUSION

For the reasons set forth in the OCA's Main Brief and in this Reply Brief, Allegheny Power's Smart Meter Procurement and Installation Plan must be rejected in its entirety. The Company should be directed to utilize the grace period provided in the Commission's Smart Meter Implementation Order to design a more reasonable and cost-effective Smart Meter Deployment Plan.

Respectfully Submitted,



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CERTIFICATE OF SERVICE

Petition of West Penn Power Company :
d/b/a Allegheny Power for Expedited : Docket No. M-2009-2123951
Approval of its Smart Meter Technology :
Procurement and Installation Plan :

I hereby certify that I have this day served a true copy of the foregoing document, the Reply Brief of the Office of Consumer Advocate, upon parties of record in this proceeding in accordance with the requirements of 52 Pa. Code Section 1.54 (relating to service by a participant), in the manner and upon the persons listed below:

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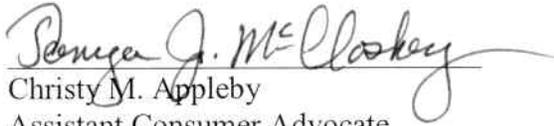
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