COMMONWEALTH OF PENNSYLVANIA

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December 8, 2009

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

RE: Petition of Duquesne Light Company for Approval of its Smart Meter Technology Procurement and Installation Plan
Docket No. M-2009-2123948

Dear Secretary McNulty:

Enclosed for filing is the Main 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,

David T. Evrard

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Assistant Consumer Advocate
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Enclosures
cc: Honorable Robert P. Meehan

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BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of Duquesne Light Company for Approval of its Smart Meter Technology Procurement and Installation Plan	: : :	Docket No. M-2009-2123948

MAIN BRIEF
OF THE
OFFICE OF CONSUMER ADVOCATE

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Dated: December 8, 2009

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I. INTRODUCTION

A. Background.

Act 129 of 2008 (Act), an amendment to the Public Utility Code, took effect on November 14, 2008. Among its provisions, the Act requires that within nine months of its effective date all electric distribution companies (EDCs) with more than 100,000 customers must file with the Pennsylvania Public Utility Commission (Commission) a Smart Meter Technology Procurement and Installation (SMPI) plan. The Act requires that smart meter technology must be provided as follows: (i) upon request from a customer that agrees to pay the cost of the smart meter at the time of the request; (ii) in new building construction; and (iii) in accordance with a depreciation schedule not to exceed 15 years. 66 Pa.C.S. § 2807(f)(2).

The Act defines "smart meter technology" as technology, including metering and network communications technology capable of bidirectional communication that records electricity usage on at least an hourly basis. The technology must provide customers with direct access to and use of price and consumption information. It must also: (i) directly provide customers with information on their hourly consumption; (ii) enable time-of-use rates and real-time price programs; (iii) effectively support the automatic control of the customer's electricity consumption by one or more of the following as selected by the customer: the customer's utility, a third party engaged by the customer, or the customer. 66 Pa.C.S. § 2807(g). Under the Act, EDCs must, with customer consent, make available direct meter access and electronic access to customer meter data to third parties, including electric generation suppliers (EGSs) and providers of conservation and load management services. 66 Pa.C.S. § 2807(f)(3).

The Act authorizes EDCs to recover the reasonable and prudent costs of providing smart meter technologies. Included in these costs are the capital costs of the smart meter

technology and the cost of system upgrades required to enable the use of smart meter technology. Netted against these costs are to be the capital and operating cost savings brought about by the deployment of the smart meter technology. EDCs are authorized to recover their net costs either through base rates or through a reconcilable automatic adjustment clause under Section 1307 of the Public Utility Code. 66 Pa.C.S. § 2807(f)(7).

On March 30, 2009, the Commission issued a Secretarial Letter seeking comments on a draft staff proposal related to EDC smart meter procurement and installation. The OCA submitted comments on the draft proposal. In an Order entered June 24, 2009 (Implementation Order), the Commission set forth the standards that each EDC SMPI Plan must meet; provided guidance on the procedures to be followed for submittal review and approval of all aspects of the plan; established requirements for smart meter capability; provided guidance on the Commission's expectations for deployment of smart meters; set forth requirements regarding access to smart meters and data; and provided guidance on cost recovery.

In keeping with the requirements of the Act, the Implementation Order required that EDC SMPI plans be submitted to the Commission on or before August 14, 2009. See Smart Meter Procurement and Installation, Docket No. M-2009-2092655 (Order entered June 24, 2009)(Implementation Order). The Commission also made a number of other key determinations in the Implementation Order. First, it determined that the Act's provision that smart meter technology is to be provided "in accordance with a depreciation schedule not to exceed 15 years," was intended to require system-wide or universal deployment of smart meter technology by EDCs within a 15-year time frame. Implementation Order at 14. Second, the Commission determined that because of the time needed to develop and install a smart meter network systemwide, it would grant a 30-month grace period following plan approval, during

which EDCs will not be required to install a smart meter at a customer's premises. Id. at 7. However, the Commission required that each EDC's SMPI plan include a proposal for meeting specific milestones within the grace period. The milestones are as follows: (1) assessment of needs and technological solutions; (2) selection of technologies and vendors; (3) establishment of network designs; (4) establishment of plans for training personnel; (5) establishment of plans for installation, testing and rollout of support equipment and software; (6) installation, testing and rollout of support equipment and software; (7) establishment of plans to design, test and certify EDI transaction capability; and (8) establishment of plans for installation of meters consistent with applicable rollout requirements. Each plan is required to include a schedule to meet each milestone and specific deadlines when the EDC will provide the Commission with reports on the status of its plan. Implementation Order at 7-8.

Another key element of the Implementation Order is its identification of fourteen different capabilities that should be considered for each EDC's smart meter technology. The Commission acknowledges that these capabilities go beyond the Act's definition of smart metering technology and states that what the Act provides are to be considered the "minimal requirements." Id. at 16. The Commission requires that in its SMPI plan, each EDC must quantify the costs to meet the minimum technology requirements of the Act and the costs to meet the enhanced technology requirements imposed by the Commission. If an EDC is unable to provide such a cost analysis with its August 14 plan filing, it will be permitted to petition the Commission to file at a later date. Id. at 29-31.

Another provision of the Implementation Order is its guidance to EDCs on how to handle customer requests for smart meters during the 30-month grace period. Here the Commission has directed that EDCs are not required to install fully capable "smart meters," but

rather meters that are capable of providing interval data. An EDC must give direct access to the customer's interval data to third parties, as requested by the customer. Id. at 7.

B. Procedural History.

As directed by Act 129 and the Implementation Order, Duquesne Light Company (Duquesne or Company) filed its SMPI Plan along with supporting testimony and a Petition seeking approval of the Plan on August 14, 2009. Interested parties were given the opportunity to provide written comments on the Plan until September 25, 2009. The Office of Consumer Advocate (OCA) submitted its comments on that date.

On September 2, 2009, the OCA submitted its Notice of Intervention and Public Statement. A Notice of Appearance was filed by the Commission's Office of Trial Staff (OTS) on August 20, 2009, and the Office of Small Business Advocate (OSBA) submitted its Notice of Intervention and Public Statement on September 25, 2009. Petitions to Intervene were filed by the Duquesne Industrial Intervenors (DII), the Department of Environmental Protection (DEP), Citizen Power, Inc., the Pennsylvania Association of Community Organizations for Reform Now (ACORN), and Constellation New Energy, Inc. and Constellation Commodities Group, Inc. (together, Constellation).

The matter was assigned to the Office of Administrative Law Judge and then further assigned to Administrative Law Judge Robert P. Meehan. A prehearing conference was held on October 7, 2009, at which time the various petitions for intervention were granted and a procedural schedule was set. Pursuant to the requirements of Implementation Order, a Technical Conference was held on Duquesne's Plan on October 27, 2009. Thereafter, the procedural schedule called for the submission of Direct Testimony (by parties other than the Company) on October 29, the submission of Rebuttal Testimony on November 6, and the submission of

Surrebuttal Testimony on November 12. A single day of evidentiary hearings was conducted on November 17, 2009.

The OCA filed the testimony of as expert witnesses in this proceeding Ms. Christina R. Mudd[1], Mr. Thomas S. Catlin[2] and Dr. Dale E. Swan[3]. Each filed Direct and Surrebuttal testimony.

II. DESCRIPTION OF DUQUESNE'S SMART METER PLAN

Duquesne's Plan sets forth its approach to the work to be done during the 30-month grace period prior to determining its full-deployment Plan. The Company describes its approach as follows:

> Due to the enormity of tasks and cost of such a project, not all of the analysis, development, development and planning is complete at the time of this filing and much further work is needed so that the appropriate overall Plan for post Grace-Period is developed that is the most beneficial and cost-effective to Duquesne customers. Much of the information and costs that are contemplated by the Implementation Order will not be available until well into the 30 month Grace Period. Further information will be gathered and analyzed and thereafter the overall Plan

[1] Ms. Mudd is a Senior Analyst with Exeter Associates, Inc. Ms. Mudd holds a Bachelor of Science degree from James Madison University and a Master of Arts degree in International Affairs from Johns Hopkins University. Ms. Mudd's areas of concentration for her Master's degree were economics and energy policy. Since 1998, Ms. Mudd has worked in positions either for private consulting firms or the State of Maryland in which her work has involved the areas of distributed energy, renewable energy, energy efficiency and environmental policy. With Exeter, Ms. Mudd focuses her work on electricity regulation, energy efficiency, renewable energy, and climate change. Under a contract with the National Association of Regulatory Utility Commissioners (NARUC), Ms. Mudd has served as the Executive Director for the National Council on Electricity Policy.

[2] Mr. Catlin is a principal with Exeter Associates, a consulting firm specializing in issues pertaining to public utilities. Mr. Catlin holds a Master of Science degree in Water Resources Engineering and Management from Arizona State University. He has also completed graduate courses in financial and management accounting. Mr. Catlin has over 25 years of experience in the analysis of utility operations with an emphasis on utility rate filings.

[3] Dr. Dale E. Swan is a senior economist and principal with Exeter Associates, Inc., a consulting firm specializing in issues pertaining to public utilities. Dr. Swan holds a B.S. degree in Business Administration from Ithaca College. He attended a master's program in economics at Tufts University, and holds a Ph.D. in economics from the University of North Carolina at Chapel Hill. Dr. Swan has over 30 years of experience in long-term electric power supply planning, contract negotiations for large power users, and on electric utility cost allocation and rate design.

> further refined…. Duquesne will file a supplemental filing(s) at a later date…containing future analysis, results and conclusions.

Duquesne Exh. A (Petition) at 4-5.

Duquesne's Petition seeks the additional time the Commission indicated it would allow for EDCs to conduct the incremental cost analysis of meter capabilities that was mandated by the Implementation Order. Duquesne asks permission to file its cost analysis on or before July 1, 2010. Id. at 5. Duquesne views the cost analysis as a necessary first step to meeting the various milestones mandated by the Commission to be completed in the grace period. With respect to those milestones, Duquesne's Plan identifies the dates by which it intends to reach each milestone and describes the various activities that will be undertaken to accomplish each. Duquesne Exh. A (Plan) at 10-35. Duquesne's proposed timeline with respect to the grace period milestones is as follows:

- Assessment of needs and technological solutions and selection of technologies and vendors – 12/31/2010
- Establishment of network designs – 3/31/2011
- Establishment of plans to design, test and certify EDI transactions, Web Access and Direct Access capability – 6/30/2011
- Installation, testing and rollout of support equipment and software – 9/30/2011
- Establishment of plans for installation of meters, outside communications and training personnel – 11/1/2011

Duquesne proposes to then make a supplemental filing by December 31, 2011 which will include an updated SMPI Plan that will contain greater technical detail and more precise information as to the expected overall cost of the plan. Duquesne Exh. A (Petition) at 11-12.

As required by the Commission, Duquesne's Plan includes a description of its current deployment of smart meter technology. Between 1996 and 1998, the Company rolled out a territory-wide automated meter reading system that included approximately 608,000 meters. The meters used in that system already have certain smart meter capabilities. The meters used for the Company's large commercial and industrial customers (with demand greater than 300 kW) obtain reads at 15-minute intervals. Id. at 3. Duquesne states that these large customer meters and the associated systems that support them already satisfy the Act 129 requirements and the Commission's enhanced smart meter capabilities, with the exception of a remote connect/disconnect feature, which Duquesne says cannot be done with a polyphase meter. Duquesne Exh. A (Plan) at 7. Meters used for medium-size commercial and industrial customers (demand between 50 and 300 kW) provide daily reads to the Company, but substantial additional communications, reprogramming and backend data collection and management systems are needed before these meters can be upgraded to meet the specified requirements in Act 129. Id. The vast majority of meters in use in Duquesne's territory are for residential and small commercial customers. Approximately 90% of these meters provide Duquesne with a daily read, while the remaining 10% are read monthly with the use of a drive-by, handheld radio frequency device. Id. at 5. With respect to the current meter stock and its applicability to the future, Duquesne states:

> Duquesne's assessment of how to move forward to achieve the ultimate goals of Act 129 and the Implementation Order will necessarily need to consider the current meter environment and the investment that Duquesne has already made in meters. Duquesne has a contractual obligation with Itron for AMR infrastructure maintenance and support through 12/31/2013 and nearly $57 million left in undepreciated meter assets, and thus during the Grace Period, Duquesne will be assessing the extent to which it can utilize as much as possible of pre-existing meters and

> infrastructure, while at the same time meeting the statutory and regulatory requirements.

Duquesne Exh. A (Petition) at 4.

As part of its SMPI Plan, Duquesne is currently incurring costs to acquire and install upgraded customer care and data management systems. These systems will enable Duquesne to comply with the requirement to provide interval data and direct access to such data to third parties. The systems are also necessary to support expansion of the time-of -use and real-time pricing options mandated by Act 129. Duquesne Exh. C at 12-14.

As required by the Implementation Order, during the grace period, Duquesne will supply customers requesting smart meters with an interval data-capable meter. Duquesne proposes to provide such customers with the type of meter currently used by its large commercial and industrial customers. Id. at 11. The cost of this meter is estimated to be $1305, which must be borne by the requesting customer. Duquesne Exh. D at 13.

As noted earlier, there are elements of Duquesne's Plan that remain to be completed. Among them are the Company's activity in the post-grace period time frame with respect to system-wide deployment of smart meters, meeting customer requests for smart meters in advance of full deployment, and the installation of meters in new construction. Finalization of all of these elements is dependent on the further analysis, assessment and activity that Duquesne will undertake during the grace period. These matters will be addressed in Duquesne's supplemental filing.

With respect to cost recovery, Duquesne proposes to implement a reconcilable automatic adjustment clause pursuant to Section 1307 of the Public Utility Code, 66 Pa.C.S. § 1307. Duquesne's Smart Meter Charge (SMC) will recover applicable capital costs and operating expenses on a forward-looking basis, using quarterly filings and an annual

reconciliation. Duquesne Exh. D at 4. The charge will be collected as part of the fixed monthly charge on customer bills. Id. at 12.

For purposes of cost allocation, the Company proposes dividing costs into three categories: a) those for single-phase meters, b) those for three-phase or poly-phase (multi-phase) meters, and c) those for the common costs of the technology infrastructure necessary to support the two types of meters. The costs of each meter type will be directly assigned to the customers using those meters. With respect to the common costs of infrastructure, Duquesne proposes to allocate those costs to each meter group based on the number of meters in each group. Duquesne Exh. D at 8-9.

III. SUMMARY OF ARGUMENT

In general, the OCA supports the Duquesne's proposed SMPI Plan. There are a number of areas of the Plan, however, which the OCA submits need to be modified. The OCA divides its argument into two parts: Smart Meter Plan and Plan Development and Cost Issues. Under Smart Meter Plan and Plan Development the OCA argues for the following modifications to Duquesne's Plan:

- The Company's current proposal for supplying an interval meter during the Grace Period is unreasonably expensive for residential customers. Therefore, Duquesne should continue to work with its current meter vendor to identify a more reasonably priced interval meter that can be used prior to smart meter deployment.

- The proposed upgrades to the Company's billing and metering system should be limited to those which are required to comply with Act 129.

- The Company should make one additional filing to the Commission during the Grace Period.

- The Company should establish a process for working collaboratively with stakeholders in the further development of its Plan.

- The Company's "outside communications" or education plan should recognize the low-income and elderly customers may require specialized education outreach.

With respect to Cost Issues, the OCA argues as follows:

- Commission approval of the Company's Grace Period Budget should be granted with the exception of costs associated with the final two milestones. Approval of those expenditures should occur only after the Company submits more definitive cost estimates.

- Cost/benefit studies conducted by the Company should be done with sufficient detail to show the functionalization of benefits and the breakdown of benefits by customer class.

- In calculating Duquesne's Smart Meter Charge, the rate base valuation should be done annually and should reflect the actual timing of investment over the year.

- Recovery of any stranded cost remaining with respect to existing meters should be addressed in the first base rate case after full deployment of smart meters.

- Recovery of smart meter charges from residential customers should be through a combination of a fixed charge to recover the cost of the meter and a per kWh charge to recover all other smart meter related costs.

- After full-deployment of smart meters, the Smart Meter Charge should be rolled into base rates only as part of a base rate proceeding.

- The return on equity used in calculating the Smart Meter Charge should be the result of a generic proceeding conducted by the Commission to determine a method for establishing the rate. In the interim, the ROE used should be 10.1%, which is the ROE authorized in the most recent fully-litigated base rate proceeding for a Pennsylvania EDC.

- As per the terms of the settlement in the Duquesne-Macquarie Consortium merger proceeding, Duquesne should be required to demonstrate that its claimed equity capitalization ratio is within a reasonable range when compared with other similar companies. Until it does so, the equity ratio should be 51% which is the capital structure authorized in the most recent fully-litigated base rate proceeding for a Pennsylvania EDC.

- The Smart Meter Charge should be updated on an annual, not quarterly, basis.

- The common (non-meter) costs associated with implementing the SMPI Plan should be allocated not on the basis of number of meters, but rather on the basis of the benefits that will flow to particular customer classes. To reflect the flow of benefits, allocation of common costs should be done on the basis of energy use and demand.

IV. ARGUMENT

A. Smart Meter Plan and Plan Development.

1. Upgrades to Customer Information and Billing System, Additional Filing, Stakeholder Involvement and Customer Education and Outreach.

With respect to the technical elements of Duquesne's Plan and the ongoing development of those elements, the OCA sponsored the testimony of Christina R. Mudd. As to these technical elements, Ms. Mudd raised a number of issues in her Direct Testimony with which the Company, in Rebuttal, agreed. Following are the items on which the OCA and the Company appear to agree:

- Ms. Mudd testified that the Company's planned upgrades to its current billing and metering systems in order to accommodate flexible pricing options and Smart Metering requirements should be limited to those required for implementation of Act 129 and should not incorporate additional hardware or software that would constitute a full replacement of the customer information and billing system. OCA St. 1 at 5.

- In Rebuttal, Company witness Ruth Ann DeLost indicated that the Company will implement only the required hardware, software and components needed to implement the requirements of Act 129. Ms. DeLost issued a caveat that the Company may, after full assessment of Smart Meter infrastructure requirements including the additional meter capabilities identified by the Commission, need to implement additional incremental systems to meet the requirements. Duquesne Exh. C-R at 8-9.

- In Surrebuttal, Ms. Mudd recommended that any additional billing system upgrades should be separately identified by the Company and appropriate cost estimates should be included in future Smart Meter filings. OCA St. 1-S at 2.

- Ms. Mudd recommended in her Direct Testimony that the Company make one additional filing to the Commission during the Grace Period. She recommended that the additional filing be made in conjunction with the Establishment of Network Designs milestone to be completed by March 31, 2011. Ms. Mudd made the recommendation so that the Company might have greater certainty in its technology and network choices before moving ahead with additional analysis and refinements. OCA St. 1 at 7.

- In Rebuttal, Ms. DeLost noted that Duquesne had already proposed an additional filing for December 31, 2010, in conjunction with the technological solution analysis and vendor selection milestone. Ms. DeLost identified this as the more appropriate juncture for an additional filing since the technology has to be determined and the vendor selected before the Company can move forward with network design. Duquesne Exh. C-R at 9. OCA witness Mudd agreed that the Company's proposal meets the objective. OCA St. 1-S at 3.

- In her Direct Testimony, Ms. Mudd recommended that Duquesne work collaboratively with stakeholders in the further development of its Smart Meter Plan. Specifically, Ms. Mudd stated that as the various Grace Period milestones are reached, the Company should use the milestone reports they submit to the Commission as an opportunity to seek feedback from the stakeholder community. OCA St. 1 at 7. In Rebuttal, Ms. DeLost testified that "Duquesne will seek and consider further stakeholder input on the future milestones identified in its Plan and the identified filings." Duquesne Exh. C-R at 10.

- With respect to Customer Education and Outreach Activities related to Smart Meter deployment, Ms. Mudd noted that certain segments of the residential customer base, notably, low-income customers and elderly customers may require specialized education and outreach efforts. OCA St. 1 at 13.

- In Rebuttal, Ms. DeLost indicated that she agreed that low-income and elderly customers were of concern and acknowledged the critical importance of consumer education to the success of any smart meter program. Duquesne St. C-R at 11-12.

The OCA respectfully submits that the Commission should memorialize each of these points upon which the OCA and the Company agree in its Order in this proceeding.

2. Installation of Interval Meters During Grace Period.

In its Implementation Order, the Commission made clear that EDCs will not be required to install smart meters at customers' premises during the Grace Period. The Commission, however, stated that during the Grace Period, EDCs will have to provide interval data capable meters to customers who request them. Implementation Order at 7.

Duquesne has indicated its intention to satisfy this requirement by supplying requesting customers, including residential customers, with the same interval meter it now utilizes for its largest Commercial and Industrial customers, those with monthly demand in excess of 300 kW. Duquesne Exh. A (Plan) at 9; Duquesne Exh. C at 11. Duquesne proposes to charge customers who request an interval meter a base charge of $586 for the meter and $719 for the required communications equipment for a total of $1305. A customer wishing to have access to KYZ pulse data from the interval meter to interface with devices downstream from the meter will be charged an additional $197. Duquesne indicates that these charges reflect the Company's costs in providing the equipment and functionality. Duquesne Exh. D at 13.

With regard to Duquesne's proposal for furnishing interval meters during the Grace Period, OCA witness Mudd stated as follows:

> Recognizing that the Company has installed AMR technology that does not easily lend itself to providing interval data for residential and small commercial customers, the Company should explore less expensive alternatives to meeting residential customer requests for interval meters during the Grace Period. Providing a meter at a cost to customers of more than $1,300 does not realistically allow for participation of residential customers in time-sensitive pricing programs that may become available during the Grace Period.

OCA St. 1 at 11-12.

In Rebuttal, Duquesne witness DeLost acknowledged that Duquesne customers "may be receptive to a lower cost meter option during the Grace Period." Duq. Exh. C-R at 11. However, Ms. DeLost went on to state that given the Company's AMR environment and the fact that it has eliminated its meter-reading work force, the only interval meter option currently available to Duquesne during the Grace Period is the one which it uses for its large Commercial and Industrial customers since the meter must be accessed through existing AMR systems and networks. Notwithstanding this, Ms. DeLost indicated that the Company continues to explore other options in an attempt to lower the cost. Duquesne Exh. C-R at 11.

OCA witness Mudd encouraged Duquesne to continue to pursue other options and proposed that the Company prepare a report to the Commission describing its efforts to find a more affordable interval meter option:

> My understanding is that DLC has been working with its current AMR meter vendor, to develop an approach to accommodating reasonably priced metering options for small customers during the Grace Period but has yet been unable to identify a method by which to meaningfully meet the requirements of the Implementation Order at a reasonable cost. The Company should continue to work with its AMR technology vendors and prepare a report for the Commission more fully exploring the available options and costs for meeting the Grace Period requirements.

OCA St. 1 at 12.

Indeed, in its Implementation Order, the Commission contemplated that the cost of obtaining an interval meter during the Grace Period would be reasonable. It stated:

> The requirement to install interval capable meters during the grace period or smart meters at the request of a customer is intended to support rate structures, energy efficiency or demand response programs offered by the EDC or a third party at the request of the customer. These types of programs have been in place and offered to customers for decades. All the Commission is requiring is that EDCs facilitate these programs in a *cost effective manner* that provides access to the data needed to support these programs

> *without unnecessary or unreasonable barriers*. Therefore, the Commission expects the EDCs to provide a plan for supporting these programs in such a manner that *does not require unreasonable or imprudent costs*.

Implementation Order at 11-12. (*Emphasis added*)

The OCA submits that Duquesne's current proposal to supply interval meters to residential customers during the Grace Period at a cost of $1305 does not satisfy the Commission's expectation that the EDCs will provide an interval meter in a manner that does not require an unreasonable cost. The OCA therefore submits that Duquesne should be directed to continue to work with its AMR vendor to identify a more reasonably priced interval meter that can be supplied to residential customers during the Grace Period. The OCA also submits that as recommended by witness Mudd, the Company be required to submit a report to the Commission giving a full account of its efforts to identify less costly alternatives.

B. Cost Issues.

1. Cost Estimates of Plan Component 2.

On page 20 of its Plan, Duquesne sets forth its Project Plan Overview in which it describes the activities it intends to carry out during the Grace Period as Segment 1 of its Smart Meter Implementation Project. The Company further subdivides the tasks within Segment 1 into Components 1 and 2. It identifies Component 1 as including the tasks necessary to accomplish its Billing and Metering System Upgrades. Component 2 is referred to as Smart Meter Technology Infrastructure and involves identifying the technical infrastructure, processes and systems needed to support the roll out of Smart Meters by the end of 2012. Duquesne Exh. A (Plan) at 20, 27.

In commenting on the costs Duquesne has projected for carrying out Components 1 and 2, OCA witness Mudd observed as follows:

> The proposed costs for Component 1 and Component 2 total $37.6 million. Component 1, the billing system upgrade, comprises 46 percent of the costs, and Component 2, 54 percent of total costs. Within Component 2, the majority of estimated costs are associated with the final two milestones, implementation of network base software, network systems, and meter pilot hardware costs. However, the technologies, vendors and network systems architecture have not yet been established. I recommend that these costs not be approved until after the approval of an interim filing following completion of the milestone, Establishment of Network Designs, to be completed by March 31, 2011. The estimated costs may remain as placeholder costs for the Grace Period, but should be updated and approved prior to the Company moving ahead with equipment installation.

OCA St. 1 at 9-10.

In Rebuttal, Duquesne witness DeLost agreed with Ms. Mudd's assessment of the estimates associated with the final two milestones of Component 2. Ms. DeLost testified:

> Duquesne agrees that the costs set forth in the August 14, 2009 filing for the last two milestones of Component 2 were intended as an estimate. Duquesne seeks Commission approval of the Plan's scheduled filings and estimated costs of Component 1 and all of Component 2 as filed with the exception of the last two milestones of Component 2. The costs for the last two milestones of Component 2 will be submitted in subsequent filings.

Duquesne Exh. C-R at 10.

Accordingly, the OCA requests that the Commission review the Company's proposed costs for Components 1 and 2, but that the Commission withhold its approval of the costs associated with the final two milestones of Component 2 until the Company submits more definitive cost estimates related to those two milestones in subsequent filings.

2. Cost Effectiveness/Cost-Benefit Issues.

The Commission's Implementation Order identified what it termed the "minimum" requirements of Smart Meter functionality as prescribed by Act 129. Implementation Order at 29-30. However, the Order went on to identify an additional nine Smart Meter functions that the Commission determined should be examined by each EDC as part of its Smart Meter Plan. Id. at 30. Recognizing that these additional functions were not mandated by the Act, but wanting to ensure that their implementation would be cost-effective, the Commission stated:

> … we direct that each smart meter plan filing include cost data that quantifies the costs to meet the minimum requirements set forth in Act 129, the costs to meet [the additional requirements] set forth in Section C above, and the individual incremental costs of each added function, less any operating and capital cost savings…. The deployment and operating costs to be presented shall include a breakdown of all incremental costs and any associated potential operational and maintenance cost savings for each functionality and configuration.

Implementation Order at 29-30.

The Commission then stated that if an EDC or other party demonstrates that a particular Commission-imposed Smart Meter function is not cost-effective, the Commission will retain the option of waiving that requirement for that particular function for that EDC or for all EDCs. Id. at 31. Further, the Commission allowed that if an EDC is unable to provide the cost data related to Smart Meter functionality in its initial Plan filing, it could request permission to file the data at a later date. Duquesne has exercised this option and requested permission to file its cost analysis by July 1, 2010. Duquesne Exh. A (Petition) at 5.

OCA witness Mudd addressed the cost/benefit analysis to be performed by the Company, but did not limit her observations to the analysis to be performed with respect to meter functionality. Rather her comments were more broadly directed to the full range of the assessment of needs, the choice of technology solutions and the establishment of network designs. Ms. Mudd stated:

> Of critical importance is that the assessment of needs and technological solutions and the establishment of network designs incorporate the means to obtain cost and benefit information and that the cost and benefit information be obtained on a customer class basis where feasible and appropriate. There are many different technologies that can be adopted, functionalities that can be included, and strategies that can be used for deployment of smart meters. Without detailed cost and benefit information, it is not possible to meaningfully evaluate the cost-effectiveness of particular technologies, systems and programs.

OCA St. 1 at 8. Ms. Mudd went on to specify the degree of detail that should be included in the cost/benefit analysis:

> Additionally, costs and benefits need to be evaluated on an incremental basis, that is, the additional cost of implementation needs to be compared to the marginal benefit that such implementation would generate or facilitate. Cost information for each additional capability should be detailed and broken down by cost category, e.g., equipment costs, installation, software costs, long-term O&M costs, and public education/outreach costs. Similarly, benefits should be functionally characterized (e.g., energy conservation, capacity cost savings, reliability, reduced utility costs) and, as noted above, be separately identified by customer class.

OCA St. 1 at 8-9.

In Rebuttal, Duquesne witness Pfrommer agreed that a cost/benefit analysis is critical to the success of Duquesne's Plan, but stated that providing the type of detailed analysis suggested by Ms. Mudd was premature and that the Company needed time to proceed with its plan and gather the required information. Mr. Pfrommer indicated that the Company will obtain

detailed cost information "as it currently does for capital investment decisions through its business practices and to the level necessary to comply with the Implementation Order." Duquesne St. D-R at 2.

Mr. Pfrommer then stated that achieving the level of cost/benefit detail suggested by Ms. Mudd, *i.e.*, functionalizing the smart meter benefits and identifying them by customer class, would be difficult and subject to interpretation and ambiguity. Mr. Pfrommer testified that the Company will quantify the costs and benefits of smart meter functionality to the extent feasible and to the extent detailed information is available, and will quantify the benefits at the customer class level to the extent practical. Duquesne St. D-R at 2-3.

In Surrebuttal testimony, OCA witness Mudd responded to Mr. Pfrommer's assertions about the difficulty of functionalizing smart meter benefits. She stated:

> … while Mr. Pfrommer is correct in that there is no industry standard for evaluating the costs and benefits of smart meters, there is a growing basis from which to build a methodology for providing this information. For example, the Company might look to ongoing proceedings in Maryland where Baltimore Gas and Electric prepared *The Smart Grid Initiative Business Case: Advanced Metering and Smart Energy Pricing Program*, a document providing detailed cost/benefit analysis that quantifies the following benefits: the value of capacity reductions in the PJM Reliability Pricing Model (RPM); the value of energy reductions in the PJM energy markets; the value of any reduced need for additional transmission import capability; and the value of energy conservation throughout the year due to more efficient management of electricity consumption. Furthermore, analysis and resources provided by organizations such as the Mid-Atlantic Distributed Resources Initiative have provided analytical support to analyze the costs and benefits of smart meter applications.

OCA St. 1-S at 4-5.

Ms. Mudd went on to state that she is not recommending any specific formula for use in conducting the cost/benefit analysis, nor is she recommending that Duquesne use any

specific utility process as a model for its analysis. Rather, she cited the Baltimore Gas and Electric filing as an example that it is possible to provide a level of detail in evaluating customer benefits that will enable stakeholders to better understand the potential costs and benefits of proposed technology deployments. OCA St. 1-S at 5.

Ms. Mudd recommended that the methodology for analyzing and estimating the customer benefits associated with various degrees of technology deployment be included in the discussions to take place as part of the stakeholder collaborative process.

The OCA submits that achieving the degree of detail in its cost/benefit analyses recommended by Ms. Mudd is not as formidable a task as the Company perceives it to be. Indeed, Ms. Mudd has provided several sources to which the Company can look for guidance in the process. In addition, she has recommended that the Company remain open to further dialogue with stakeholders on the topic. Accordingly, the OCA urges the Commission to direct Duquesne to conduct a thorough cost/benefit analysis in accordance with the recommendations of OCA witness Mudd. In doing so, the Company should examine the sources cited by OCA witness Mudd, continue to work with stakeholders to develop methods for achieving greater detail in the presentation of its cost/benefit analysis, and report the results of its cost/benefit analysis utilizing the maximum possible level of functionalization of benefits and the identification of those benefits by customer class, as recommended by OCA witness Mudd.

3. Cost Recovery Issues.

a. Introduction.

Act 129 authorizes EDCs to recover the reasonable and prudent costs of providing smart meter technology and gives them the option of recovering their costs either through base rates or through a reconcilable automatic adjustment clause. 66 Pa.C.S. § 2807(f)(7). Duquesne

indicates its intention to utilize an automatic adjustment charge, called the Smart Meter Charge (SMC), pursuant to Section 1307 of the Public Utility Code, 66 Pa.C.S. § 1307. Duq. Exh. D at 4. In its Implementation Order, the Commission offered its view of what constitutes "reasonable and prudent costs of providing smart meter technology" under 66 Pa.C.S. § 2807(f)(7) when it stated:

> These costs will include both capital and expense items relating to all plan elements, equipment and facilities, as well as an analysis of all related administrative costs. More specifically, these costs would include, but not be limited to, capital expenditures for any equipment and facilities that may be required to implement the smart meter plan, as well as depreciation, operating and maintenance expenses, a return component based on the EDC's weighted cost of capital, and taxes.

Implementation Order at 29. Accordingly, Duquesne describes the revenue requirement component of its SMC as follows:

> Consistent with the [Implementation] Order, the revenue requirement includes the components of a pre-tax return on projected net [Plant In Service], depreciation and operating expenses. Pre-tax return is the Company's weighted cost of capital grossed-up for the cost of state and federal income taxes applicable to the return on net [Plant In Service].

Duquesne Exh. D at 5-6.

The OCA raised a number of issues with respect to the Company's cost recovery proposal. On certain issues, the OCA and Company appear to be in agreement. On other issues, notably the rate of return on common equity and the capital structure proposed to be used by the Company in determining it smart meter revenue requirement, the OCA continues to have concerns.

b. Rate Base Valuation, Stranded Cost Recovery, SMC Rate Design and SMC Base Rate Roll-In.

On issues related to cost recovery, the OCA sponsored the testimony of Thomas S. Catlin. As mentioned above, Mr. Catlin raised a number of issues in his Direct Testimony with which Duquesne generally agreed in its Rebuttal Testimony. The following is a summary of those matters on which there appears to be agreement between Duquesne and the OCA:

- Mr. Catlin raised an issue concerning rate base valuation to be used in determining the SMC. His initial recommendation was that average rate base during the reconciliation period be used. OCA St. 2 at 9. In Rebuttal, Mr. Pfrommer contended that if the SMC is adjusted and reconciled annually, the reconciliation should reflect the actual timing of when an investment was placed in service and not an average rate base for the period. Duquesne Exh. D-R at 4. In Surrebuttal, Mr. Catlin notes his agreement with Mr. Pfrommer that at the time the annual reconciliation of SMC costs and revenues occurs, the actual timing of investment over the year should be reflected. He goes on to clarify that whether the SMC is adjusted annually or quarterly, it is the annual reconciliation that should account for the actual timing of investment. OCA St. 2-S at 2.

- Duquesne proposed to delay recovery of any stranded costs associated with its existing meters until after full deployment of smart meters. Until then the Company will continue to recover depreciation of the existing meters through its distribution rates. After full deployment, Duquesne proposed to then calculate and file a revised SMC that will incorporate any remaining undepreciated investment in the existing meters. Duquesne Exh. D at 10-11. Mr. Catlin testified that rather than including any stranded investment on existing meters in a revised SMC, he would recommend that stranded cost recovery be addressed in the first base rate case after full deployment. OCA St. 2 at 10. In Rebuttal, Duquesne witness Pfrommer agreed with Mr. Catlin's recommendation to address stranded cost recovery in a base rate case.[4] Duquesne Exh. D-R at 4.

- Duquesne proposed to recover its smart meter costs for residential customers through a fixed monthly charge that would be incorporated into the customer charge included in each monthly bill. Duquesne Exh. D at 12. Mr. Catlin objected to this approach and recommended instead recovering all or a portion of residential smart meter costs through a kWh surcharge. One option suggested by Mr. Catlin was to recover the cost of

[4] Mr. Pfrommer testified that EDCs should have flexibility to seek stranded cost recovery prior to full deployment of smart meters. The OCA submits that the merits of a request made prior to full deployment will be determined if and when such a request is made.

the smart meter itself through a per customer charge and the remaining, indirect costs through a surcharge per kWh. OCA St. 2 at 11-12. In Rebuttal, Company witness Pfrommer stated that Duquesne did not object to a SMC for residential customers that is a combination of a fixed charge and a charge per kWh. He stated that the Company would revise the design of its proposed SMC to recover the cost of the meter via a fixed monthly charge and all other meter related charges on a kWh basis. Duquesne Exh. D-R at 4-5.

- Duquesne proposed to keep its SMC in place until its smart meter system is fully deployed. At that time, it will calculate a reconciliation adjustment effective with the final annual report on smart meter deployment and within one year of that filing, will either roll the SMC into base rates or include the plant and expenses in base rates through a distribution rate case, whichever comes first. Duquesne Exh. D at 11. In his Direct Testimony, OCA witness Catlin recommended that the SMC not be rolled into base rates without a rate case occurring. OCA St. 2 at 13. In Rebuttal, Company witness Pfrommer stated that he agreed with Mr. Catlin that the SMC should be rolled into base rates as part of a rate case. Duquesne Exh. D-R at 5.

The OCA respectfully submits that the Commission should memorialize each of the points upon which the OCA and the Company agree in its Order in this proceeding.

c. Return on Equity and Equity Capitalization Ratio.

For purposes of determining its weighted cost of capital, Duquesne proposes to use the cost of debt and cost of preferred stock stated in its most recent quarterly earnings report filed with the Commission at the time it makes each SMC update. With respect to the common equity portion of its cost of capital and its underlying capital structure, the Company proposes to use the values agreed to in the settlement of its transmission formula rate proceeding before FERC in Docket No. EL06-109-000. In that case the settlement permitted a return on common equity of 10.9% and a common equity capitalization ratio in a range from 45% to 59%. Duquesne proposes to employ the top figure in that range as its common equity ratio. Duquesne Exh. D at 6-7; Exh. WVP-2 at 2.

OCA witness Catlin opposed use of the common equity return and the upper range of the common equity ratio from the FERC proceeding. Mr. Catlin testified:

> Duquesne's proposal to utilize the return on equity of 10.9 percent and the maximum equity ratio of 59 percent agreed upon its 2006-2007 FERC transmission formula rate proceeding is inappropriate. (Footnote omitted) Those common equity parameters were agreed upon as part of an overall settlement of Duquesne's FERC rate proceeding and were not intended to be applicable for Pennsylvania ratemaking purposes.

OCA St. 2 at 4.

With respect to the appropriate value for the cost of common equity in the SMC calculation, Mr. Catlin offered a three-part alternative to the Company's proposal. First, Mr. Catlin proposed that if Duquesne has had a fully litigated base rate case within three years of the effective date of the time Duquesne seeks to update its SMC, then the common equity return established in that case should be used for SMC purposes. Second, if more than three years have passed since the Company's last fully litigated rate case, Mr. Catlin proposed that the equity return should be based on the most recent "Report on the Quarterly Earnings of Jurisdictional Utilities" (Quarterly Earnings Report) prepared by the Commission's Bureau of Fixed Utility Services (FUS). OCA St. 2 at 5-6. However, Mr. Catlin issued a caveat to the use of the equity returns from the Quarterly Earnings Report. He stated:

> In reviewing the Quarterly Earnings Reports for the past several years, I noted that the discounted cash flow (DCF) returns and the overall equity cost rates for electric utilities have been inconsistent and volatile. Therefore, the existing electric utility returns published in the Quarterly Earnings Reports do not appear to be appropriate for use in establishing the return on equity to be used for Duquesne's and other electric distribution utilities' (EDCs') smart meter charges.

OCA St. 2 at 6. Given this concern, Mr. Catlin recommended adopting the procedure used by the Commission in setting an equity return for water utilities that impose a Distribution System

Improvement Charge (DSIC). Further, he recommended that the procedure for calculating the return applicable to EDC Smart Meter Charges be the subject of a generic proceeding. Mr. Catlin testified:

> After the Commission approved the use of DSICs by water utilities, the Commission Staff/Bureau of Fixed Utility Services (FUS) began developing and publishing a return on equity explicitly for use in determining allowed DSIC returns. Consistent with that approach, I would recommend that the Commission direct the FUS to begin publishing a return on equity that would be specifically applicable for smart meter charges (SMCs) in instances where an EDC has not had a base rate case in three years. The procedure for calculating that return on equity should be established through a generic proceeding in which the FUS participates. It would be appropriate for the return established in that proceeding to reflect the lower risk associated with the guaranteed recovery of all smart meter costs through a fully reconcilable surcharge.

OCA St. 2 at 6.

The third part of Mr. Catlin's cost of equity proposal is that until such time as the Commission establishes the appropriate equity rate of return through a generic proceeding, the return that should be used in calculating Duquesne's SMC is that which was established in the most recent fully litigated base rate proceedings among Pennsylvania EDCs, the 2006 (decided in early 2007) rate cases of Metropolitan Edison Company(Met-Ed) (Docket No. R-00061366) and Pennsylvania Electric Company (Penelec) (Docket No. R-00061367). In those cases, the Commission authorized a return on equity of 10.1%. OCA St. 2 at 7. The OCA recommends use of the 10.1% in this proceeding because Duquesne has not had a litigated rate case since 2004 and there has been no generic proceeding to establish a method for calculating an appropriate rate of return applicable to smart meter charges.

With regard to Duquesne's proposed equity capitalization ratio of 59%, Mr. Catlin testified to certain limitations that exist with respect to the ratio Duquesne may use for retail ratemaking. Specifically, he referred to a provision in the settlement of the proceeding approving Duquesne's merger with the Macquarie Consortium at Docket No. A-110150F0035. Mr. Catlin stated that one of the terms of that settlement provided as follows:

> Under the terms of that Settlement:
>
> > Duquesne shall not request a capital structure for ratemaking purposes which is outside of a reasonable range of that used by comparable companies. In any future base rate proceeding, Duquesne must demonstrate that its claimed common equity ratio is reasonable and in the best interests of its customers. (Paragraph III.B.3.a.)

OCA St. 2 at 7-8. Mr. Catlin then went on to state that Duquesne has made no showing that its proposed equity capitalization ratio of 59% is consistent with the range used by comparable companies. OCA St. 2 at 8. Further, Mr. Catlin included two schedules to his testimony, TSC-1 and TSC-2. Schedule TSC-1 shows the common equity ratios of for seven electric utility companies that are primarily distribution-only utilities. Schedule TSC-2 shows the common equity ratios for the six companies used as the proxy group in the Commission's Quarterly Earnings Reports. The equity ratios in TSC-1 range from 46.4% to 54.6%, and in TSC-2, they range from 42.6% to 58.6%. Mr. Catlin concludes that Duquesne's proposed ratio of 59% is outside the range used by comparable companies, and therefore not consistent with the terms of the merger settlement. Id.

As an alternative to the Company's proposal, and for use until a more appropriate equity ratio for Duquesne can be established in a distribution base rate case, Mr. Catlin recommended, as he did with the cost of equity, that the equity ratio utilized in the 2006 Met-Ed and Penelec cases be used. There the Commission approved a 51% equity ratio. OCA St. 2 at 8.

In Rebuttal, Company witness David B. Bordo indicated Duquesne's willingness to have the return on common equity used in calculating its SMC set by the Commission on the basis of a barometer group of utilities chosen by the Commission. This would be superseded only if an equity return were established in a Duquesne base rate case. Duquesne Exh. E at 2-3. Both Mr. Bordo and OTS witness Emily Sears disagree with Mr. Catlin's recommendation to use the return on equity authorized in the 2006 Met-Ed and Penelec rate cases as an interim step until a Commission-determined rate is established. Duquesne Exh. E at 5; OTS St. 1-R at 6. Mr. Catlin responded that he continues to believe that a generic proceeding for setting common equity return is needed due to the volatility of the returns reflected in FUS's Quarterly Earnings Reports. Moreover, setting a return on the basis of a procedure resulting from a generic proceeding is consistent with the Commission's approach in setting the equity return used in DSICs. OCA St. 2-S at 3. Until a generic proceeding is conducted, however, the OCA submits that 10.1% should be used as the interim common equity return.

Also in Rebuttal, Company witness Bordo argued in favor of using the Company's proposed 59% equity ratio for SMC purposes. Duquesne Exh. E at 3-4. Mr. Catlin responded by reiterating his Direct Testimony that Duquesne is bound by the terms of the settlements of it merger proceeding with the Macquarie Consortium in which agreed not to use a capital structure outside the range of that used by comparable companies and agreed to demonstrate that any equity ratio it claims is reasonable and in the best interests of customers. Duquesne has not met that burden. OCA St. 2-S at 2.

In summary, the OCA submits that the Company's proposal to use the equity return and equity ratio from its settled FERC transmission rate proceeding is wholly inappropriate for this proceeding, which is PUC jurisdictional and distribution-related. In lieu of

the Company's proposal and considering the Company has no recently litigated base rate case from which to draw, the OCA submits that its proposal has considerable merit. In the first instance, the OCA recommends a generic proceeding to determine a procedure for setting a cost of equity rate for all EDC SMCs in the same way the Commission does now for water company DSICs. Until that proceeding occurs, the OCA submits that suitable placeholders for both the equity return and the equity ratio are those established in the last fully litigated EDC base rate cases in the Commonwealth – a 10.1% return on equity and a 51% equity ratio.

d. Frequency of SMC Updates.

Duquesne states that its SMC is designed to recover smart meter plant in service and operating expenses on a forward looking basis with quarterly filings and an annual reconciliation. Duquesne Exh. D at 4. OCA witness Catlin testified that for the sake of administrative simplicity, he would recommend that Duquesne update the SMC annually as opposed to quarterly, but retain the annual reconciliation. Mr. Catlin stated:

> Updating Duquesne's charge on an annual basis is consistent with the frequency with which the other EDCs have proposed to update their SMCs. Because projected annual costs will be used to calculate the SMCs and actual costs and revenues will then be reconciled, neither the Company nor customers will be adversely affected by annual rather than quarterly updates.

OCA St. 2 at 14. In Rebuttal, Duquesne witness Pfrommer indicated that the Company continues to prefer filing quarterly updates.

The OCA submits that there has been no showing that quarterly filings are particularly necessary or appropriate in this case. An annual process will better match the projections used in setting the SMC charge and will not adversely affect either the Company or its customers.

4. Cost Allocation Issues.

a. Introduction.

According to the Direct Testimony of Duquesne witness Pfrommer, for purposes of allocating the costs of Smart Meter deployment, the Company proposes to distinguish between customers on single-phase meters and those on multi-phase meters. The cost of each type of meter will be directly assigned to the respective customer group. Costs which the Company determines to be "common" to both types of meters, such as the cost of infrastructure to collect, back haul and store data and the cost to bill the customer, will be allocated to each group based on the number of meters. Duquesne Exh. D at 9.

On the issue of cost allocation, the OCA presented the testimony of its witness Dr. Dale E. Swan. Dr. Swan agreed with the Company's plan to directly assign the cost of the meter equipment to the customers who will be using them. However, with respect to the "common costs," Dr. Swan takes issue with the Company's approach and testifies that it is inappropriate to allocate the common costs of the Smart Meter program on the basis of the number of meters per customer group. OCA St. 3 at 5. Dr. Swan points to the testimony of Duquesne witness Pfrommer, and specifically Exhibit WVP-2, to note that single-phase meters account for more than 96% of the smart meters that will be deployed and therefore, under the Company's cost allocation method, the single-phase meter group (primarily residential and small commercial customers) will be responsible for more than 96% of the common costs of the Smart Meter program. Id. Yet it is far from clear that single-phase meter customers will receive anything close to 96% of benefits from program. See OCA St. 3, Exh. DES-1. Dr. Swan proposes an alternative method for allocating common costs, one that recognizes the purpose of the deployment of smart meters and thus the cause of these costs. The OCA submits that the

foundation for the allocation of the common costs can be found both in Act 129 and the Commission's Implementation Order. As indicated in the Implementation Order, Smart Meter Plan costs are appropriately allocated to those customer classes who derive the benefits from such costs. Implementation Order at 32. The number of meters is neither a measure of the benefits derived from the smart meter system nor the cause of the system costs.

The OCA submits that the appropriate basis on which to allocate common costs is on the basis of energy and demand. The preamble to Act 129 states that one of the main goals of the Act is to reduce the cost and price instability of electric energy:

> 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.

Act 129, 66 Pa.C.S. § 2806.1 *et seq*, pmbl. 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 the common costs of the Smart Meter program on the basis of energy and demand recognizes the purpose of Act 129 and also 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. It is simply inappropriate to allocate the exact same dollar level of these costs to an individual 500 kWh per month residential customer as to the largest industrial or commercial customer on the Duquesne system.

b. The Commission Should Allocate Common Costs to Customers in the Proportion that They Derive the Benefits of Those Costs.

As noted above, two types of costs are being addressed in this proceeding: the cost of the smart meters themselves and the common costs (all other non-meter costs). In its filing, the Company proposed to directly assign the costs of the metering equipment to the groups that use that equipment. Duquesne Exh. D at 9. As OCA witness Swan explained, this treatment for the meters themselves is appropriate:

> As Mr. William Pfrommer testifies, meter costs will be directly assigned to these two customer groups. This is appropriate because the Company will know precisely the costs of the meters that are installed for each of the two customer groups and because there will be a significant difference in the cost of smart meters for each of these groups. In this way, the single-phase group will pay for the costs of the smart meters that are installed to meet their requirements, while the multi-phase group will be required to pay for the costs of the smart meters installed to meet their requirements.

OCA St. 3 at 4. The remaining costs of the Company's smart meter program, however, are common costs and comprise such things as the upgrades to the billing and metering system, which are needed to enable participation in demand response and dynamic pricing, and the smart meter technology infrastructure, which is needed to collect, back haul and store customer data. Based on the Company's proposed Grace Period Budget, it appears that approximately $36 million of the $38 million budgeted would fall into the category of common costs. Duquesne Exh. B. As noted, the Company has proposed to allocate these common costs on the basis of the number of meters.

The OCA submits that it is wholly unreasonable to allocate the common costs of Duquesne's program based on the number of meters. Instead, these common costs should be allocated to customer classes in some reasonable proportion to the benefits received by each

class from the planning and implementation of the smart meter system. This treatment is in keeping with the language of Act 129 itself, as well as with the Commission's Implementation Order. As was mentioned above, the preamble to Act 129 makes clear that one of the principal goals of the Act is to reduce the cost and price instability of electric energy. Likewise, the Commission clearly evidenced its intention to assign costs to the classes which derive the benefit when it stated:

> …we will require the EDC to allocate those costs to the classes whom derive the benefit from such costs.

Implementation Order at 32. The Commission went on to say:

> Any costs that can be clearly shown to benefit solely one specific class should be assigned wholly to that class. Those costs that provide benefit across multiple classes should be allocated among the appropriate classes using reasonable cost of service practices.

Implementation Order at 32.

As OCA witness Swan explained, the underlying tenet of cost of service studies is to allocate costs among the classes in proportion to the extent to which the classes have caused those costs to be incurred. OCA St. 3 at 3. Dr. Swan explained the application of this principle to the smart meter systems at issue here:

> In the case of a smart metering system, what causes the costs to be incurred are the benefits that are expected to be derived from the deployment of such a system. Thus, we need to look carefully at why these costs are being incurred—that is, what benefits are anticipated to be derived from these costs. Then, we need to carefully assess the extent to which the various customer classes will reap these benefits.

OCA St. 3 at 3.

Dr. Swan also testified to the potential benefits the Company anticipates will result from its Smart Meter program:

> … the Company's Smart Meter Plan (the Plan) and its application for Federal assistance under the American Recovery and Reinvestment Act (ARRA) both identify other longer term benefits that will accrue to the Company and its customers. These benefits primarily take the form of reductions in energy use and peak period capacity utilization. In response to OCA Data Request IV-4, the Company stated:
>
> > The Company agrees that the implementation of a smart meter system and customer participation in dynamic pricing programs, including time-of-use, real time and critical time pricing options provide an opportunity for customers to reduce their energy costs and reduce PJM capacity and transmission costs.
>
> In its ARRA application, the Company includes the following in its list of benefits that will accrue to Duquesne or its customers as a result of the implementation of its smart meter program:
>
> - Reduce electric consumption by permitting increased energy efficiency and conservation;
> - Reduce demand for peak electrical power;
> - Improve demand forecasting to assist with medium and long term infrastructure planning;
> - Facilitate the introduction of innovative pricing mechanisms; and
> - Increase system reliability by predicting trouble spots, lowering demand during peak periods thereby reducing stress on the system, and assisting with faster restoration of service. (Citation omitted)

OCA St. 3 at 3-4.

As mentioned above, however, the Company has proposed to allocate the common costs among the customer classes on the basis of the number of meters, drawing no distinction between a 500 kWh per month customer and a 5,000,000 kWh per month customer.

As OCA witness Swan explained, the cost allocation method proposed by the Company would create a glaring disparity between benefit and cost:

> The Company makes a fundamental error in its rationale for allocating all of these common costs on the basis of the number of customers. The error is the underlying assumption that all customers will benefit equally from implementation of a smart metering program. That is, the Company assumes that a small residential customer, using, say, 500 kWh a month, will receive the same amount of benefit from the smart metering system as will a large industrial customer with a 50 MW load and an 80 percent load factor. That simply is not the case.

OCA St. 3 at 6.

As Dr. Swan indicated, the Company anticipates smart metering benefits to derive from customer participation in dynamic pricing programs, including time-of-use, real time and critical time pricing options. Dr. Swan explained that participation in these types of programs, although available to everyone, will likely be much higher among Large C&I customers than among residential customers because of the nature of the Large C&I customers. Id. Large C&I customers are much more sophisticated electricity consumers and they often have staff that are dedicated to managing their firm's energy use since the cost of energy to these firms will have significant impacts on the bottom line. Dr. Swan further explained:

> Moreover, the savings to these customers from participation in these programs will be in proportion to their energy use or their peak demands. Even if the participation rates in these programs were the same among all the classes, which they will not be, the average benefit per customer will be significantly higher for the largest C&I customers than for the much smaller residential customers. It is naive to assume that the benefits will be the same for all customers, and it is erroneous to conclude that these common costs should be allocated on the number of customers.

OCA St. 3 at 6.

In his Exhibit DES-1, Dr. Swan provided the number of customers, total energy consumed and the peak demands for customers using single-phase meters and those using multi-phase meters. For example, while the multi-phase meter group is responsible for 63% of total energy usage and either 53% or 54% of peak demand (depending on whether a 1-Coincident Peak or 5-Coincident Peak allocation method is used), the Company has proposed to allocate only 3.8% of the common costs to the multi-phase meter group because that is their share of the total number of meters. Duquesne Exh. D, Exh. WPV-2. In contrast, single-phase meter customers are responsible for 37% of energy usage and 46% or 47% of peak demand, yet they will bear 96.2% of the total common costs because that is their share of the total number of meters. Id. The OCA submits that it defies logic to suggest that the multi-phase meter group would receive only 3.8 percent of the benefits of Duquesne's smart meter program as the savings for customers will be substantially in proportion to the amount of energy and capacity used by those customers.

As further support for the proposition that smart meter benefits will not be equally distributed, Dr. Swan cited information from the Duquesne's ARRA proposal that included specific initial estimates of benefits accruing to each customer class. OCA St. 3 at 7. For Duquesne's initial meter installation, Large C&I customers are estimated to receive 67 to 69 percent of savings; Medium C&I customers 27 to 28 percent of savings; and residential customers only 2.7 to 5.5 percent of the savings. Dr. Swan concluded:

> Thus, the Company's own estimates of the distribution of benefits from the investment in these common costs confirms that some measure of usage should be used to allocate these costs among the two groups of customers and not the number of meters.

OCA St. 3 at 8.

Dr. Swan then explained how these common costs should be allocated among the customer classes:

> The benefits to be realized by the two customer groups identified by Mr. Pfrommer (Single-Phase and Mult-Phase) will be in proportion to the amount of energy and capacity utilized by these two groups. The Company's description of these expected benefits in its ARRA application clearly suggests that a significant portion of benefits will take the form of reduced energy costs and, to that extent, these common costs of the program should be allocated on energy use at the meter. The Company's description also clearly suggests that a significant portion of the benefits will take the form of avoided PJM system (capacity and transmission) costs. To that extent, the common costs of the program should be allocated among the classes with an allocator that reflects the basis upon which PJM assigns capacity and transmission costs to Duquesne.

OCA St. 3 at 8. Dr. Swan then proposed that the common costs of Duquesne's smart meter program be allocated between the two meter groups in a manner that reflects the benefits that flow to each customer group. Specifically, Dr. Swan proposed that the best representation of proper cost responsibility among Duquesne's customer classes would be to allocate common cost on the basis of energy use and demand, as there are both energy-related and capacity and trasmission-related savings expected from the implementation of the smart meter system. OCA St. 3 at 8-9. Dr. Swan recommended that the allocator be based on the arithmetic average of the percentage shares of each group's energy use at the meter and each group's contribution to Duquesne's annual single coincident peak. Id. at 9. In this way, the energy portion of the allocator will reflect class shares of expected energy savings and the coincident peak portion will reflect class shares of expected PJM capacity and transmission savings.

The OCA's proposal to allocate costs based on the basis of energy and demand reflects the purpose of Act 129 and is consistent with the Commission's Implementation Order. Additionally, this allocation method utilizes a cost causation link consistent with cost of service

principles. Therefore, the OCA submits that the appropriate basis on which to allocate common system costs is on the basis of energy and demand.

c. OCA Response to the Criticism of the Company and Other Parties.

Dr. Swan's testimony was the subject of Rebuttal from Mr. Pfrommer, on behalf of Duquesne, Mr. Knecht, on behalf of the OSBA, and Mr. Baudino, on behalf of DII. Specifically, Mr. Pfrommer, Mr. Knecht and Mr. Baudino argue that Dr. Swan's proposal is not consistent with the usual standard of "cost causation." See Duquesne Exh. D-R at 6; OSBA St. 1 at 4-5; DII St. 1-R at 4. Dr. Swan addressed these witnesses' concerns in his Surrebuttal testimony:

> Each of these three gentlemen has taken issue with my recommendation for the treatment of Duquesne's smart meter system common costs. They each argue that it is not what the Commission had in mind and that my proposal is not consistent with the usual standard of "cost causation." Instead each supports the Company's initial proposal, which is to allocate these common costs on the basis of the number of meters.
>
> As I stated in my direct testimony, the analyst must go further and ask the fundamental question what has caused the cost to be incurred in the first place, if he wants to follow the basic precept of cost of service studies -- to allocate costs based on the factors that caused those costs to be incurred. In my view, Mr. Pfrommer has failed to do that. The General Assembly has passed Act 129 requiring that smart meter system investments be made because it believed energy and capacity savings would be realized as a result, and in its Implementation Order the Commission directed the "EDC to allocate those costs to the classes whom derive benefit from such costs." (Citation omitted) As I stated in my direct testimony, to arrive at a fair and reasonable allocation of common smart meter costs, one has to "…look carefully at why these costs are being incurred – that is, what benefits are anticipated to be derived from these costs. Then, we need to carefully assess the extent to which the various customer classes will reap those benefits." (Citation omitted)

OCA St. 3-S at 2-3.

Mr. Pfrommer's Rebuttal stated that Dr. Swan ignores the primary functions of the common infrastructure which are to collect, back haul, store, manage, maintain and protect the data required to bill the customer. Mr. Pfrommer contended that all of these functions will require the same resources regardless of the customer class from which it is collected. Further, he asserts that the Company will be required to capture much the same information, have the same security requirements for its system and provide the same third-party data access, regardless of customer class. Duquesne Exh. D-R at 6. In response to this criticism, Dr. Swan stated:

> Mr. Pfrommer's point seems to be that these infrastructure functions will be required for all meters. I do not disagree with Mr. Pfrommer on this point. However, it does not follow that, just because all meters will rely on the infrastructure, these costs should be allocated on the number of meters. Why have these infrastructure costs been incurred in the first place? The answer is that energy and capacity savings were expected to result. Thus, the fundamental cause of these costs is the expectation of savings and the distribution of those savings benefits provide the proper basis for allocating these common costs among customer groups.

OCA St. 3-S at 4-5.

It is important to observe that the causal relationship between costs and benefits is an accepted cost of service principle. For example, 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 member…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) (citing KN Energy, Inc. v. FERC, 968 F.2d 1295, 1300, (D.C. Cir. 1992); Transmission Access Policy Study

Group v. FERC, 225 F.3d 667, 708 (D.C. Cir. 2000); Pacific Gas & Elec. Co. v. FERC, 373 F.3d 1315, 1320-21 (D.C. Cir. 2004); Midwest ISO Transmission Owners v. FERC, 373 F.3d 1361, 1368 (D.C. Cir. 2004); see also Alcoa Inc. v. FERC, 564 F.3d 1342, 1346-47 (D.C. Cir. 2009); Federal Power Act, 16 U.S.C. § 824d). In ICC, the Court heard an appeal from various Commissions and utilities in PJM regarding the financing of new transmission facilities. ICC, 576 F.3d at 474. The PJM-proposed and FERC-approved method at issue would have required all utilities in PJM's region to contribute pro rata for facilities of over 500kV. Id. In overturning this treatment, the Seventh Circuit noted that not even the roughest estimate of likely benefits to the objecting utilities was presented. ICC, 576 F.3d at 475. In fact, FERC counsel conceded that Commonwealth Edison would derive only $1 million in expected benefits from the project for which it was being asked to pay $480 million. Id. at 478. The Court specifically stated that the disparity between benefit and costs would be unreasonable. Id.[5]

Both Mr. Pfrommer and Mr. Baudino criticized Dr. Swan's use of the estimated savings Duquesne included in its ARRA application. Duquesne Exh. D-R at 6-7; DII St. 1-R at

[5] Similarly, the PJM Interconnection and the Midwest Independent Transmission System Operator (MISO) proposed a methodology for allocating the costs of projects built into one regional transmission organization that also provided benefits to another Regional Transmission Operator (RTO). These benefits are referred to as "economic cross-border projects." In its Order addressing this issue, the FERC described the methodology it then approved as follows:

> If a project qualifies as an economic cross-border project, its costs will be allocated to each RTO in proportion to the present value of the RTO's share of the annual benefits that are calculated for the proposed project…
>
> We accept the RTO's proposal as just and reasonable and in compliance with the Commission's directives to revise the JOA [Joint Operating Agreement] to include a methodology to allocate between the RTOs, the costs of economic cross-border transmission projects.
>
> We find that the proposed JOA economic cross-border benefit formula is a just and reasonable method of allocating costs since it is based on criteria that the Commission previously accepted for use by each RTO to measure the benefits of adding new transmission within its footprints.

Order on Cross-Border Facilities Cost Allocation, 129 FERC ¶ 61,102 at ¶¶ 9, 26-27 (2009).

7. Mr. Baudino in particular objects to their use because, he states, they rely on outside studies that were not conducted by Duquesne or specific to Duquesne. DII St. 1-R at 7. Dr. Swan responded to this criticism as follows:

> Mr. Baudino apparently feels that these numbers are not valid because they rely on outside studies that were not conducted by Duquesne and are not specific to Duquesne. Yet apparently the Company believed they were valid when they were used in demonstrating the expected savings to be realized by Duquesne's smart meter program in its application for federal funding for the effort.

OCA St. 3-R at 8. Dr. Swan then went on to explain that his principal purpose in citing the ARRA savings figures was to demonstrate that the benefits of the smart meter program will be different for different customer classes:

> Further, I have not testified that the class breakdown of these estimated savings be used as the basis for the allocation of common costs. I cited these numbers to demonstrate that there are expected to be significant differences in the benefits to be realized by the different customer classes and that Large C&I customers are likely to receive the lion's share of these benefits. I have argued that the benefits are likely to be roughly proportional to the share of each group's energy and capacity use and that the common costs should therefore be allocated on the arithmetic average of class energy use at meter and each class' contribution to the Duquesne annual system coincident peak. One doesn't need to know what the actual savings numbers will be under my recommendation, only that they will be roughly proportional to energy and capacity use.

OCA St. 3-R at 8.

In his Rebuttal testimony, Mr. Pfrommer contended that the Company has not ignored the difference in potential benefits among the customer classes. He stated that as the Company conducts its cost/benefit analysis, if it determines that a particular cost will benefit one customer class exclusively, it will directly assign the cost to that class. Duquesne Exh. D-R at 6. In response, Dr. Swan stated:

> That is well and good as far as it goes. However, most of the benefits will likely take the form of energy and capacity savings, which will not be limited exclusively to one class of customers. Many classes are likely to receive such benefits, but the magnitude of those benefits will likely vary significantly among the classes depending on the amount of energy and capacity that those different customers use. To obtain a reasonable allocation of those common costs, the allocation should reflect the amount of energy and capacity used by the various classes.

OCA St. 3-S at 4.

Mr. Pfrommer also criticized Dr. Swan's position that customer participation in dynamic pricing programs will be proportionately higher among large C&I customers than among residential customers. As evidence to the contrary, Mr. Pfrommer points to the fact that among Duquesne's large C&I customers (with demand in excess of 300kW), over 93% have opted to take service from an alternate supplier rather than choose Duquesne's dynamic pricing option, its Day Ahead Hourly Price Service. Duquesne St. D-R at 6-7. In response, Dr. Swan testified:

> Mr. Pfrommer makes the implicit assumption that electric generation suppliers have not offered any kind of dynamic pricing to the 820 Large C&I customers that could have taken but opted not to take Day Ahead Hourly Pricing Service from the Company. This is in direct conflict with the Company's response to OCA Interrogatory IV-5, in which it was stated that, "The remaining 820 customers are shopping with an EGS. Duquesne does not know what pricing options the EGS is offering to these customers." Moreover, even if the participation rate of these largest Duquesne C&I customers were only 7 percent, it does not follow that the participation rate would not be higher if a larger menu of dynamic pricing options were to be offered, and it does not follow that this participation rate would be lower than the residential participation rate.

OCA St. 3-S at 5.

Mr. Pfrommer also argued that any expectation that large C&I customers will have a greater response to dynamic pricing programs ignores the fact that these customers already have interval meters and that many of the benefits that would come by way of smart meters have already been achieved. Duquesne Exh. D-R at 7. DII witness Baudino made the same point in his testimony. DII St. 1-R at 6-7. Dr. Swan responded as follows:

> … the Company was quite clear in its response to OCA Interrogatory IV-2 that the current infrastructure cannot support "multiple pricing options such as 'real time', 'critical peak', 'time-of-use', etc. for POLR and EGS customers.…" Thus, there is no basis upon which Mr. Pfrommer or Mr. Baudino can suggest that Large C&I customers will not participate more frequently or realize greater savings than residential customers if a full menu of dynamic pricing options is offered to these customers. Moreover, the very savings estimates that the Company included in its ARRA proposal are in direct contradiction to Mr. Pfrommer's and Mr. Baudino's contention.

OCA St. 3-S at 6-7.

DII witness Baudino also asserted that Dr. Swan's proposal to allocate common costs on the basis of the benefits derived from the smart meter program is similar to a "value of service" pricing theory which assigns costs in relation to some measure of the value customers receive from the service. DII St. 1-R at 5-6. Dr. Swan rejected this assertion and explained that his allocation method is in accord with cost of service principles:

> Like Mr. Pfrommer, Mr. Baudino concludes that these common costs should be allocated based on the number of meters without asking the fundamental question why these costs are going to be incurred in the first place. As I stated in my direct testimony, the General Assembly made clear that one of the main goals of Act 129 was to reduce the cost and price instability of electric energy for customers. That is, the General Assembly has required that Pennsylvania distribution utilities incur these costs to bring about savings for its customers. That requires that one look beyond mechanical cost allocation approaches to determine the factors that caused these costs to be incurred in the first place…

> Mr. Baudino fails to ask what factors caused these costs to be incurred in the first place, which is fundamental in observing reasonable cost of service principles…

OCA St. 3-S at 7.

OSBA witness Knecht took a slightly different approach and suggested that any attempt to recognize benefits in the cost allocation process can lead to a "morass of conflicting interpretations" as to what the benefits are and how they are likely to be distributed among the customer classes. OSBA St. 1 at 3. An analyst cannot simply avoid such difficulty, however. As Dr. Swan points out:

> The fundamental rule in cost of service studies is to allocate costs based on the cause of the costs. The costs at hand would not be incurred if it were not for the expectation that benefits will be realized from the incurrence of those costs. As the expected benefits are what will cause those costs to be incurred, it is fully consistent with normal cost allocation practice to allocate the costs on the expected distribution of those benefits.

OCA St. 3-S at 9-10.

The General Assembly's language in Act 129 clearly indicates that Pennsylvania's electric distribution utilities were required to incur these costs because it is expected that these programs will result in energy and capacity savings for customers. As Dr. Swan explained:

> I think the General Assembly was quite clear in its reasons for requiring Pennsylvania's distribution utilities to incur the costs of a smart meter system – to reduce the cost of energy and to minimize the volatility of energy prices. I also think the Commission was clear in its desire that distribution utilities allocate costs to those classes that will benefit from the incurrence of the costs of a smart meter system. I do not think that the Commission's directive to use reasonable cost of service practices to allocate costs that benefit multiple classes is inconsistent at all with the recognition of which classes will benefit from the incurrence of these costs. Reasonable cost of service practices do seek to identify the causes of the costs incurred. Some hard thinking can only lead one to

> conclude that it is the expected realization of benefits that have caused these costs to be incurred in the first place.

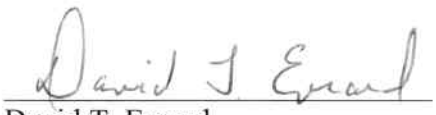
OCA St. 3-S at 6. Mr. Knecht simply failed to look to the fundamental causes for the incurrence of these costs.[6]

[6] Mr. Knecht also refers to OCA witness Catlin's testimony in the Smart Meter proceeding of PPL Electric Utilities at Docket No. M-2009-2123945 to indicate that in that proceeding Mr. Catlin accepted a cost allocation method in which common costs were apportioned in the same percentage as directly assigned costs. OSBA St. 1 at 5. In Surrebuttal, Mr. Catlin made clear that the costs being allocated in PPL were $300,000 worth of annual incremental program management costs for a pilot program, not the costs for PPL's entire Smart Metering Program. Moreover, because PPL has already installed its smart meter infrastructure, the costs were not the same type of smart meter common costs at issue here. OCA St. 1-S at 3-4. Mr. Catlin's acceptance of the PPL methodology was clearly governed by the different nature of the PPL proposal and should not be interpreted as support for such an approach for the full costs of Duquesne's program.

VI. CONCLUSION

The OCA submits that Duquesne's Smart Meter Plan is in general compliance with 66 Pa.C.S. § 2807(f) and (g) and is reasonably structured to meet the goals of the statute. However, the OCA respectfully submits that approval of the Plan should not be granted by the Commission without making the modifications recommended herein by the Office of Consumer Advocate.

Respectfully Submitted,



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Dated: December 8, 2009

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of Duquesne Light Company for Approval of its Smart Meter Technology Procurement and Installation Plan	: : :	Docket No. M-2009-2123948

APPENDICES TO THE
MAIN BRIEF OF THE
OFFICE OF CONSUMER ADVOCATE

Appendix A: Proposed Findings of Facts

1. On August 14, 2009, Duquesne Light Company (Duquesne or Company) filed its Petition, Plan and Testimony with the Pennsylvania Public Utility Commission (Commission) pursuant to Section 2807(f)(1) of the Public Utility Code and pursuant to the Implementation Order entered by the Commission at Docket No. M-2009-2092655.

2. As part of its Plan, Duquesne intends to upgrade its current billing and metering system to support Smart Meters and dynamic pricing options. Duquesne Exh. A (Plan) at 20-21.

3. Duquesne has proposed to make an additional filing with the Commission during the Grace Period, at the completion of technological solution analysis and vendor selection. Duquesne Exh. C-R at 9.

4. During the Grace Period, Duquesne proposes to supply to customers requesting interval meters the meter currently in use for large Commercial and Industrial customers. Duq. Exh. A (Plan) at 9; Duquesne Exh. C at 11.

5. Duquesne proposes to charge customers requesting interval meters during the Grace Period, $586 for the meter and $719 for the required communications equipment. Duquesne Exh. D at 13.

6. The largest expenditures Duquesne anticipates in connection with Component 2 (Smart Meter Technology Infrastructure) of its Grace Period work plan, occur during the final two milestones, Implementation of Network Base Software ($4.3 million) and Meter Pilot Hardware ($6.2 million). Duquesne Technical Conference Handout 1, Slide 11.

7. Duquesne has elected to recover its smart meter-related costs through an automatic adjustment clause pursuant to Section 1307 of the Public Utility Code. It will be called the Smart Meter Charge (SMC). Duquesne Exh. D at 4.

8. The Company has indicated that if the SMC is adjusted and reconciled annually, then the reconciliation should reflect the actual timing of when an investment was placed into service. Duquesne Exh. D-R at 4.

9. The Company proposes to recover stranded cost associated with its existing meters at the completion of full smart meter deployment. Duquesne Exh. D at 10.

10. Duquesne initially proposed to recover smart meter costs from residential customers by way of a fixed monthly charge to be added to the current fixed monthly distribution charge. Duquesne Exh. D at 12. It has now proposed to revise the design of its residential SMC to recover the cost of the meter through a fixed monthly charge and all other meter related charges in a variable per kWh charge. Duquesne Exh. D-R at 5.

11. Duquesne proposed to keep the SMC in place at least until the final smart meter and common plant is installed and fully functional. Duquesne Exh. D at 11. The Company will roll the SMC into base rates in conjunction with a base rate proceeding. Duq. Exh. D-R at 5.

12. For purposes of calculating the SMC, Duquesne has proposed to use the common equity return and equity capitalization ratio established in the Company's transmission formula rate proceeding at the Federal Energy Regulatory Commission (FERC), specifically, a return on equity of 10.9% and an equity capitalization ratio of 59%. Duquesne Exh. D at 6-7; Duquesne Exh. WVP-2 at 2.

13. The most recent fully litigated EDC distribution base rate case was that of Metropolitan Edison Company and Pennsylvania Electric Company, decided by the Commission in January 2007. In those combined cases, the Commission authorized a common equity rate of return of 10.1% and used an equity capitalization ratio of 51%. OCA St. 2 at 7-8.

14. In the Commission proceeding approving Duquesne's merger with Macquarie Consortium (Docket No. A-110150F0035) Duquesne agreed to a settlement term which provided as follows:

> Duquesne shall not request a capital structure for ratemaking purposes which is outside of a reasonable range of that used by comparable companies. In any future base rate proceeding, Duquesne must demonstrate that its claimed common equity ratio is reasonable and in the best interests of its customers. (Paragraph III.B.3.a. of Settlement)

OCA St. 2 at 7-8.

15. Duquesne has made no showing that its proposed 59% equity ratio is within a reasonable range used by comparable companies.

16. Duquesne's proposed equity ratio of 59% falls outside the range of that used by comparable companies. OCA St. 2, Exhs. TSC-1, TSC-2.

17. The Company proposes to update the SMC on a quarterly basis. Duquesne Exh. D at 4; Duq. Exh. D-R at 4.

18. Duquesne proposes to allocate the costs of smart meters to two customer groups – those on single phase meters and those on three-phase or poly-phase meters. The costs of each type of meter will be directly assigned and common costs related to smart meter infrastructure will be allocated to each group based on the number of meters. Duquesne Exh. D at 9.

19. The percentage share of meters in each group is as follows: single-phase 96.2% and multi-phase 3.8%. Duquesne Exh. WPV-2 at 1.

20. Of Duquesne's $38 million Grace Period Budget, $36 million are common costs. Duquesne Exh. B.

21. Energy usage by customers on single-phase meters represents 37% of the electricity consumed by all Duquesne customers and energy used by those on multi-phase meters represents 63%. OCA St. 3, Exh. DES-1.

22. Peak demand by customers on single-phase meters represents 46% to 47% of overall Company peak demand and peak demand by customers on multi-phase meters represents 53% to 54% of overall peak. OCA St. 3, Exh. DES-1.

23. A significant portion of the benefits to be realized by customers from the smart metering program will come in the form of reduced energy costs and avoided capacity and transmission costs. OCA St. 3 at 8.

24. The benefits derived from the smart metering program by customers using single-phase meters and those using multi-phase meters will be in proportion to the amount of energy and capacity used by the two groups. OCA St. 3 at 8.

25. Estimates of customer savings from a smart meter program were presented in Duquesne's application for funding under the American Recovery and Reinvestment Act (ARRA). Duquesne estimated that large Commercial and Industrial (C&I) customers would receive 67% to 68% of savings; Medium C & I customers would receive 27% to 28% of savings; and residential customers 2.7% to 5.5% savings. OCA St. 3 at 7.

Appendix B: Proposed Conclusions of Law and Ordering Paragraphs

1. Duquesne's proposed cost to residential customers for an interval meter provided during the Grace Period is not just and reasonable and does not accord with the standard the Commission set forth in the Implementation Order, *viz.* that the plan for providing interval meters during the Grace Period to support rate structures, energy efficiency or demand response programs be done "in such a manner that does not require unreasonable or imprudent costs." Implementation Order at 11-12.

2. Duquesne's proposal to calculate its SMC using the equity rate of return and equity capitalization ratio from its FERC transmission formula rate case is inappropriate for rate-setting in a case which is distribution-related and PUC-jurisdictional.

3. Act 129 has cost reduction and price stability of electric energy as one of its primary goals. Act 129, 66 Pa.C.S. § 2806.1 *et seq*, pmbl.

4. Duquesne must allocate smart meter costs to the classes that derive the benefit from such costs. Implementation Order at 32.

5. Duquesne has not met its burden of proof that its proposed allocation methodology for common costs based on the number of meters is reasonable or consistent with Act 129, the Commission's Implementation Order, or cost of service principles.

IT IS ORDERED:

1. That the Smart Meter Procurement and Implementation (SMPI) Plan filed by Duquesne Light Company is approved subject to the modifications listed in the paragraphs that follow.

2. That Duquesne's planned upgrades to its current billing and metering system shall be limited to hardware and software necessary to implement the SMPI Plan

3. That Duquesne shall make a filing with the Commission by December 31, 2010 upon completion of its technological solution analysis and selection of vendor milestone.

4. That Duquesne establish a process for involving stakeholders in the further development of its Plan.

5. That Duquesne's smart meter customer education program include education and outreach initiatives geared specifically to low-income customers and the elderly.

6. That Duquesne shall continue to work with its current meter vendor to identify a more reasonably priced interval meter to be supplied to requesting residential customers during the Grace Period. The Company shall submit a report to the Commission detailing its efforts to identify a less costly interval meter than that proposed in its Plan.

7. That Duquesne's Grace Period Budget for Components 1 and 2 as set forth in Duquesne Exh. B is approved with the exception that the estimates provided for the final two milestones of Component 2 related to Implementation of Network, Base Software Systems and Network Meter Pilot Hardware Costs are not approved until Duquesne submits new estimates for those milestones following completion of its Establishment of Network Designs milestone on March 31, 2011.

8. That the Company shall conduct its cost/benefit analyses in sufficient detail to show the breakdown of smart meter benefits by function and by customer class. The Company shall work with stakeholders to develop methods for achieving greater detail in its cost/benefit analysis results.

9. That at the annual reconciliation of the Smart Meter Charge the value of smart meter capital investment shall reflect the actual timing of when an investment was placed into service.

10. That Duquesne shall seek to recover any stranded costs associated with its existing meters only after the full deployment of smart meters and then only in conjunction with a distribution base rate case.

11. That Duquesne shall structure its Smart Meter Charge applicable to residential customers such that the cost of the smart meter is recovered by way of a fixed monthly charge and all remaining smart meter-related costs are recovered through a per kWh charge.

12. That following full deployment of smart meters, Duquesne shall roll its Smart Meter Charge into base rates only in conjunction with a distribution base rate case.

13. That the cost of equity used in calculating the Smart Meter Charge shall be that which was authorized in the Company's fully litigated base rate case occurring within three years of the effective date of the time the Company seeks to update the Smart Meter Charge.

14. That If the Company has not had a fully litigated base rate case within three years, the cost of equity shall be based on the most recent Commission "Report on the Quarterly Earnings of Jurisdictional Utilities," following a generic proceeding to establish a procedure for calculating the return on equity applicable to EDC Smart Meter Charges.

15. That until the completion of the generic proceeding, the cost of common equity used in calculating the Smart Meter Charge shall be 10.1%.

16. That Duquesne shall demonstrate that its claimed equity capitalization ratio falls within the reasonable range used by comparable companies.

17. That until Duquesne demonstrates the reasonableness of its claimed equity capitalization ratio, an equity ratio of 51% shall be used for calculating the Smart Meter Charge.

18. That Duquesne shall update its Smart Meter Charge no more frequently than annually.

19. That Duquesne's proposal to allocate the common costs of its smart metering program on the basis of the number of meters is denied.

20. That Duquesne shall allocate the common costs of its smart metering program to reflect the expected benefits that will flow from the program. Duquesne shall use an allocator that is based on the arithmetic average of the percentage shares of each meter group's (single-phase or multi-phase) energy use at the meter and each group's contribution to Duquesne's annual coincident peak.

CERTIFICATE OF SERVICE

Petition of Duquesne Light Company for Approval of its Smart Meter Technology Procurement and Installation Plan	: : :	Docket No. M-2009-2123948

I hereby certify that I have this day served a true copy of the foregoing document, the Main 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:

Dated this 8th day of December 2009.

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