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July 20, 2016

VIA ELECTRONIC FILING

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

Re: Petition of Duquesne Light Company for Approval to Modify its Smart Meter Procurement and Installation Plan
Docket No. P-2015-2497267

Dear Secretary Chiavetta:

Enclosed please find the Main Brief of Duquesne Light Company in the above-referenced proceeding. Copies will be provided as indicated on the Certificate of Service.

Respectfully submitted,

Anthony D. Kanagy

ADK/skr
Enclosure

cc: Honorable Katrina L. Dunderdale
Certificate of Service

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been served upon the following persons, in the manner indicated, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

VIA E-MAIL and FIRST CLASS MAIL

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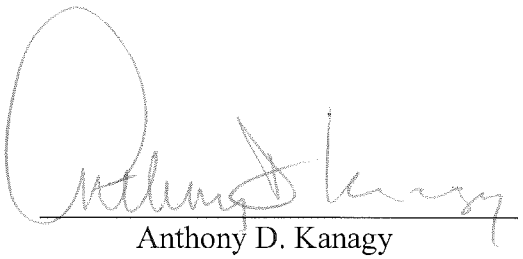

Anthony D. Kanagy

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of Duquesne Light Company for Approval to Modify its Smart Meter Procurement and Installation Plan	: : :	Docket No. P-2015-2497267

MAIN BRIEF OF DUQUESNE LIGHT COMPANY

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I. INTRODUCTION

Duquesne Light Company ("Duquesne Light" or the "Company") hereby files its Main Brief pursuant to the procedural schedule that has been adopted by Administrative Law Judge Katrina L. Dunderdale (the "ALJ") in the above-referenced proceeding. Parties initially filed Main Briefs on March 17, 2016 and Reply Briefs on April 7, 2016. After Main and Reply Briefs were filed, the ALJ issued a Post-Hearing Order reopening the record. A Further Hearing was held on June 30, 2016. At the Further Hearing, the ALJ ordered that the Parties could file revised Main Briefs by July 20, 2016 and revised Reply Briefs by July 27, 2016 to address issues that were raised at the Further Hearing or any other issue. (Tr. 182.)

The Company's Main Brief follows the Common Brief Outline that was submitted to the ALJ on March 10, 2016. Duquesne Light has included additional sub-headings under certain headings of the Common Brief Outline to provide additional structure for its arguments. In addition, the Company has specifically addressed the ALJ's Post-Hearing questions in the MISCELLANEOUS section, Section VII(E), of this Main Brief. Included as Appendix A are Proposed Findings of Fact, Conclusions of Law and Ordering Paragraphs.

II. STATEMENT OF THE CASE

The primary issue in this case involves whether Duquesne Light's ADMS project should be approved and whether Duquesne Light should be permitted to recover ADMS costs in its SMC. As explained herein, Duquesne Light has demonstrated that its ADMS project is cost-effective and should be approved. In addition, the ADMS project is necessary for Duquesne Light to meet the Commission's smart meter functionality requirements. Therefore, Duquesne Light should be permitted to recover ADMS costs in the SMC.

III. PROCEDURAL HISTORY

Duquesne Light is a public utility as that term is defined under Section 102 of the Public Utility Code, 66 Pa. C.S. § 102, certificated by the Pennsylvania Public Utility Commission ("Commission") to provide electric service in the City of Pittsburgh and in Allegheny and Beaver Counties in Pennsylvania. Duquesne Light is also an electric distribution company ("EDC") and default services provider ("DSP") as those terms are defined under Section 2803 of the Public Utility Code. 66 Pa. C.S. § 2803. Duquesne Light provides electric distribution service to approximately 590,000 customers and is currently the DSP for approximately 380,000 of those customers.

On November 14, 2008, Act 129 of 2008, P.L. 1592 ("Act 129") became effective. Act 129 required EDCs to implement multiple programs to promote energy efficiency and conservation by electric customers. In addition, Act 129 required EDCs to file smart meter plans within 9 months after the effective date of the Act. On June 24, 2009, the Commission issued its *Implementation Order*.[1] In the *Implementation Order*, the Commission established the standards that EDCs must meet for providing smart meter technology to customers and also provided guidance for meeting those standards.

On August 14, 2009, Duquesne Light filed its Initial Smart Meter Plan that: (1) provided a description of its current metering system, (2) explained how it would address customer requests for smart meters and installation of smart meters in new construction during the grace period, (3) explained its network development and installation plan within the 30 month grace period, (4) proposed a milestone and status reporting schedule during the grace period, and (5) proposed a cost recovery mechanism for recovering smart meter costs.

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

On May 11, 2010, the Commission entered an Order approving Duquesne Light's Initial Smart Meter Plan, with certain modifications.[2] The Commission approved Duquesne Light's proposal to recover its smart meter costs through a reconcilable cost recovery mechanism, the Smart Meter Charge ("SMC") and set forth the details of how this mechanism would work.

On June 29, 2012, the Company filed a Petition for Approval of its Smart Meter Deployment Plan. Included with the Petition was a copy of the Smart Meter Plan and direct testimony of Duquesne Light's Witnesses. These documents detailed the Company's plans to replace its Advanced Meter Reading ("AMR") system with Advanced Metering Infrastructure ("AMI") and deploy smart meters over a seven year period from 2014-2020. As detailed in the 2012 Smart Meter Plan, Duquesne Light's AMI project includes four components: 1) Itron Smart Meters, 2) Local Area Network, 3) Wide Area Network, and 4) the Head-End Collection System. The Plan also provided a phased in approach to implementing the functionality required by Act 129 and the Commission's *Implementation Order.*

Following extensive investigation by interested stakeholders, on December 7, 2012, Duquesne Light and the Office of Consumer Advocate ("OCA") filed an uncontested Joint Petition for Approval of Full Settlement ("Joint Petition"). On January 24, 2013, Administrative Law Judge Katrina Dunderdale issued an Initial Decision approving the Joint Petition.

On May 6, 2013, the Commission entered an Opinion and Order (*"Duquesne Light 2013 Smart Meter Order"*) granting approval of in part, and modifying the Smart Meter Plan and the Joint Petition. In the *Duquesne Light 2013 Smart Meter Order*, the Commission directed Duquesne Light to make a compliance filing within ninety (90) days of the date of entry of the

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[2] *Petition of Duquesne Light Company for Approval of Smart Meter Technology Procurement and Installation Plan*, Docket No. M-2009-2123948 (*"Duquesne Light 2010 Smart Meter Order"*).

Order providing data supporting whether or not inclusion of the voltage monitoring and communication of outages and restorations capabilities are cost effective, among other things.

On August 2, 2013, Duquesne Light submitted its Compliance Filing. In its Compliance Filing, Duquesne Light proposed to initially evaluate Volt/VAR optimization, outage notification, and transformer loading capabilities. The Company explained that Voltage/VAR optimization can reduce line loss inefficiencies by optimizing reactive power flow and improving the PF (Power Factor) of the electrical distribution system thereby decreasing the amount of current flow necessary to meet customer load demand. Outage notification using AMI data together with a compatible Outage Management System ("OMS") would provide better diagnostics and control of abnormal conditions during power outages. This would allow power outage restoration to be completed faster than before and would increase reliability of the electrical distribution system. The system would provide proactive communications with customers affected by a power disruption. Finally, transformer load monitoring capability can minimize outages caused by overloading transformers during peak demand periods. No parties filed comments to the Company's Compliance Filing.

On August 4, 2015, Duquesne Light filed its Petition to Modify its Smart Meter Plan along with its Amended Smart Meter Plan ("Amended SMP"). In the Amended SMP, the Company proposed, in part, to install an Advanced Distribution Management System ("ADMS") to achieve enhanced outage communication, outage restoration and voltage monitoring capabilities. The ADMS consists of both an OMS and a Distribution Management System ("DMS"), which are explained in more detail in Section VII(B)(1)(a) below. The Company also proposed to accelerate its smart meter deployment schedule by one year and updated its estimated smart meter cost estimates.

The OCA, Office of Small Business Advocate ("OSBA") and Citizen Power, Inc. ("Citizen Power') intervened in the proceeding. A prehearing conference was held on October 13, 2015, and on October 14, 2015, the ALJ issued a Prehearing Order setting forth rules for the proceeding and the litigation schedule that had been agreed to at the prehearing conference.

Parties filed several additional rounds of testimony, including Duquesne Light Supplemental Direct Testimony, OCA Direct Testimony, Duquesne Light Rebuttal Testimony, OCA Surrebuttal Testimony and Duquesne Light Rejoinder Testimony.

A hearing was held on February 18, 2016, at which time the parties submitted their testimony and exhibits into the record.

Duquesne Light, OCA and Citizen Power filed Main Briefs on March 17, 2016 and Reply Briefs on April 7, 2016.

On April 11, 2016, the ALJ issued an Interim Order closing the hearing record. On May 4, 2016, a Post-Hearing Order was issued reopening the hearing record and directing the Parties to address certain questions posed by the ALJ.

A Post-Hearing Conference was held on May 24, 2016. At the Post-Hearing Conference, a schedule was established that provided for the submission of supplemental post-hearing testimony and for a Further Hearing.

Duquesne Light submitted Supplemental Direct Testimony on June 6, 2016, and OCA submitted Supplemental Rebuttal Testimony on June 24, 2016.

A Further Hearing was held on June 30, 2016.

Duquesne Light hereby submits this revised Main Brief pursuant to the litigation schedule adopted at the Further Hearing.

IV. STATEMENT OF THE QUESTIONS INVOLVED

1. **Whether Duquesne Light's Amended SMP should be approved without modification.**

   Suggested Answer: In the Affirmative.

2. **Whether Duquesne Light's proposed ADMS project which will provide outage and restoration communication and voltage monitoring capabilities pursuant to the *Implementation Order* should be approved.**

   Suggested Answer: In the Affirmative.

3. **Whether Duquesne Light should be permitted to recover ADMS costs through its Smart Meter Charge.**

   Suggested Answer: In the Affirmative.

4. **Whether ADMS costs should be allocated to customer classes in the same manner as all other smart meter costs.**

   Suggested Answer: In the Affirmative.

5. **Whether Duquesne Light should be permitted to recover Bill Ready costs through its Smart Meter Charge.**

   Suggested Answer: In the Affirmative.

V. BURDEN OF PROOF

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

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

It is to be emphasized, however, that the burden of proof, also known as the burden of persuasion, means a duty to establish a fact by a preponderance of the evidence. *Se-Ling Hosiery v. Margulies*, 364 Pa. 45, 70 A.2d 854 (1950). If the Company presents evidence found to be of greater weight than the other parties, then the Company will have carried its burden of proof. *Morrissey v. Commonwealth of Pennsylvania*, 424 Pa. 87, 225 A.2d 895 (1986); *Burleson v. Pa.*

P.U.C., 501 Pa. 433, 436, 641 A.2d 1234, 1236 (1983); *V.J.R. Bar Corp. v. P.L.C.B.*, 480 Pa. 322, 390 A.2d 163 (1978); *Milkie v. Pa. P.U.C.*, 768 A.2d 1217, 1220 (Pa. Cmwlth. 2001).

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

VI. SUMMARY OF ARGUMENT

The primary issue in dispute in this proceeding concerns whether Duquesne Light's ADMS project should be approved. The Commission has directed Duquesne Light to evaluate the cost-effectiveness of including outage and restoration communication and voltage monitoring capabilities as part of the Company's Smart Meter Plan. The Company has evaluated the cost-effectiveness of providing these capabilities through the ADMS project and has demonstrated

that the ADMS project will be cost-effective and will provide customers and the Company with significant benefits.

OCA argues that the ADMS project is not cost-effective and should be denied. OCA's argument is flawed because the OCA proposes to completely ignore customer cost savings associated with the ADMS that are estimated to be approximately $6 million per year. When these customer cost savings are included, the ADMS project is clearly cost-effective. OCA argues that the customer savings have not been reliably quantified. However, Duquesne Light has supported the quantification of these savings through 2 independent models. In addition, there will be numerous non-quantifiable benefits for customers and the Company with the ADMS that should be considered in approving the project.

The ADMS project is a smart meter technology project, and Duquesne Light has requested approval to recover ADMS costs through its SMC. Duquesne Light is authorized by statute and by the Commission to recover smart meter costs through its SMC. OCA argues that if the ADMS project is approved, the Company should be required to seek recovery of ADMS costs through base rates. OCA's proposal to require Duquesne Light to recover ADMS costs through base rates is contrary to statute and contrary to how Duquesne Light and every other EDC in Pennsylvania recovers smart meter costs. OCA's proposal should be denied. However, even if OCA's proposal were accepted, Duquesne Light must be permitted under Act 129 to defer its full ADMS costs with a carrying charge to be recovered in a later base rate proceeding. Accordingly, OCA's proposal to defer cost recovery to a base rate proceeding will accomplish nothing more than allow the OCA another opportunity to challenge approval of the ADMS.

In addition, all of the ADMS costs are necessary in order for the Company to achieve the outage communication and voltage monitoring capabilities set forth in the Commission's *Smart*

Meter Implementation Order. Therefore, it is reasonable for the Company to recover all ADMS costs in the SMC.

OCA also argues that if the Commission approves the ADMS project, Duquesne Light should be required to allocate ADMS costs to each customer class based upon the estimated benefits to each class. This proposal is contrary to the Commission's directives regarding recovery of smart meter costs. The Commission has directed Duquesne Light to allocate smart meter costs on a per meter basis and has rejected OCA's prior arguments to allocate smart meter costs to each class based on projected benefits.

In a prior Order, the Commission directed EDCs to include Bill Ready functionality in their smart meter plans. Duquesne Light has done this and is requesting to recover Bill Ready costs through its SMC. OCA argues that the Company should recover Bill Ready costs from EGSs. OCA's Bill Ready cost recovery proposal should be denied. EDCs recover smart meter costs from customers through reconcilable smart meter charges. They do not recover smart meter costs from EGSs. OCA's proposal is contrary to Act 129 and Commission Orders regarding smart meter cost recovery and should be denied.

VII. ARGUMENT

A. SUMMARY OF DUQUESNE LIGHT'S AMENDED SMP AND DISPUTED ISSUES IN THIS PROCEEDING

1. The Commission Directed Duquesne Light to Evaluate Whether to Include Communication of Outages and Restorations and Voltage Monitoring Capabilities in the Company's Smart Meter Plan

Duquesne Light's smart meter deployment plan was approved by the Commission, with certain modifications, by the *Duquesne Light 2013 Smart Meter Order*.[3] The most significant modification was to require Duquesne Light to make a compliance filing providing data

[3] *Petition of Duquesne Light Company for Approval of Its Final Smart Meter Procurement and Installation Plan*, Docket No. M-2009-2123948.

supporting whether or not inclusion of communication of outages and restorations and voltage monitoring capabilities are cost effective. Importantly, the Commission noted that an evaluation of the cost effectiveness of these capabilities was required under the Commission's Smart Meter *Implementation Order*.

On August 2, 2013, Duquesne Light submitted its Compliance Filing. In the Compliance Filing, the Company explained its existing distribution management system and its Outage Analysis System ("OAS"). The OAS is used to track emergency trouble calls, group the calls to distribution devices and allow real time updating of the interactive voice response ("IVR") system.

The Company explained that in order to implement advanced communication and voltage monitoring capabilities, at a minimum, it would have to replace its current OAS with an OMS and develop an electrical model. The electrical model connects the customer to the larger distribution grid and models the electrical connectivity from the substation breaker all the way to the meter.

In the Compliance Filing, the Company further explained that it had issued a Request For Information ("RFI") to solicit conceptual proposals from industry experts to seek information regarding advanced outage communication and voltage monitoring technology and to seek preliminary, estimated cost information. The Company further proposed to implement the project in 3 phases:

> Phase I – Strategic Development Phase which includes a more detailed study of distribution operations processes and technology, data collections and implementation.
>
> Phase II – Implementation of advanced capabilities.
>
> Phase III – Develop distribution applications.

The Company also explained that following completion of the Phase I Study, it would petition the Commission for approval before implementing advanced outage communication, restoration and voltage monitoring capabilities. The Commission approved the Company's Compliance Filing by Order entered January 9, 2014 at Docket No. M-2009-2123948.

The Amended SMP was filed, in part, to meet the Company's obligation to obtain approval to incorporate outage and restoration communication and voltage monitoring capabilities in the Company's SMP.

2. Summary of the Company's Amended SMP

The Company filed its Amended SMP on August 4, 2015. Therein, the Company proposed several modifications to its existing SMP. These modifications included: (1) implementing an ADMS, (2) revising the implementation dates for certain smart meter functionalities, (3) accelerating the meter deployment schedule, and (4) updating the AMI cost estimates, including requesting cost recovery of the ADMS, Bill Ready functionality, and costs to repair unsafe customer service entrance equipment. These modifications are explained in more detail below.

The most significant modification proposed by the Company was to implement outage and restoration communication and voltage monitoring capabilities, as requested by the Commission. Based upon the results of the Phase I Study, Duquesne Light proposed to implement an ADMS to provide these capabilities. The ADMS consists of two primary components – an OMS and a DMS.

The OMS combined with an electrical model will significantly enhance the Company's outage communication and restoration capability. With the OMS, the Company will generally be aware of customer outages before the customer calls the Company. (Duquesne Light St. No. 2, p. 8.) The Company anticipates that the OMS will reduce the average duration of power

outages because distribution system operators will have a quicker awareness of the number and location of customers affected by an outage and will be able to dispatch crews earlier to outages. (Duquesne Light St. No. 2, p. 7.)

The OMS will create substantial benefits for customers and for the Company. The OMS is expected to produce savings of approximately $300,000 per year for the Company due to: (1) reduced phone calls at the Company's call center due to customer outreach notifications for reporting outages and restorations, and (2) increased effectiveness during and after storm events. The OMS is also estimated to create customer savings of approximately $6,000,000 per year due to a reduction in outage time. There are also numerous other safety and other non-quantifiable benefits associated with implementing the OMS which are discussed in more detail in Section VII(B)(3) below. (Duquesne Light St. No. 2, pp. 7-8.)

The DMS component of the ADMS enhances the Company's voltage monitoring functions. As explained by the Company's witness, Mr. Karcher:

> A DMS performs distribution management functionality such as Volt/VAR optimization, transformer loading, fault location, and switching solutions. Use of real time voltage data from smart meters will enable a DMS to make real time adjustments to keep customer voltages in proper range.

(Duquesne Light St. No. 2, p. 12.)

As also explained by Mr. Karcher, the DMS will provide significant benefits.

> The Volt/VAR optimization using real time smart meter data is expected to achieve an electric system benefit of $2 million per year in capacity demand reduction once the DMS [is] fully implemented and utilized. The capacity demand reduction will be passed on to customers through reduced power costs but will not be received directly by Duquesne Light.
>
> The transformer loading analysis using smart real time usage data is expected to achieve a benefit of $285,000 per year due to Asset Management savings and overtime savings once the DMS [is] fully implemented and utilized.

(Duquesne Light St. No. 2, p. 13.)

Another modification proposed in the Petition was to implement the Time-of-Use ("TOU"), Real Time Pricing ("RTP") and net metering functionalities in 2016 rather than 2015. The Company explained that these functionality implementation date modifications were necessary so that the Company could implement other business and regulatory requirements such as Off-Cycle Switching in 2015. (Duquesne Light Exh. No. 1, p. 9.)

The Company also proposed to accelerate its meter deployment schedule under the Amended SMP. The Company's existing SMP provides for full deployment of smart meters by the end of 2020. Under its Amended Plan, the Company proposed to complete all residential meter installations by the end of 2018 and to complete all commercial and industrial meter installations by the end of 2019. (Duquesne Light Exh. No. 1, p. 16.)

In addition, the Company updated its projected AMI cost estimates. The Company also proposed to recover certain additional costs through the SMC, including ADMS costs, costs for Bill Ready Functionality and costs to repair unsafe customer service entrance equipment.

3. Summary of Disputed Issues

There are very few disputed issues in this proceeding. OCA was the only party that submitted testimony challenging portions of the Amended SMP. OCA is arguing that ADMS is not cost effective and should not be approved. OCA also argues that if the ADMS project is approved, the Company should recover ADMS costs in base rates. In addition, OCA argues that if the ADMS project is approved, the ADMS costs should be allocated to customers based upon the projected benefits by class.

OCA also argues that the Company should recover Bill Ready costs from electric generation suppliers ("EGSs"). In addition, OCA initially argued that the Company should not be permitted to recover any additional AMI costs above the estimated budget provided by the

Company in this proceeding. However, OCA appears to have revised its position and now appears to agree that additional costs for the AMI project are subject to a prudency review at the time that recovery is requested. (See OCA St. No. 1-5, p. 8.)

OCA's contentions should be rejected for the reasons explained in the remainder of this Brief.

B. ADMS ISSUES

1. ADMS Project Approval Issues

a. The ADMS Will Provide Significant Benefits To Customers And The Company.

Installing the ADMS will significantly enhance the Company's outage communication, outage restoration and voltage monitoring capabilities. The OMS component of the ADMS system will allow the Company to receive outage notifications (i.e., last gasps) from meters that go out of service and will allow pinging of an individual meter or group of meters for outage and restoration verification. The Company's existing system does not have this functionality, and the addition of an OMS is required to perform this functionality. The OMS will make Duquesne Light aware of outages quicker than waiting for customer calls and allow verifications by meter.

Because Duquesne Light will be aware of outages and locations of outages quicker, it will be able to dispatch crews earlier and prioritize crews to larger outages, which will reduce outage time. (Duquesne Light St. No. 2, p. 7.) The Company estimates that the average duration of outages will decrease by 5 minutes. An average savings of 5 minutes of outage time produces significant customer cost savings. As explained by Mr. Karcher:

> The sectors of customers, industrial, commercial and residential, are economically impacted in different ways by outages. Industrial and manufacturing customers may see a significant economic impact due to momentary outages if the outage causes a plant shut down which may need to be followed by clean up and re-start. Commercial impacts, including professional and government

> offices, include lost production, paying employees for non-productive time during an outage, lost sales, etc, and generally have the most significant economic consequences. Residential impacts include food spoilage and hotel costs for lengthy outages. As more people work from home, outages in residential areas will have increasing impact due to loss of work production.

(Duquesne Light St. No. 2R, p. 4.)

Duquesne Light's consultant, DNV GL, performed a comprehensive study of the Company's distribution system to estimate savings that will be achieved by a reduction in average outage time of 5 minutes. The study evaluated Company specific data, such as number of circuits at different voltages, current miles, capacitor information, voltage regulators, and number of customers. (Duquesne Light St. No. 2-R, p. 4.) Using this Duquesne Light specific data, the study estimates societal benefits, or actual cost savings to customers, of approximately $6 million per year.

In testimony, the Company also explained that there was a publicly available model for calculating societal or customer cost savings of reduced outage time. This model is the Interruption Cost Estimate ("ICE") calculator that was developed for the U.S. Department of Energy. (Duquesne Light St. No. 2-R, p. 6.) The ICE calculator is designed to estimate interruption costs and benefits associated with reliability improvements in the U.S. The range of annual customer savings estimated by the ICE calculator is approximately $4 million in 2023 increasing to approximately $6 million in year 2039. (Duquesne Light St. No. 2-RJ, pp. 2-3.) Duquesne Light recommends using the DNV GL study because the customer benefits are calculated based upon more specific information about the Company's distribution system.

In addition to the customer savings of approximately $6 million per year with the OMS, the Company estimates that it will achieve an additional $300,000 per year in cost savings as a result of reduced telephone calls due to automated customer notifications of outages and

restorations and due to increased efficiencies during and after storm events. (Duquesne Light St. No. 2, p. 7.)

Further, the OMS will create efficiencies for the Company during large storm events through reduced truck rolls to determine if customers' power has been restored. The Company did not calculate these benefits in the cost-benefit analysis because they are difficult to quantify. (Tr. 116.)

The OMS also will create numerous and significant non-quantifiable benefits for the Company and its customers. Mr. Karcher summarized these benefits as follows:

> Duquesne Light operations will see increased safety awareness with OMS especially when it is integrated with the Automatic Vehicle Location ("AVL") system. The Duquesne Light operations center will be able to view the location of each Duquesne Light vehicle on an OMS map that also shows outage locations and can make each crew aware and prepared for energization of nearby facilities. The crews that are closest to potential public hazards will be known and can be dispatched for quicker arrival time.
>
> There are numerous "soft" benefits that are not quantifiable which include increased customer satisfaction, increased safety to the public and Duquesne Light employees, and enhanced operations in various Duquesne Light departments.
>
> Duquesne Light will be able to dispatch crews to wire down calls more quickly with OMS integrated with AVL software decreasing public exposure to dangerous voltages. The operations center will have a greater awareness of crew location increasing crew safety when re-energizing lines.
>
> Customer satisfaction during storm events is expected to improve because, using real time smart meter outage data, Duquesne Light will generally be aware of customer outages before a customer calls. Through AMI, Duquesne Light will be able to ping the smart meters for restoration confirmation and proactively send a message to the customer notifying the customer of restoration and eliminating the need for restoration confirmation call backs. Estimated times of restoration ("ETR") will improve with an OMS and can be communicated to the customer at the beginning of an outage and when updated.

> The number of customers affected by an outage will be derived from how they are connected to the electric distribution system in the electrical model instead of being based on the amount of KVA that is affected by the outage.
>
> Many Duquesne Light departments will see improved and enhanced operations. The following additional benefits will be seen by the Operations Center: Operators can manage outages from one application [as] opposed to several applications that are being used today. The operators will be able to model outages at switching points and non-switching points by using line cuts and jumpers. The amount of paper used to manage outages will be reduced as we move away from printed tickets.
>
> Additional benefits will be seen by the Field personnel. For example, there will be a reduction in incidences of being dispatched to locations where outages have already been restored. Field workers, through the use of mobile data units, will be able to update OMS with ETRs, arrival times, trouble cause, describe any follow up work, etc.
>
> During damage assessment, information will be able to be captured in OMS directly from the field to ensure that the repairing crews bring proper materials and equipment upon first arrival.
>
> Additionally, reliability reports can be automatically generated requiring much less manual intervention during outage reporting.
>
> In the call center, the customer service representatives ("CSR") will have access to an OMS dashboard which provides outage details to provide to customers. Historical outage information for a calling customer will be accessible. The number of calls a CSR takes will be reduced due to automatic messaging.
>
> Information on outages will be more readily available to the Media and Community Relations department using the OMS dashboard to give timely responses to media requests such as ETRs or whether crews have arrived on the scene. An enhanced outage map with outage counts and customer outage counts based on the electric model will provide timely data needed to report to requesting news agencies, local governments and the Commission.

(Duquesne Light St. No. 2, pp. 7-9.)

The DMS component of the ADMS system will also provide significant benefits for the Company and its customers. A DMS performs distribution management functionality such as

Volt/VAR optimization, transformer loading, fault location and switching solutions. As explained by Mr. Karcher, by using real time voltage data from smart meters, the DMS will be able to make real time adjustments to keep customer voltages in proper range. (Duquesne Light St. No. 2, p. 12.)

The Volt/VAR functionality of the DMS is expected to achieve an electric system benefit of $2 million per year in capacity demand reduction, which will result in reduced power costs for customers. The transformer loading functionality of the DMS is expected to reduce costs by approximately $285,000 per year due to Asset Management and overtime savings. In addition, the DMS will enhance fault location. This will reduce the time needed to find damage to the distribution system when the trouble location is otherwise unknown. (Duquesne Light St. No. 2, p. 13.)

b. The Commission Has Directed EDCs To Adopt Enhanced Abilities To Communicate Outages And Restorations And To Monitor Voltage As Part Of Their Smart Meter Programs.

In the Smart Meter Implementation Order, the Commission stated its position that the "smart meter capability requirements set out in Act 129 are minimal requirements." *Implementation Order*, p. 16. The Commission further stated:

> Therefore, the Commission directs that a covered EDC's smart meter technology must support the following capabilities:
>
> * * *
>
> 8. Ability to monitor voltage at each meter and report data in a manner that allows EDC to react to the information.
>
> * * *
>
> 10. Communicate outages and restorations.

(*Implementation Order*, p. 16.)

The Commission further stated that it believed that these capabilities would further facilitate the consumer's ability to control their electric use and costs, but that it reserved the authority to waive these requirements if they were not cost effective. *Implementation Order*, pp. 17, 31. However, the clear directive from the Commission's *Implementation Order* is that the abilities to monitor voltage and communicate outages and restorations are smart meter functionalities and should be incorporated into smart meter plans unless they are not cost-effective.

The Commission specifically directed Duquesne Light to evaluate the cost-effectiveness of implementing enhanced abilities to communicate outages and restorations and monitor voltage as part of the Company's smart meter plan. *Petition of Duquesne Light Company for Approval of Its Final Smart Meter Procurement and Installation Plan*, Docket No. M-2009-2123948, Order entered May 6, 2013.

The Commission has clearly directed EDCs to implement enhanced abilities to communicate outages and restorations and to monitor voltage as part of their Smart Meter Plans, provided that adopting the technology is cost-effective.

c. The Commission Should Dismiss The OCA's Request To Deny Approval Of The ADMS.

The OCA argues that the Commission should not approve the ADMS because OCA does not believe that the ADMS will be cost-effective. (OCA St. No. 1, p. 11.) OCA's argument is flawed because OCA proposes to completely ignore customer savings that are estimated to be approximately $6 million per year and also ignores the significant non-quantifiable benefits that the Company and customers will experience with the ADMS.

The OCA argues that the customer savings from implementing the ADMS are difficult to quantify and therefore should not be considered. The OCA also argues that the customer savings

of $6 million per year should not be considered because they were estimated based upon the use of a proprietary calculation. The OCA's contentions that these customer savings should be ignored and the ADMS should be rejected are unreasonable.

First, the customer savings were reliably quantified. The Company provided detailed distribution system data to DNV GL, and DNV GL used this Company specific information to calculate customer savings on a circuit by circuit basis. (Duquesne Light St. No. 2-R, p. 6.) In addition, the estimate of customer savings calculated by DNV GL is supported by a second model, the ICE calculator. It is clear based upon these two independent models that there will be substantial customer savings from implementing the ADMS.

Second, the fact that the DNV GL model uses a proprietary calculation does not mean that the savings should be ignored. As explained by Mr. Karcher, if DNV GL were to release the details of the model, their competitors would be able to duplicate the model. In order to address OCA's concerns about the proprietary DNV GL model, Duquesne Light provided considerable detail to OCA regarding what factors DNV GL considered in estimating customer benefits. (See Exhibit JK 1-R.) In addition, the Company supported its level of estimated savings through the publicly available ICE calculator and provided all of the data inputs that were used for the ICE calculator as an Exhibit to its testimony. (See Exhibit JK 2-R.)

Third, OCA's argument to completely ignore customer savings because of the difficulty in quantifying the savings is an extreme position. As explained by Mr. Karcher,

> There clearly will be societal benefits in reducing outage time with an ADMS, and it is unreasonable to ignore these benefits. The ICE model and the DNV GL study predict societal benefits of approximately $4-$6 million per year. The Commission should consider societal benefits when evaluating the proposed ADMS.

(Duquesne Light St. No. 2-R, p. 7.) At the Further Hearing, OCA's witness Ms. Sherwood admitted that customers will experience benefits with reduced outage time. (Tr. 177.) Ms.

Sherwood also admitted that ADMS systems have reduced outage times for other utilities. (Tr. 177.) However, OCA presented no independent analysis of the benefits customers will experience from the ADMS. In this regard, OCA has offered no estimate of customer savings and has failed in its burden of presenting contrary evidence.

In addition to the quantifiable customer benefits, the Commission should also consider the significant non-quantifiable benefits of the ADMS system. These benefits include operations improvement, field employee efficiencies, customer service improvements, enhanced damage assessment capabilities, reporting improvements, improved safety, increased customer satisfaction, and others. See Exhibit JK 3-R which was appended to Duquesne Light Statement Number 2-R for a more comprehensive list of these benefits.

OCA also argues that the Company's cost-benefit analysis does not include all costs. OCA contends that the Company should have included additional software and hardware upgrades throughout the ADMS project life in its analysis. (OCA St. No. 1, p. 14.) Mr. Karcher explained that the Company did include software upgrades in its cost analysis and that it was appropriate to exclude hardware upgrades because they are generally expected to offset the hardware upgrades that would be needed to support the existing systems that are used today when analyzing outages. (Duquesne Light St. No. 2-R, p. 8.)

The OCA also argues that the Company should have included incremental ongoing costs to run the ADMS in its analysis. (OCA St. No. 1, p. 12.) Even if these costs are included, the project benefits still exceed the project costs. (Duquesne Light St. No. 2-R, p. 8.) Further, OCA has not included ongoing costs to run the current OAS system in its analysis nor has it included costs to replace the OAS which would need to be replaced at some point in time if the Company

did not implement the ADMS. (Tr. 122.) OCA's cost benefit analysis clearly understates the benefits of implementing the ADMS.

d. The ADMS Project Is Cost Effective And Should Be Approved.

As explained by Mr. Karcher, the OMS is expected to cost approximately $42-$51 million, and it is expected that benefits will exceed costs in approximately 7-9 years. In addition, the DMS is expected to cost approximately $3.8-$4.4 million, and it is expected that benefits will exceed costs in less than 2 years. (Duquesne Light St. No. 2-R, p. 2.) Duquesne Light has demonstrated that the ADMS system is cost effective, and it should be approved.

As noted at the Further Hearing in this proceeding, the ADMS project has a 20 year expected useful life. The benefits to customers will continue long after the ADMS project is paid for by customers. (Tr. 136.) Further, the Company will begin to recover the bulk of its investment in ADMS at about the same time that ADMS goes into service. (Tr. 137-138.) This further supports the cost-effectiveness of the ADMS and the reasonableness of recovering ADMS costs through the SMC.

2. ADMS Cost Recovery Issues

a. Duquesne Light Should Be Permitted To Recover ADMS Costs Through Its SMC.

The ADMS project will enable the Company to meet the smart meter technology requirements set forth in the Commission's *Implementation Order* of communicating outages and restorations and monitoring voltage. In the *Implementation Order*, the Commission clearly stated that these functionalities were smart meter capabilities. *Implementation Order*, pp. 16, 30.

Act 129 of 2008 governs recovery of smart meter costs and provides as follows:

> An electric distribution company may recover smart meter technology costs:

> (i) through base rates, including a deferral for future base rate recovery of current basis with carrying charge as determined by the communication; or
>
> (ii) on a full and current basis through a reconcilable automatic adjustment clause under Section 1307.

66 Pa. C.S. § 2807(f)(7).

Act 129 gives EDCs the discretion to determine how to recover smart meter costs. Duquesne Light has elected to recover smart meter costs on a full and current basis through its SMC, which is a reconcilable automatic adjustment clause under Section 1307. In addition, the Commission has expressly authorized Duquesne Light and all other EDCs in Pennsylvania to recover their smart meter costs through reconcilable automatic adjustment clauses under Section 1307. *See Petition of Duquesne Light Company for Approval of Smart Meter Technology Procurement and Installation Plan*, Docket No. M-2009-2123948, Order entered May 11, 2010, p. 14; *Petition of PECO Energy Company for Approval of Smart Meter Technology Procurement and Installation Plan,* Docket No. M-2009-2123994, Order entered May 6, 2010, pp. 17-18; *Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company and Pennsylvania Power Company for Approval of Smart Meter Technology Procurement and Installation Plan*, Docket No. M-2009-2123950, Order entered June 9, 2010, pp. 37-28; *Petition of PPL Electric Utilities Corporation for Approval of Smart Meter Technology Procurement and Installation Plan,* Docket No. M-2209-2123945, Order entered June 24, 2010, pp. 10-11.

Nevertheless, OCA argues that if the Commission approves the ADMS project, the Company should be required to seek to recover of ADMS costs through base rates. (OCA St. No. 1, p. 16.) OCA contends that the Company is already receiving revenues in base rates to pay for outage and distribution management functions and upgrade costs should be included in base

rates. OCA also argues that soft benefits have not been quantified and that recovery of ADMS costs in base rates will match how soft benefits will be captured. (OCA St. No. 1, p. 16.)

OCA's argument that the Company is required to recover ADMS costs in base rates is contrary to Act 129 and Commission precedent and should be denied. As explained above, the ADMS will allow the Company the ability to communicate outages and restorations and monitor voltage. The Commission has clearly defined these functionalities as smart meter technology and has directed EDCs to include this technology in their smart meter plans. *Implementation Order*, pp. 16, 30. EDCs are permitted under Act 129 to recover smart meter costs through automatic adjustment clauses. 66 Pa. C.S. § 2807(f)(7). In addition, the Commission has authorized Duquesne Light to recover its smart meter costs through an automatic adjustment clause. *Petition of Duquesne Light Company for Approval of Smart Meter Technology Procurement and Installation Plan,* Docket No. M-2009-2123948, Order entered May 11, 2010, p. 14.

The Company does not have OMS technology at the moment and should be permitted to implement this technology as other EDCs in Pennsylvania already have it. In the *Implementation Order*, the Commission noted that each EDC had different capabilities and implementation challenges. *Implementation Order*, p. 9. Duquesne Light should not be penalized for having to install a new ADMS system to meet the *Implementation Order* requirements.

Moreover, even if OCA's argument were accepted, which it should not be, Duquesne Light would be authorized by statute to include a deferral of all ADMS costs for future base rate recovery with interest. 66 Pa. C.S. § 2807(f)(7).

OCA's argument that the Company should recover ADMS costs in base rates because it is currently recovering revenues in base rates for outage and distribution management functions also should be denied. This is not a relevant argument under Act 129. All EDCs were recovering prior generation meter costs in base rates and are recovering costs for new smart meters in automatic adjustment clauses. Act 129 specifically allows for recovery of new smart meter technology costs through an automatic adjustment clause, even if old technology costs are recovered in base rates.

OCA's argument that base rate recovery of ADMS costs will be consistent with how soft benefits are captured also should be denied. Soft benefits cannot be quantified but any savings will be reflected in rates to customers in future base rate cases through increased efficiencies. However, this is not a valid reason to require actual ADMS costs to be recovered through base rates, and as explained above, is contrary to the statutory cost recovery provisions.

At the Further Hearing, the ALJ asked whether Duquesne Light should be permitted to recover OMS costs in the SMC when other utilities recovered OMS costs in base rates. Duquesne Light believes that this is appropriate for several reasons.

Duquesne Light provided outage communication functionality to its customers through its OAS for many years. The OAS met the Company's outage communication service obligations under the Public Utility Code during this time. At the Further Hearing, the OCA's witness, Ms. Sherwood, agreed that the OAS met normal and reasonable service requirements under the Public Utility Code. (Tr. 175.) In addition, the Company recovered its OAS costs through base rates and not through the SMC or any other automatic adjustment clause, just like other EDCs recovered OMS costs in base rates. Duquesne Light's OAS met its service

requirements under the Public Utility Code, and Duquesne Light was under no obligation to implement an OMS.

The Commission's *Smart Meter Implementation Order* imposes enhanced outage communication and voltage monitoring capabilities, above and beyond Duquesne Light's and other EDCs' existing capabilities, if they are cost effective. If the Commission requires Duquesne Light to implement ADMS to meet the *Smart Meter Implementation Order* requirements, Duquesne Light should be permitted to recover its ADMS costs through the SMC.

As noted by Mr. Karcher in his Supplemental Post Hearing Direct Testimony, FirstEnergy noted that it had to implement additional business requirements to meet the smart meter requirements of Act 129 and the Commission's *Smart Meter Implementation Order*, including enhanced security standards and protections, indicators for outages and tampering, communication infrastructure and other requirements. Duquesne Light St. No. 2C, p. 11. The Commission approved recovery of these costs through the Company's smart meter charges. *Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company for Approval of Their Smart Meter Deployment Plan*, Docket Nos. M-2013-2341990, et al., Order entered March 6, 2014, pp. 33-34, 44. Mr. Karcher also explained:

> PPL also added supplemental functionality enhancements such as a data warehouse and improvements to better integrate its OMS system. The Commission approved recovery of these costs through PPL'[s] smart meter surcharge. *Petition of PPL Electric Utilities Corporation for Approval to Modify Its Smart Meter Technology Procurement and Installation Plan and to Extend its Grace Period*, Pages 10-14, Docket Nos. P-2012-2303075, M-2009-2123945. In addition, PPL and Duquesne Light had automated meter reading systems and had eliminated their meter reading workforces prior to Act 129's smart meter requirements, while FirstEnergy did not have an automated meter reading system and still had a meter reading workforce. All EDCs had different

> system requirements, different technology requirements and different levels of investment in metering systems prior to Act 129, and all EDCs were permitted to recover their individual costs for complying with Act 129 and the Commission's *Smart Meter Implementation Order* through automatic surcharge mechanisms.

Duquesne Light St. No. 2C, pp. 11-12.

For these reasons, Duquesne Light should be permitted to recover its ADMS costs through the SMC.

b. ADMS Costs Should Be Allocated To Customers On The Same Basis As Other Smart Meter Costs.

In testimony, the OCA argues that ADMS costs should be allocated to customer classes based upon the estimated benefits to each class. (OCA St. No. 1-S, p. 4.) This argument is contrary to how the Commission has directed Duquesne Light to allocate smart meter costs to customer classes and should be denied. The Commission has ordered Duquesne Light to allocate common costs to each customer class based on the number of meters. (Duquesne Light St. No. 3-RJ, p. 2.) In addition, the Commission has previously denied OCA's arguments that smart meter costs should be allocated based upon benefits.

In the Commission Order in 2010 approving Duquesne Light's Initial Smart Meter Plan, the Commission stated as follows:

> With regard to allocation of common costs, we agree with the positions set forth by Duquesne, DII and OSBA that the allocation of common costs should be based upon the number of meters in each group. It is our intention that the costs of the meter data management system, the information technology investments, the communications network and the support and management activities of the Plan, and other common costs be allocated to the customer classes based upon the extent to which these investments and services enable customers to participate in the smart meter program. Since the size of the network needed to reach the meters and the size of the system used to store meter data is most closely reflected by the number of meter locations that have to be connected, we find that common costs should be allocated based on the number of meters connected to the system.

> Even if we were to adopt the OCA's position that common costs should be allocated based on the conservation and load management benefits realized by the customers in each rate class, an allocation based on customer energy consumption and demand would not reflect those incremental benefits.

Petition of Duquesne Light Company for Approval of Smart Meter Technology Procurement and Installation Plan, Docket No. M-2009-2123948, Order entered May 11, 2010.

The Commission has previously denied OCA's attempts to require the Company to allocate smart meter technology costs to each class based upon estimated benefits and should deny OCA's cost allocation proposal in this proceeding as well.

C. RECOVERY OF BILL READY COSTS

In this proceeding, Duquesne Light proposed to recover its costs for implementing Bill Ready functionality through its SMC. Bill Ready is the billing process whereby an EDC provides the EGS with usage data and receives the total calculated EGSs charges and places those on the joint EDC/EGS bill to the customer. Rate Ready is the billing practice whereby the EDC receives the EGS's rate and the EDC calculates the EGS charges to be included on the joint EDC/EGS bill to customers. The Commission has directed EDCs to include the Bill Ready functionality as part of their smart meter plans because of the Commission's belief that Bill Ready capabilities facilitate TOU and Real Time pricing. *Smart Meter Procurement and Installation*, Docket No. M-2009-2092655, Final Order entered December 6, 2012, p. 10. Implementing the Bill Ready functionality is part of the Company's Smart Meter Plan, and the Company should be permitted to recover costs for implementing the Bill Ready functionality through its SMC.

OCA is arguing that Duquesne Light should recover costs for implementing the Bill Ready functionality from EGSs. This argument is contrary to the Commission's directive to include the Bill Ready functionality in an EDC's smart meter plan. EDCs do not recover smart

meter costs from EGSs but rather recover them from all customers under Act 129. In addition, the Company's witness Mr. Pfrommer explained as follows:

> ... no mechanism to recover Bill Ready costs from EGSs exists. Attempting to recover Bill Ready costs from EGSs is a complex process that would need to address many issues. EGSs enter and exit the market creating uncertainty for recovery. Some EGSs may not want Bill Ready functionality for product offerings, and therefore, would not be willing to pay for Bill Ready costs. The same logic applies to EGSs who do not want consolidated billing and choose to do their own billing.

(Duquesne Light St. No. 3-R, p. 5.)

OCA also argues that the Company has not performed a cost-benefit analysis to determine if there would be a positive benefit from offering Bill Ready functionality. (OCA St. No. 1-S, p. 8.) This is an irrelevant argument. The Commission directed EDCs to include Bill Ready functionality in their smart meter plans in the *Final Smart Meter Installation Order*. *See Final Smart Meter Installation Order,* p. 10. This is a requirement, and the Commission did not state that EDCs were required to perform a cost-benefit analysis before implementing the Bill Ready requirement.

D. INCREMENTAL AMI PROJECT COSTS

In its Direct Testimony, the OCA argued that the Company should bear the risk for any future cost overruns related to the implementation of the AMI project beyond the Company's contingency fund. (OCA St. No. 1, p. 17.) In Rebuttal Testimony, the Company's witness Mr. Pfrommer stated as follows:

> The AMI project is complex because of the system functionality, testing and operational requirements. It is important to recognize that it is very difficult to accurately forecast costs for such a significant project, especially when the project must be implemented over a number of years. The systems that are being implemented are new, complex IT systems that often require more work than anticipated to achieve the necessary functionality. In addition, costs may increase for other, unforeseen reasons. The

> AMI project is required by statute, and the Company should be permitted to recover all of its prudently incurred costs.

(Duquesne Light St. No. 3-R, pp. 3-4.)

In Surrebuttal, OCA revised its position and stated that if the Company requires additional funds to complete its project, the costs should be subject to a prudency review when requested. (OCA St. No. 1-S, p. 8.) In Rejoinder Testimony, the Company agreed with this position. (Duquesne Light St. No. 3-RJ, p. 3.) Therefore, the Company does not believe that there is any remaining controversy regarding this issue.

E. MISCELLANEOUS ISSUES

In this Section, Duquesne Light responds to the questions posed by the ALJ in the Post-Hearing Order and/or cites to the Section of this Brief that addresses the question in more detail.

1. How much of the reasonable and prudent costs of the installation of the OMS and ADMS relate to the voltage monitoring and outage communication capabilities and how much relate to providing the multitude of other functionalities?

As explained by Mr. Karcher in his Supplemental Direct Testimony and at the hearing, the Company must install the entire OMS and ADMS project, as proposed, to receive the full voltage monitoring and outage communication capabilities. (Duquesne Light St. No. 2C, p. 3; Tr. 91.) While the ADMS provides benefits to customers that go above and beyond the outage communication and voltage monitoring capabilities, these additional benefits do not require additional costs. Moreover, the Company could purchase additional systems for the ADMS that would enhance functionality, but has not done so and is not requesting to recover costs for these systems through the SMC. (Duquesne Light St. No. 2C, p. 3.)

In the *Smart Meter Implementation Order*, the Commission noted that smart meter technology can support more than the capability requirements set forth in Act 129. Therein, the Commission stated:

> The Commission believes that the smart meter capability requirements set out in Act 129 are minimal requirements. The Commission also recognizes that smart meter technology can support more than demand response and pricing programs. Smart meters have the ability to support maintenance and repair functions, theft detection, system security, consumer assistance programs, customer-generator net metering, and other programs that increase an EDC's efficiencies and reduce operating costs.

Smart Meter Implementation Order, p. 16.

The Commission recognized that smart meter technology would provide many benefits to EDCs and to customers. However, the Commission did not state that costs to implement smart meter technology should be separated between costs for smart meter technology and costs for ancillary functionalities or benefits.

In developing its ADMS project, the Company only included components that relate to outage communication, restoration and voltage monitoring. Any attempt to segregate the specific functionalities provided by the ADMS between smart meter functionalities and non-smart meter functionalities is inconsistent with the *Smart Meter Implementation Order*.

2. How much of those costs should be recovered through the SMC?

All of the ADMS costs are necessary for the Company to meet the outage communication and voltage monitoring capabilities set forth in the *Smart Meter Implementation Order*. As such, Duquesne Light should be permitted to recover its ADMS costs through the SMC. See Section VI(B)(2) of this Main Brief for additional discussion.

In addition, as stated in Section VII(E)(1) above, the Company's costs to implement ADMS should not be segregated by outage communication and voltage monitoring functionalities and other functionalities. This is inconsistent with the *Smart Meter Implementation Order*. In addition, it would be nearly impossible to attempt to segregate ADMS functionalities in this manner.

3. Does Duquesne Light need to have a full-blown OMS and ADMS to provide the voltage monitoring and outage communication capabilities, or could those be provided through other means, or a more scaled-back process?

Duquesne Light conducted the OMS Strategy Phase II Study which compared four different options for providing voltage monitoring and outage communication capabilities. The study compared (1) the full ADMS as estimated in the filing, (2) an OMS-only (limited-connected model), (3) an Outage Analysis with a Disconnected Model alternative, and (4) the current state. See CONFIDENTIAL JTK Exhibit 5. This study demonstrated that implementing a scaled-back version of the ADMS would not result in substantial cost reductions, but would result in a significant reduction in benefits. Duquesne Light St. No. 2C, pp. 7-9.

In addition, the Company notes that OCA's witness Ms. Sherwood testified that Duquesne Light should not pursue a scaled-back version of the ADMS because it would not allow the Company to achieve full outage communication and voltage monitoring functionality and would reduce the proposed benefits. (OCA St. No. 1-R (Supplemental), p. 2.)

Duquesne Light and the OCA are in agreement that a scaled-back version of the ADMS should not be implemented because it would not provide adequate functionality and would reduce customer benefits.

4. Without opining on the overall benefits of the systems, should rate payers be required to pay the costs of the OMS and ADMS on a full and current basis through the SMC, or are the non-smart meter functionality portions of those costs more appropriately recovered through base rates over a number of years? The other EDCs required to implement smart meters already had sophisticated OMS that were paid through base rates. Should Duquesne Light rate payers now be required to pay for such an upgrade outside of the normal base rate process just to add two additional functionalities to their smart meters?

As explained above, Duquesne Light believes it is appropriate to recover all OMS and ADMS costs in the SMC because these costs are necessary for the Company to provide outage

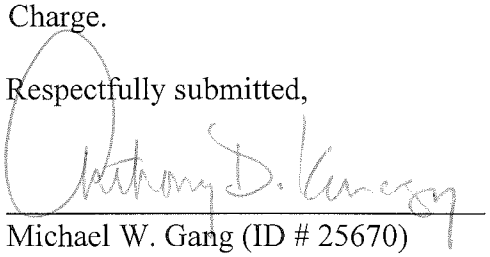
communication and voltage monitoring functionalities. In addition, the Company notes that OMS and ADMS capital costs will be recovered over a number of years in the SMC just as they would be recovered in base rates. At the Further Hearing, Mr. Pfrommer explained that ADMS capital costs will be recovered over a 10-year period. (Tr. 136.)

This question also notes that other EDCs recovered OMS costs in base rates. As explained in Section VI(B)(2) above, Duquesne Light provides outage communication functionality to customers through its OAS and recovered OAS costs through base rates. Duquesne Light's OAS met its service requirements under the Public Utility Code, and the *Smart Meter Implementation Order* imposed new, enhanced requirements. Duquesne Light should be permitted to recover its costs of complying with these enhanced smart meter requirements through the SMC. Moreover, Duquesne Light has demonstrated that implementing the ADMS will be cost-effective which meets the requirements of the *Smart Meter Implementation Order*.

VIII. CONCLUSION

For the foregoing reasons, Duquesne Light Company respectfully requests that Administrative Law Judge Katrina L. Dunderdale recommend approval of and that the Pennsylvania Public Utility Commission approve the Company's Smart Meter Plan without modification, including the Company's proposed ADMS project and to recover ADMS and Bill Ready costs through the Company's Smart Meter Charge.

Respectfully submitted,



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Dated: July 20, 2016

Counsel for Duquesne Light Company

Appendix A

PROPOSED FINDINGS OF FACT

Duquesne Light Company ("Duquesne Light" or the "Company") proposes the following findings of fact:

1. Act 129 of 2008, P.L. 1592, required EDCs to implement multiple programs to promote energy efficiency and conservation by electric customers and to file smart meter plans within 9 months after the effective date of the Act. 66 Pa. C.S. § 2807(f)(1).

2. On June 24, 2009, the Commission issued its *Implementation Order*, establishing the standards that EDCs must meet for providing smart meter technology to customers and providing guidance for meeting those standards. *Smart Meter Procurement and Installation*, Docket No. M-2009-2092655, *Implementation Order*, entered June 24, 2009. (Duquesne Light St. No. 2, p. 2.)

3. On May 11, 2010, the Commission entered an Order approving Duquesne Light's Initial Smart Meter Plan, with certain modifications. *Petition of Duquesne Light Company for Approval of Smart Meter Technology Procurement and Installation Plan*, Docket No. M-2009-2123948, Order entered May 11, 2010. (Duquesne Light St. No. 2, p. 2.)

4. On June 29, 2012, the Company filed a Petition for Approval of its Smart Meter Deployment Plan, which was approved, in part, and modified by the Commission's May 6, 2013 Opinion and Order. The Commission required Duquesne Light to make a compliance filing providing data supporting whether or not inclusion of communication of outages and restoration and voltage monitoring capabilities are cost effective. *Petition of Duquesne Light Company for Approval of Its Final Smart Meter Procurement and Installation Plan*, Docket No. M-2009-2123948, Order entered May 6, 2013. (Duquesne Light St. No. 2, p. 2.)

5. On August 2, 2013, Duquesne Light submitted its Compliance Filing. The Commission approved the Company's Compliance Filing by Order entered January 9, 2014 at Docket No. M-2009-2123948. (Duquesne Light St. No. 2, p. 3.)

6. On August 4, 2015, Duquesne Light filed its Petition to Modify its Smart Meter Plan along with its Amended Smart Meter Plan ("Amended SMP"). In the Amended SMP, the Company proposed, among other things, to install an Advanced Distribution Management System ("ADMS") to achieve enhanced outage communication, outage restoration and voltage monitoring capabilities and to recover Bill Ready costs through the Company's Smart Meter Charge ("SMC"). (Duquesne Light St. No. 2, pp. 4-5; Duquesne Light St. No. 3, pp. 5-6.)

7. The ADMS consists of two primary components – an Outage Management System ("OMS") and a Distribution Management System ("DMS"). (Duquesne Light St. No. 2, p. 1.)

8. The OMS combined with an electrical model will significantly enhance the Company's outage communication and restoration capability. With the OMS, the Company will generally be aware of customer outages before the customer calls the Company. (Duquesne Light St. No. 2, p. 8.)

9. The OMS component of the ADMS system will allow the Company to receive outage notifications (i.e., last gasps) from meters that go out of service and will allow pinging of an individual meter or group of meters for outage and restoration verification. The Company's existing system does not have this functionality, and the addition of an OMS is required to perform this functionality. (Duquesne Light St. No. 2, pp. 7-9.)

10. The Company anticipates that the OMS will reduce the average duration of power outages because distribution system operators will have a quicker awareness of the number and

location of customers affected by an outage and will be able to dispatch crews earlier to larger outages. (Duquesne Light St. No. 2, p. 7.)

11. The Company estimates that the average duration of outages will decrease by 5 minutes as a result of the OMS. A 5 minute reduction in the average outage duration produces significant customer cost savings by eliminating the impact of outages for industrial, commercial and residential customers. (Duquesne Light St. No. 2-R, p. 4.)

12. A study conducted by DNV GL, Duquesne Light's consultant, using Duquesne Light specific data, concluded that the OMS is estimated to create customer savings of approximately $6,000,000 per year due to a 5 minute reduction in outage time. (Duquesne Light St. No. 2-R, p. 4.)

13. The Interruption Cost Estimate calculator, developed for the U.S. Department of Energy, estimated the range of annual customer savings resulting from a reduction in average outage time by five minutes to be approximately $4 million in 2023, increasing to approximately $6 million in 2039. (Duquesne Light St. No. 2-RJ, pp. 2-3.)

14. The OMS is expected to produce savings of approximately $300,000 per year for the Company due to reduced phone calls at the Company's call center as a result of customer outreach notifications for reporting outages and restorations, and increased effectiveness during and after storm events. (Duquesne Light St. No. 2, p. 7.)

15. The OMS will create numerous and significant non-quantifiable benefits for the Company and its customers, including customer satisfaction, increased safety to the public and Duquesne Light employees, and enhanced operations in various Duquesne Light departments. (Duquesne Light St. No. 2, pp. 7-9.)

16. In conjunction with the Automatic Vehicle Load system, the OMS will allow Duquesne Light's Operations Center to view the location of each Duquesne Light vehicle on an OMS map that also shows outage locations and can make each crew aware and prepared for energization of nearby facilities. The crews that are closest to potential public hazards will be known and can be dispatched for quicker arrival time. (Duquesne Light St. No. 2, pp. 7-9.)

17. The OMS will enable Duquesne Light's Operations Center to manage outages from one application as opposed to several applications that are currently being used. The operators will be able to model outages at switching points and non-switching points by using line cuts and jumpers. The amount of paper used to manage outages will be reduced as the Company moves away from printed tickets. (Duquesne Light St. No. 2, pp. 7-9.)

18. The OMS will result in heightened efficiency for Field personnel by reducing incidences of being dispatched to locations where outages have already been restored; using mobile data units to update OMS with Estimated Times of Restoration ("ETRs"), arrival times, trouble cause, and describe any follow up work; and automatically generating reliability reports, requiring much less manual intervention during outage reporting. (Duquesne Light St. No. 2, pp. 7-9.)

19. During damage assessment, information will be able to be captured in OMS directly from the field to ensure that the repairing crews bring proper materials and equipment upon first arrival. (Duquesne Light St. No. 2, pp. 7-9.)

20. In the call center, Duquesne Light's customer service representatives will have access to an OMS dashboard which provides outage details to provide to customers and also provides historical outage information. (Duquesne Light St. No. 2, pp. 7-9.)

21. The OMS will reduce the number of calls a CSR takes due to automatic messaging. (Duquesne Light St. No. 2, pp. 7-9.)

22. Information on outages will be more readily available to the Media and Community Relations department using the OMS dashboard to give timely responses to media requests such as ETRs or whether crews have arrived on the scene. (Duquesne Light St. No. 2, pp. 7-9.)

23. The OMS will provide an enhanced outage map with outage counts and customer outage counts based on the electric model, and will provide timely data needed to report to requesting news agencies, local governments and the Commission. (Duquesne Light St. No. 2, pp. 7-9.)

24. The DMS component of the ADMS enhances the Company's voltage monitoring functions. A DMS performs distribution management functionality such as Volt/VAR optimization, transformer loading, fault location, and switching solutions. Use of real time voltage data from smart meters will enable a DMS to make real time adjustments to keep customer voltages in the proper range. (Duquesne Light St. No. 2, p. 12.)

25. The Volt/VAR optimization using real time smart meter data is expected to achieve an electric system benefit of $2 million per year in capacity demand reduction once the DMS is fully implemented and utilized. The capacity demand reduction will be passed on to customers through reduced power costs but will not be received directly by Duquesne Light. (Duquesne Light St. No. 2, p. 13.)

26. The transformer loading analysis using smart real time usage data is expected to achieve a benefit of $285,000 per year due to Asset Management savings and overtime savings once the DMS is fully implemented and utilized. (Duquesne Light St. No. 2, p. 13.)

27. The DMS will enhance fault location, which will reduce the time needed to find damage to the distribution system when the trouble location is otherwise unknown. (Duquesne Light St. No. 2, p. 13.)

28. The OCA has offered no estimate of cost savings related to OMS or DMS.

29. The OMS is expected to cost approximately $42-$51 million, and it is expected that benefits will exceed costs in approximately 7-9 years. (Duquesne Light St. No. 2-R, p. 2.)

30. The DMS is expected to cost approximately $3.8-$4.4 million, and it is expected that benefits will exceed costs in less than 2 years. (Duquesne Light St. No. 2-R, p. 2.)

31. The Company included software upgrades in its cost analysis for the ADMS and appropriately excluded the cost of hardware upgrades because they are generally expected to offset the hardware upgrades that would be needed to support the existing systems that are used today when analyzing outages. (Duquesne Light St. No. 2-R, p. 8.)

32. The incremental, ongoing costs to run the ADMS do not increase the estimated project costs above the estimated project benefits. (Duquesne Light St. No. 2-R, p. 8.)

33. Bill Ready is the billing process whereby an EDC provides the EGS with usage data and receives the total calculated EGSs' charges and places those on the joint EDC/EGS bill to the customer. (Duquesne Light St. No. 3-R, p. 5.)

34. The Company is implementing Bill Ready as part of its Smart Meter Plan. (Duquesne Light St. No. 3-R, p. 5.)

35. No mechanism to recover Bill Ready costs from EGSs exists. (Duquesne Light St. No. 3-R, p. 5.)

PROPOSED CONCLUSIONS OF LAW

Duquesne Light Company ("Duquesne Light" or the "Company") proposes the following conclusions of law:

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

2. Duquesne Light, as the Petitioner, has the burden of proof with respect to its proposals in this proceeding. 66 Pa. C.S. § 332(a).

3. A party that makes a proposal that is not included in a public utility's case bears the burden of proof as to its proposal. *See Pa. P.U.C. v. Metropolitan Edison Company, et al.*, Docket Nos. R-00061366, et al., 2007 Pa. PUC LEXIS 5 (January 11, 2007); *Joint Default Service Plan for Citizens' Electric Company of Lewisburg, PA and Wellsboro Electric Company for the Period of June 1, 2010 through May 31, 2013*, Docket Nos. P-2009-2110798, et al., 2010 WL 1259684 at *2, 19-20 (February 25, 2010).

4. The OCA has the burden of proof with respect to its proposals in this proceeding. 66 Pa. C.S. § 332(a).

5. If a party presents evidence found to be of greater weight than the other parties, then that party will have carried its burden of proof. *See Morrissey v. Commonwealth of Pennsylvania*, 424 Pa. 87, 225 A.2d 895 (1986); *Burleson v. Pa. P.U.C.*, 501 Pa. 433, 436, 641 A.2d 1234, 1236 (1983); *V.J.R. Bar Corp. v. P.L.C.B.*, 480 Pa. 322, 390 A.2d 163 (1978); *Milkie v. Pa. P.U.C.*, 768 A.2d 1217, 1220 (Pa. Cmwlth. 2001).

6. The Commission has directed EDCs to implement enhanced abilities to communicate outages and restorations and to monitor voltage as part of their Smart Meter Plans,

provided that adopting the technology is cost-effective. The ADMS project will enable the Company to meet the smart meter technology requirements set forth in the Commission's *Implementation Order* of communicating outages and restorations and monitoring voltage. *Smart Meter Procurement and Installation,* Docket No. M-2009-2092655, *Implementation Order*, entered June 24, 2009, p. 16, 30.

7. Duquesne Light has carried its burden of proof in demonstrating that the ADMS system is cost effective, and should be approved as part of its Amended SMP in accordance with the Commission's *Implementation Order*, entered June 24, 2009 at Docket No. M-2009-2092655.

8. Communicating outages and restorations and monitoring voltage are smart meter capabilities and are recoverable as smart meter technology costs. *Smart Meter Procurement and Installation,* Docket No. M-2009-2092655, *Implementation Order,* entered June 24, 2009, p. 16.

9. Act 129 of 2008 permits EDCs to fully recover the costs of providing smart meter technology, less operating and capital cost savings realized by the EDC. Act 129 permits EDCs to recover their allowable costs via a reconcilable surcharge consistent with 66 Pa. C.S. § 1307, or in its base rates. Act 129 gives EDCs the discretion to determine how to recover smart meter costs. *See* 66 Pa. C.S. § 2807(f)(7).

10. The Commission has expressly authorized Duquesne Light to recover its smart meter costs through reconcilable automatic adjustment clauses under Section 1307. *Petition of Duquesne Light Company for Approval of Smart Meter Technology Procurement and Installation Plan*, Docket No. M-2009-2123948, Order entered May 11, 2010, p. 14 ("*Duquesne Light 2010 Smart Meter Order*").

11. The OCA's proposal that ADMS costs should be recovered through base rates, rather than through the Company's SMC, is contrary to the Commission's *Duquesne Light 2010 Smart Meter Order*. The OCA has failed to carry its burden of proving that ADMS costs should be recovered through base rates.

12. The Commission has directed that smart meter costs are to be allocated to customers based on the number of meters, not based upon benefits to each class. *Petition of Duquesne Light Company for Approval of Smart Meter Technology Procurement and Installation Plan*, Docket No. M-2009-2123948, Order entered May 11, 2010, pp. 11-12.

13. The OCA's proposal that ADMS costs should be allocated to customer classes based on the benefits to each class, rather than the number of meters, is contrary to the Commission's *Duquesne Light 2010 Smart Meter Order*. The OCA has failed to carry its burden of proving that ADMS costs should be allocated to customer classes based on the benefits to each class.

14. The Commission has directed EDCs to include the Bill Ready functionality as part of their smart meter plans because of the Commission's belief that Bill Ready capabilities facilitate TOU and Real Time pricing. *Smart Meter Procurement and Installation*, Docket No. M-2009-2092655, Final Order entered December 6, 2012, p. 10.

15. The OCA's proposal that Bill Ready costs should be recovered from EGSs is contrary to the Commission's *Smart Meter Procurement and Installation* Final Order, entered December 6, 2012 at Docket No. M-2009-2092655. The OCA has failed to carry its burden of proving that Bill Ready costs should be recovered from EGSs.

ORDERING PARAGRAPHS

Duquesne Light Company ("Duquesne Light" or the "Company") proposes the following ordering paragraphs:

1. Duquesne Light Company's Amended Smart Meter Plan is approved without modification, including the Company's proposed ADMS project and to recover ADMS and Bill Ready costs through the Company's Smart Meter Charge.

2. The OCA's proposal to recover ADMS costs through base rates is denied.

3. The OCA's proposal to allocate smart meter costs based upon the benefits to each customer class is denied.

4. The OCA's proposal that Bill Ready costs should be recovered from EGSs is denied.