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April 20, 2009

VIA HAND DELIVERY

James J. McNulty, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120

Re: Smart Meter Procurement and Installation Plan
Docket No. M-2009-2092655

Dear Secretary McNulty:

Enclosed for filing are the original and fifteen copies of the comments of Duquesne Light Company in the above-referenced proceeding. Please do not hesitate to contact us if you have any questions.

Sincerely yours,

Gary A. Jack
Assistant General Counsel

Enclosures

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**Smart Meter Procurement and
Installation Plan**

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:

Docket No. M-2009-2092655

COMMENTS OF DUQUESNE LIGHT COMPANY

Pursuant to the Secretarial Letter and Draft Implementation Order issued on March 30, 2009 at this docket, Duquesne Light Company (“Duquesne”) herein submits its comments. Duquesne reserves the right to submit reply comments to other parties comments subsequent to this filing.

I. INTRODUCTION

On March 30, 2009, the Pennsylvania Public Utility Commission (“PUC” or “Commission”) circulated a Working Group Draft Implementation Order pursuant to Act 129 (“Draft Implementation Order” or “staff proposal”), establishing standards for smart meter technology and implementation plans which are to be filed on August 14, 2009 by Pennsylvania electric distribution companies with at least 100,000 customers.¹ The staff proposal sets out proposed standards each plan must meet and provides guidance on the procedures to be followed for submittal, review, and approval of all aspects of each smart meter plan. It also sets out proposed

¹ Secretarial Letter, Docket No. M-2009-2092655 at 1

minimum smart meter capabilities, guidance on deployment of smart meters and cost recovery.² Duquesne submits the following comments on the staff draft proposal.

II. COMMENTS

Enabling smart meter technology is a complex initiative. Duquesne recognizes the positive effort and strides the Commission has taken to address these many issues and has assembled this draft proposal. Duquesne appreciates the opportunity to comment on this document and offers the following suggestions to further enhance the smart meter initiative. The comments are made in the order of the topics presented in the Working Group Draft attached to the Secretarial Letter dated March 30, 2009 in this proceeding.

A. Plan Approval Process

Duquesne agrees with the plan approval process.

B. Smart Meter Deployment

1. Network Development and Installation Grace Period

Duquesne thanks the Commission for recognizing the enormity of the infrastructure and components that make the meter and supporting technology “Smart” and appreciates the network and installation grace period of up to 18 months following approval of the plan. Duquesne interprets this grace period as the time to allow for EDCs to proceed with the development phase of the network plan which includes a thorough analysis of communications, networks, hardware, software, operating systems, meters, components vendors and total infrastructure, all of which is the normal prerequisite for vendor selection, cost analysis, scheduling, board presentation, board approval, and finally procurement of funding. Duquesne believes that 18 months is an extremely aggressive time frame to complete the sheer volume of tasks above but will work aggressively to

² *Id.*

complete the development phase of the plan in 18 months and will address the subsequent deployment and full system implementation timeframes in the August 14th filing.

During the grace period Duquesne will provide interval meters upon customer request and provide direct access to customer meter data to the customer or authorized third party per our tariff.

2. Customer Request – It is important to recognize that Duquesne implemented an automatic metering reading (AMR) system and has had it in place for several years. This puts Duquesne in a unique position. Our infrastructure is set up to automatically bring back and update the meter reads. Duquesne no longer has a meter reading workforce to procure reads from a different meter type, i.e. “smart meter,” until all of the communications and systems (the entire infrastructure) have been fully deployed. The only way to read these new “smart meters”, without having deployed the entire infrastructure, would be for Duquesne to hire meter readers, purchase more trucks, and hire administrative office workers to manually enter the meter reads. The incremental cost for the customer would be astronomical. Duquesne will include in its plan a solution to be used between the approval of the plan and the system-wide deployment that will adequately address the roll-out of interval meters upon customer request/new construction.
3. New Construction – Duquesne believes that new construction should be handled the same as the customer request. The customer’s preference should determine the meter installation between the end of the grace period and system-wide deployment.
4. System-Wide Deployment – The proposal for system-wide deployment is acceptable.

C. Smart Meter Capabilities

Duquesne agrees that smart meter technology, including all system components, should provide customers and third parties with direct access to and use of consumption and price information meeting the following requirements: (1) direct information on their hourly consumption, (2) Time of Use (TOU) and Real Time (RT) price programs, and (3) support automatic control of electricity by the customer, EDC or third party by sending the pulse data or interval data to downstream systems. It is Duquesne's recommendation that consumption information should be made available through the meter while pricing and other information should be made available through other mediums.

Duquesne supports direct access to and use of price and consumption information. Duquesne supports providing real time data that can be directly accessed and controlled by the customer or third party by providing kyz pulse data and other communication capabilities to downstream devices. For security reasons, Duquesne does not support direct access to its meter.

Duquesne respectfully requests clarification on the following capabilities listed on page 9:

- #2 Duquesne supports remote disconnect and reconnection for single phase, self-contained, meter class 200 or less meters. However, before committing to remote disconnect/reconnect, revisions to Chapter 56 should be considered;
- #3 Duquesne supports hourly data and real time pulse data, but requests clarification on the requirement for 15-minute interval data specified in #3 as most pricing is hourly-based;

- #5 Duquesne supports on board meter storage of meter data that complies with nationally recognized non-proprietary standards without specifying one particular standard;
- #8 Duquesne agrees that technology should be evaluated to enable flexibility to accommodate future upgrades. While some of the capabilities listed on page 9 can be upgraded as technology advances and/or become economically feasible, others may be impossible or extremely costly to implement without complete meter and system replacement. Based on experience, however, Duquesne believes it will be difficult and economically infeasible to implement a smart meter network now to accommodate unknown technical advances in the future.

D. Access to Smart Meters and Data

Duquesne agrees that the customer or third parties should have access to real time meter output/pulse data. This can be accomplished through providing data to downstream devices. Duquesne will provide consumption data on a website within two days of consumption. Duquesne recommends that no party, other than the utility, should have access to open, and/or modify, program, control or adjust any meter to ensure protecting the customer, the utility, and the grid.

Duquesne complies with the current EDI standards for 867 IU. However, for 867 HIU, Duquesne would need to implement system changes as historical requests are managed manually. Further, if a customer/third party wants meter specific data on the 867 IU, Duquesne would have to change the programs as the 867 IU is distributed at the account level per the EDEWG standards. Duquesne is committed to working with the EDEWG group. However,

Duquesne suggests that, as technology evolves and depending on the data the customer and/or their third party require, EDI may not be the best medium to disseminate the data. It's also important to note, as with the addition of smart meter capabilities, providing further capabilities and requirements for access to smart meter data, will increase the cost and scope of the EDC's plan.

E. Cost Recovery

Duquesne supports the overall plan to allow EDCs to recover all reasonable and prudent costs on a full and current basis required to enable the use of smart meter technology incurred after November 14, 2008. Duquesne suggests a few items be addressed now rather than in each EDC's procurement and implementation plan to ensure consistency throughout the EDCs filings.

Duquesne agrees that operating and capital cost savings, if any, should be used to offset the full cost to enable smart meter technology. It is important to recognize, however, that some EDCs have implemented AMR systems or partial deployment of smart meters prior to November 14, 2008. These EDC's may not realize the anticipated level of capital or cost savings compared to others who have not implemented AMR or smart meters. An adjustment for such initiatives should be included in the evaluation of the EDC's smart meter plan.

Duquesne also recommends the Commission address the issue of the remaining life of existing meters and other AMR system components that are replaced by the smart meter mandate. EDC's may have material value in the un-depreciated meter asset value (i.e., present system along with meters and equipment). Mandates to enable smart meters, especially those EDC's who may have implemented a form of smart meters, could cause risk of recovery of these assets. Duquesne suggests the Commission consider an adjustment to the capital investment in

smart meters for un-depreciated abandoned assets to recover those stranded costs over the average remaining life of the existing meters. Duquesne will attempt to salvage those meters and will incorporate any salvage value available for existing meters.

1. Allocation of Costs to Customer Classes

Duquesne agrees with the proposal of cost recovery among customer classes as described.

III. CONCLUSION

Duquesne thanks the Commission for this opportunity to comment on the proposed Smart Meter Procurement and Installation plans. Duquesne looks forward to working with the Commission, EDC's, customers, and third parties to enable the utilization of smart meter technology in the Commonwealth.

Dated this 20th day of April, 2009.

Respectfully submitted,

Duquesne Light Company

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The Commission included the following questions as Attachment A to its March 30, 2009 Secretarial Letter. Duquesne submits the following responses in reply to those questions.

ATTACHMENT A

Additional Questions Related to the Commission's Smart Meter Procurement and Installation Program at Docket No. M-2009-2092655

1. Overall Adaptability:

- a. Should there be some common “plug and play” format and/or hardware on the meter to accommodate future technology changes? If so, provide suggested standards for this capability.

Response: No. In general smart meter system vendors have a different and proprietary physical layer. There is a great deal of misunderstanding about standards. Standards do not equal interoperability and interoperability does not mean that everything has to use the same standard. Functionality and capabilities are evolving and under continued development. Utilities should have the flexibility to meet the requirements of the statute.

2. Home Area Network (HAN) Protocols:

- a. What HAN protocol may be appropriate from the meter to the customer? What HAN open protocols are most readily available and accessible to customers? Should the Commission standardize a protocol? Should there be more than one protocol?

Response: HAN functionality and capabilities are evolving and under continued development. It is critical that utilities take time to analyze this as there are many important questions that need to be answered first. Should utilities be constrained by building the HAN technology into the meter from the outset or should the utility use the “native radio” communications of the smart meter system to communicate with a HAN technology selected later. For example, utilities could select meter vendors who support the U-SNAP concept (www.U-snap.org) which allows them to select a HAN communication technology later. There are over 14 home area network solutions, open or otherwise, being promoted by various industry groups including radio solutions such as Zigbee, Z-Wave, Bluetooth, low power WiFi and power line solutions like HomePlug. Utilities should have the flexibility to meet the requirements of the statute.

- b. Should smart meter information be available through a HAN or an internet browser? If through an internet browser, should this come from a website, or directly from the meter, or both? Through which browsers should this be made available?

Response: Duquesne believes that consumption information can be made available to either the HAN or an internet browser/web portal. Consumption data can come directly from the meter to the HAN or consumption data could be presented through the Web. Once again utilities should have the flexibility to meet the requirements of the statute.

- c. Should there be other interconnectivity between the meter and other equipment in the home? If so, how much? [read capability vs. two way communication]

Response: The interconnectivity between the meter and the HAN is to provide consumption data. Connectivity between the HAN and other devices in the home should reside with third parties.

3. Utility Usage Data and Meter Access:

- a. What usage data should the utility acquire through the smart metering system?

Response: Hourly usage data. Duquesne believes that hourly data strikes the right balance between giving the customer and third party users enough granularity to understand usage patterns and control usage and the burdens of accurately processing a very large amount of data.

- b. Should the Commission establish minimum standards on how often the utility should acquire the usage data from the meter?

Response: No. Utilities need flexibility due to the enormity of data required and considering the time it takes to access a meter, backhaul and edit the data. Duquesne would support daily retrieval of hourly usage data.

- c. Should the Commission establish minimum data intervals? If so, what should that be? [Examples: 15 minute, 30 minute, 1 hr.]

Response: 1 hour. Duquesne believes that hourly data strikes the right balance between giving the customer and third party users enough granularity to understand usage patterns and control usage and the burdens of accurately processing a very large amount of data.

- d. What minimum timeframe should the Commission establish on when usage data is made available by the Meter Data Service Provider (MDSP, usually the EDC) to the EDC, CSPs/EGSs and customers, respectively?

Response: Due to the enormity of data required and considering the time it takes to access a meter, backhaul and edit the data, Duquesne proposes usage data be made available two days following the day of use.

- e. Should this usage data be validated first?

Response: Yes.

- f. Should the Commission establish a common Validation, Error Detection, and Editing (VEE) protocol? If so, what should that be?

Response: The Commission already requires the EDC to meet stringent meter standards. No further standards should be applied.

- g. Should the Commission establish a maximum period in which the MDSP should complete the VEE analysis? If so, what should that maximum period be?

Response: No.

- h. How should customers be provided direct access to usage information? [Examples, website access, HAN to an in-home display or other devices]

Response: Website, HAN to an in-home display, or PDRs.

- i. Should the Commission establish standard protocols and communication medium for providing direct access to usage information from the meter to the HAN? If so, what should those be?

Response: Meter and HAN functionality and capabilities are evolving and under continued development. Duquesne suggests that rather than picking standards and protocols this early in the cycle, the Commission set some minimum functionality standards for the system to achieve, i.e. decide what the customer should be able to see and when they should be able to see it. Then let the utility and its vendors accomplish the task of meeting those standard requirements. Utilities should have the flexibility to meet the requirements of the statute.

- j. How should this Commission provide direct access to the meter to third parties? What policies or regulations should this Commission promulgate to ensure that these third parties are provided timely access under reasonable terms and conditions to the customer metering facilities?

Response: The Commission should promulgate their interpretation of timely access (when) and specify (what) data is required. Duquesne suggests if the customer or third parties require real time data, that could be accomplished through passing kyz and time pulses to a downstream device, or streaming data from the front end of the MDM before the VEE, or providing data to the HAN or other devices, otherwise consumption and price data with a short lag could be presented on a Website.

- k. What communications, software or hardware can facilitate this direct access to the meter for customers and their third parties, and should the Commission establish requirements and or standards to facilitate this access?

Response: Duquesne suggests that rather than picking communications, software and hardware standards and protocols, that the Commission set some minimum functionality standards. Direct access to real time data by third parties should be allowed but direct access to the meter should not be allowed because of CIP requirements, customer safety and reliability, utility and grid security and reliability.

1. What electronic access to customer meter data do CSPs and EGSs need from EDCs that they currently do not have? Provide specific examples where these entities do not have such access currently, and provide examples, if available, of electronic transactions that can be adopted by this Commission to comply with this statutory requirement.

Response: Duquesne cannot identify third party needs. Duquesne is aware that third parties have requested, and we have provided, kyz pulse and time data and hourly interval data in a timely manner.

4. Meter to EDC Communications:

- a. Should the Commission standardize public protocols from the meter to the grid?

Response: Duquesne suggests that, rather than picking communications standards and protocols this early in the cycle, the Commission set some minimum functionality standards for the system to achieve. It is critical that we do not jeopardize the security and reliability of the grid. We must protect the customer, the utility and the entire electric grid.

- b. If certain protocols are not effective in certain geographic or rural regions, should the Commission adopt a list of protocols that can accommodate all of Pennsylvania customer's communication requirements? If so, what additional protocols should be adopted?

Response: No. Each EDC has unique geographic characteristics that should be addressed in their individual plan.

- c. What bidirectional communication mediums [Example: broadband over powerline, cellular, phone lines, RF] are least cost? What are the pros and cons of each?

Response: Since Duquesne currently utilizes phone lines, cellular and RF, we can speak to those mediums. RF is the least cost but runs on an unlicensed bandwidth and, with our current components; it is not adequate to procure bill quality interval reads. Cellular is more expensive than RF but it is more reliable than the unlicensed band/RF for interval reads, and phone lines are the most expensive yet most reliable. However part of developing the EDC plans for smart meters will be a thorough analysis of each medium and components and they each will be properly addressed at that time.

5. Access to Price Information:

- a. How should customers be provided direct access to pricing information? [Examples, website access, HAN to an in-home display or other devices]

Response: Website or HAN.

- b. Should the Commission require the meter to communicate price information, or should this information be provided over another communication medium?

Response: No. Price information should not be communicated through the meter. There are other mediums that are more conducive to disseminating the pricing information.

- c. What pricing information should the Commission require to be provided? [Examples, RTP, Day ahead prices, default service rates]

Response: EDCs should be obligated to present their tariff prices. Market prices will be accessed from the applicable RTO.

- d. Should the Commission establish minimum standards on how frequently price information should be provided? If so, what should be the minimum standard?

Response: No. The frequency should be determined by the tariff rate the customer is utilizing.

- e. Should the Commission establish standard formats for presentation of price information? If so, suggest a format.

Response: No. A standard format is not necessary, however guidelines for the minimum data to be displayed (i.e. tariff price) would be appropriate.

6. Automatic Control:

- a. How can smart meters “effectively support” automatic control of customer’s electricity consumption by customers, utilities and the customer’s third party?

Response: By utilizing the data sent to downstream devices i.e. HAN or PDR the customer/third party can control their usage. In home consumption can be controlled by the customer and the third parties while the power from the utility to the meter should be controlled by the utility.

- b. How is the smart metering system engaged in the initiation, maintenance, relinquishment, and verification of the automatic control of customer consumption?

Response: By providing the data sent to downstream devices, i.e. HAN or PDR, the customer/third party can control the usage through a/c control, appliance control, etc.

- c. What smart metering protocols and communication mediums are needed to implement these automated controls? Should the Commission establish standard protocols and standards for this purpose?

Response: Duquesne suggests that rather than setting communications, software and hardware standards and protocols, that the Commission set some minimum functionality standards. Functionality and capabilities are evolving and under continued development. Utilities should have the flexibility to meet the requirements of the statute

- d. What energy consuming customer assets can be controlled by these smart meter systems for each of the customer segments, and how is control of these assets impacted by the choice of communication medium and protocol?

Response: Presently, thermostats are typically controlled by smart meter systems. However, as the technology is evolving, it is premature for Duquesne to comment on customer assets that could be controlled for each customer segment.

7. Smart Metering Acceleration:

- a. To the extent permissible under the law, should the Commission provide an incentive to EDCs to accelerate their smart meter deployment by giving a credit towards the required Energy Efficiency and Conservation Goals? If so, how should such credit be determined?

Response: Smart meters and their backend systems can provide the data to allow customers to decide if they should change their behavior. EDC's may be incentivized to accelerate smart meter deployment because the technology will enable a larger population to participate. However, EDC's have no control over behavioral change, especially those customers who procure their supply from an EGS. Incentive returns on the investment through a higher ROE should be considered as these types of incentives may be more meaningful to the EDC.

8. Cost Recovery:

- a. Should the Commission establish a standard format for providing the various components of the capital and operating costs and benefits of these smart metering systems to facilitate the comparison of the EDC plans? If so, please provide a suggested standard format.

Response: Yes, it may be beneficial to compile a list of cost elements for interested parties and stakeholders. Content more than format should drive the list, including but not limited to such up-front implementation costs as:

- Meters
- Telecommunications
- Mesh technology
- Network licensing

- System applications, data bases and operating system and interface changes (e.g. billing, new rate options, service orders, mobile data management, purchasing, inventory)
- Meter Data Management options
- System interfaces (e.g. billing, new rate options for time of use (TOU) and real time (RT) pricing, service, orders, mobile data management, purchasing, inventory)
- Vendor evaluation and cost analysis (e.g. site visits, equipment testing)
- Cost of deployment strategies (i.e. surgically implement or geographical)
- System testing
- Web development
- Security infrastructure
- Compliance with new Critical Infrastructure Protection (CIP) requirements
- Installation issues (i.e. address costs that are the customer's side of meter)
- Training (e.g. customers, installers, call center, meter reading, field technicians)

Annual operating costs would include those listed on page 12 of the Secretarial letter including but not limited to:

- Annual carrying costs for operation, depreciation, return and taxes
- Administrative costs for monitoring and reporting
- Recurring testing, upgrades, maintenance and training