

DUQUESNE LIGHT COMPANY
Smart Meter Procurement and
Installation Plan

Docket No. M-2009-2123948

August 14, 2009



**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Duquesne Light Company	:	
Smart Meter Procurement and	:	Docket No. M-2009-2123948
Installation Program	:	

**PETITION OF DUQUESNE LIGHT COMPANY FOR APPROVAL OF SMART METER
PROCUREMENT AND INSTALLATION PLAN**

TO THE PENNSYLVANIA PUBLIC UTILITY COMMISSION:

Duquesne Light Company (“Duquesne” or “Duquesne Light” or “the Company”) hereby files this Petition, pursuant to 66 Pa.C.S. § 2807(f), seeking approval of its Smart Meter Procurement and Installation Plan. Duquesne is also seeking authorization to recover the reasonable and prudently incurred costs of this Plan. In support of this Petition, Duquesne states as follows:

1. Duquesne is a public utility as that term is defined under Section 102 of the Public Utility Code, 66 Pa.C.S. § 102. Duquesne is also an electric distribution company (“EDC”) as that term is defined under the Restructuring Act, Section 2803 of the Public Utility Code, 66 Pa.C.S. § 2803, and a default service provider (“DSP”) per Section 2803 of the Public Utility Code. Id. Duquesne is certified by the Pennsylvania Public Utility Commission (“Commission”) and provides electric service to approximately 579,000 customers in the City of Pittsburgh, and in Allegheny and Beaver Counties, Pennsylvania.

Act 129

2. On October 15, 2008, Governor Rendell signed into law Act 129 of 2008, which took effect on November 14, 2008 and, *inter alia*, mandated a smart meter procurement and installation program. See 66 Pa.C.S. § 2807(f), et seq. (“Act 129”).
3. Act 129 provides, among other things, that each Pennsylvania EDC with at least 100,000 customers is required to file a smart meter technology procurement and installation plan with the Commission for approval within nine months after the effective date of Act 129, or by August 14, 2009. Id. at 2807(f)(1),(6).
4. Under Act 129, smart meter technology is defined as “technology, including metering technology and network communications technology capable of bidirectional communication, that records electricity usage on at least an hourly basis, including related electric distribution system upgrades to enable the technology.” Id. at 2807(g). Act 129 specifically sets forth that the technology identified in an EDC’s plan “shall provide customers with direct access to and use of price and consumption information. The technology shall also: (1) [d]irectly provide customers with information on their hourly consumption[;] (2) [e]nable time-of-use rates and real-time price programs[;] [and] (3) [e]ffectively support the automatic control of the customer’s electricity consumption by [either] (i) the customer; (ii) the customer’s utility; or (iii) a third party engaged by the customer or the customer’s utility.” Id.
5. According to Act 129, an EDC is required to describe in its Plan the smart meter technologies that it will furnish: (1) upon request from a customer that agrees to pay the cost of the smart meter at the time of the request; (2) in new building construction; and (3) in accordance with a depreciation schedule not to exceed 15 years. Id. at

2807(f)(2). Further, an EDC must “make available direct meter access and electronic access to customer meter data to third parties, including EGSs and conservation and load management services.” *Id.* at 2807(f)(3). Finally, the Act defines cost-recovery methods, and provides that an EDC may “recover reasonable and prudent costs of providing smart meter technology [in new building construction and accordance with a depreciation schedule not to exceed 15 years], as determined by the Commission”. *Id.* at 2807(7).

Implementation Order

6. The Commission adopted its Implementation Order on June 18, 2009, outlining its guidance for an EDC’s Smart Meter Procurement and Installation program pursuant to Act 129. The Implementation Order establishes the standards that 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. The Implementation Order also establishes minimum smart meter capability and guidance on the Company’s deployment of smart meters. Additionally, upon the recognition that it will take time to fully develop and install the entire smart meter network, the Commission granted a grace period of 30 months following plan approval (“Grace Period”).

Duquesne’s Current Status

7. Many of Duquesne’s 608,000 meters currently deployed are already considered “smart” in many respects. Duquesne has already implemented an automated meter reading (“AMR”) system in 1996-1998. The meters currently obtain 15 minute interval reads on all Large C&I customers with demand over 300 kW. Further, Duquesne obtains daily reads on almost 90% of its Residential and Small C&I

customers. Duquesne's Smart Meter Procurement and Installation Plan ("SMPI Plan" or "Plan") builds upon the advances already undertaken in Duquesne's territory to implement a comprehensive SMPI Plan resulting in a network with two-way communications and enhanced Advanced Metering Infrastructure.

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

Duquesne's Smart Meter Procurement and Installation Plan

9. The Plan sets out the further analysis, development, procurement and implementation of the smart meters and their infrastructure. Due to the enormity of tasks and cost of such a project, not all of the analysis, development and planning is complete at the time of this filing and much further work is needed so that the appropriate overall Plan for post-Grace Period is developed that is the most beneficial and cost effective to Duquesne customers. Much of the information and costs that are contemplated by the Implementation Order will not be available until well into the 30 month Grace Period. Further information will be gathered and analyzed and thereafter the overall Plan further refined. These steps are not only warranted but helpful to our customers' goal of achieving the most efficient and cost effective overall Plan. Duquesne will

file a supplemental filing(s) at a later date (“Supplemental Filing”) containing future analysis, results and conclusions.

10. The details of Duquesne Light’s Plan are attached hereto as Exhibit A. Pursuant to this Petition, Duquesne hereby seeks authority from the Commission to proceed with the framework set forth as detailed below and in the adjoining testimony and exhibits.
11. Among the information that Duquesne must develop during the Grace Period are estimates of the costs to install Smart Meters meeting the minimum statutory meter capability requirements and the individual cost, less any savings, of deploying and operating a system which meets the extended meter technology capabilities set forth at page 30 of the Commission’s Implementation Order. As provided for in the Implementation Order, Duquesne hereby petitions the Commission for permission to file such cost estimates on or before July 1, 2010. At that time, Duquesne will likely request that the Commission approve the specific capabilities for its Smart Meters to the extent it has not previously ruled. Following Commission approval, Duquesne will be able to finalize its program design and vendor selection process within its proposed milestone dates. The last Supplemental Filing will be presented to the Commission on or before December 31, 2011, detailing the selected system, finalized installation schedule and costs for full Smart Meter Deployment.
12. As explained in greater detail below and in attached testimony, Duquesne Light also requests that the Commission approve at this time, to become effective April 1, 2010, a Smart Meter Charge (“SMC”). The SMC will initially recover on a current and prospective basis the costs incurred under the SMPI Plan prior to and during the

Grace Period. The SMC will also provide for recovery of costs incurred as Smart Meters are installed following the Grace Period.

13. As noted above, the Company has already begun to incur costs to prepare and undertake its SMPI Plan. Duquesne hereby petitions the Commission for recovery of those costs. Pursuant to the Implementation Order, all costs associated with smart meters after November 14, 2008, are eligible for recovery. To the extent the Commission should approve those costs for deferred recovery, it hereby requests the same. Duquesne requests authority to recover such incurred/deferred costs over the first year of operation of the SMC, subject to review and audit.
14. Among the costs that are currently being incurred to implement Duquesne's SMPI plan is the acquisition and installation of new customer care and data management systems within its Oracle portfolio. These systems are necessary in order for Duquesne to comply with the requirement to provide interval data and direct access of such data to third parties upon customer request. These systems are also needed to support expansion of Company Time of Use and Real Time Rate options. It is emphasized that this upgrade to the Company's existing Oracle system portfolio will not affect the later choice of meter capabilities or vendors.

Assessments During Grace Period

15. In the Implementation Order, the Commission sets forth several key milestones that must be met during the Grace Period: assessment of needs and technological solutions; selection of technologies and vendors; establish network designs and plans for training personnel; establish plans for installation, testing, and rollout of support equipment and software; install, test, and rollout equipment and software; establish

plans to design, test and certify EDI transaction capability; and establish plans for installation of meters consistent with the rollout requirements. Implementation Order, p. 7-8. Duquesne will undertake each of these tasks during the Grace Period. The results of this analysis will be disclosed and analyzed in Duquesne's supplemental filing. However, Duquesne requests Commission approval herein for its planned course of action with respect to the totality of these items.

- **Assessment of needs and technological solutions:** Duquesne's strategy to assess its needs and technological solutions for its SMPI will necessarily be a large initial undertaking, including analysis of communications mediums, networks, hardware and software, meters, components, vendors, security concerns, disaster recovery and business continuity concerns, scheduling the deployment of each component of the SMPI Plan, and financial and cost analysis.
- **Selection of technologies and vendors:** Completion of this milestone will necessarily follow the assessment in bullet 1 above. Once the needs and technologies are identified and analyzed, the Company will be able to effectively select the final technology and pursue engaging cost-effective vendors. It is Duquesne's intent to present this to the Commission.
- **Establishment of network designs:** Upon selection of the technologies and vendors, a comprehensive design will be created that allows for the implementation of Smart Meters Territory-Wide in an incremental planned manner, with the capability to add increasing functionality to fully utilize

Smart Meter technology in the future. Duquesne will work with the network, meter, and data collection vendors to establish the network architecture, integrate the network design with the existing meter network to allow for an incremental roll out and design the target network for complete roll out of Smart Meters.

- **Establishment of plans for training personnel:** It is critical to train all personnel in each area of the company that will be affected by the Smart Meter Implementation. A comprehensive training plan that focuses on the impact, operations and maintenance of Smart Meter infrastructure will be developed and executed. All affected personnel will be trained.
- **Establishment of plans for installation, testing and rollout of support equipment and software:** The successful implementation of the Smart Meter Infrastructure is the most fundamental milestone of the project. In order to succeed with the roll out, a comprehensive test environment will be created. Without such an environment the Smart Meters cannot be rolled out and training will not be effective. The final key to the implementation is a well understood support process that is documented. This will allow for the seamless roll out of Smart Meters system-wide. The major components of this milestone are creation of a test, and finally a production environment for hardware, software and data communications with a well defined, documented support process.

- **Establishment of plans to design, test and certify EDI transaction, Web Access and Direct Access capability:** Multiple means of communications with the customer, EGS, CSP and other customer authorized third parties will be addressed. EDI transactions will be created to meet the requirements of the order and to meet the needs of customers and other stakeholders. Duquesne will work through the Electronic Data Exchange Working Group (EDEWG) to develop the appropriate EDI transactions and will adhere to the proper standards. As with the development of EDI transactions, Web Access and Direct Access applications will be analyzed and created to provide consumption and price information to the customer and other stakeholders. The design, testing, and certification of EDI transactions, Web and Direct Access applications is a key milestone for the project.
- **Establishment of plans for installation of meters consistent with the rollout requirements:** Installation Plans will be developed to begin the roll out of Smart Meters at the end of the grace period in 2012, or perhaps sooner, and continue through territory-wide implementation. These plans support a controlled roll out of 8,000 Smart Meters initially, and the subsequent rollout of 600,000 Smart Meters system-wide by year end 2018. With the initial rollout of 8,000 meters in support of customer requests and new construction, Duquesne will also analyze the appropriate systems and technologies to further utilize the capabilities and functionality of the new Smart Meters and components (i.e. outage and restoration, Home and Distribution networks etc.).

Consumer Education

16. Communication will be a critical component for those customers who choose to take advantage of specialized time-of-day and/or seasonal rates as part of the rollout of smart meters throughout Pennsylvania.
17. Duquesne recognizes that outside communication is crucial to the success of smart meter rollout. In the past, Duquesne Light has, with PUC oversight, successfully used a variety of communications to share important information with its customers about the company's programs relating to other major statewide energy initiatives, including customer choice, the elimination of rate caps, several subsequent default service plans and market-based pricing for mid-sized commercial and industrial customers. Those communication vehicles include our monthly *ServiceLine* newsletter for residential and small commercial customers, our website, media placements, our speakers team, a variety of direct mail, and one-on-one interaction with customer service representatives and other company personnel. These proven vehicles will serve as the foundation for our communications effort regarding smart meters and will be further analyzed as part of the grace period tasks, and will be incorporated into future filings. As part of its Plan, Duquesne intends to engage in an aggressive consumer education campaign.

Timeline During Grace Period

18. Duquesne proposes for approval the following timeline for the Grace Period. The dates are approximate and predicted dates can and may change without materially affecting the overall plan. The milestones will produce necessary detail and evaluation to finalize the post-Grace Period Plan, including assessment of

technological solutions, selection of a vendor, establishment of network designs, and other installations.

- **August 14, 2009** – Filing of Smart Meter Procurement and Installation Plan.
- **April 1, 2010** – Assume a Duquesne Light SMPI Plan approved.
- **July 1, 2010** – File breakdown of incremental costs and savings for deployment and operating costs for functionality and configuration of additional requirements. Duquesne intends to submit this to the Commission for approval.
- **December 31, 2010** – Duquesne intends to complete its assessment of needs and technological solutions and will have selected the technology and vendors that it will utilize for its Smart Meter Procurement and Installation Plan. Annual Report filed March 1 of each year.
- **March 31, 2011** – Network designs created.
- **June 30, 2011** – Plans to design, test, and certify EDI transaction, Web and Direct Access capabilities consistent with the Implementation Order are in place.
- **September 30, 2011** – Plans for installation, testing and rollout of support equipment and software are in place.
- **November 1, 2011** – Plans for installation of meters and plans for training of personnel are in place.
- **December 31, 2011** – On or about this timeframe, Duquesne will make a supplemental filing including an updated Smart Meter Procurement and Installation Plan, with added details and costs.
- **July 1, 2012** – Duquesne's Smart Meter Procurement and Installation Plan anticipated to be approved by the Commission.

- **October 1, 2012** – Duquesne completes its installation of network and base software. End of the Grace Period.

Duquesne hereby requests approval for the above timeline.

Customer Requests for Smart Meters During the Grace Period

19. While there is no requirement that Duquesne install the smart meters with the full functionality that it will use as part of its SMPI Plan prior to expiration of the Grace Period, Duquesne will install interval meters upon customer request and payment pursuant to the proposed revised Rule 14.2 to the Retail Tariff Electric PA PUC No. 24.
20. **Additional Smart Meter Capabilities:** Duquesne is aware of the difference between the Act 129 smart meter capabilities and the Commission's proposed smart meter capabilities. Duquesne understands this issue is being considered by the Commission and will conform its plan to the Commission's decision.
21. **Direct Access to Smart Meters and Data:** Duquesne is aware of the Commission's guidance on direct access as provided in the Implementation Order. Duquesne will conform its Plan to these requirements.

Communication with PUC from Duquesne During Grace Period

22. Duquesne will file its annual "Smart Meter Progress Report" to update the Commission on the status of its progress, including the number of customers who received meters in the prior year, the estimated number of customers scheduled to receive meters in the coming year, and all costs associated with the meter plan during the previous year. Duquesne will also file its incremental cost information on or before July 1, 2010. Duquesne welcomes input from Staff, parties and others as these

programs are implemented and carried out. It is Duquesne's intent to file for approval with the Commission during the Grace Period for major decision matters such as recommended design and expected costs.

Duquesne's Plan After the Grace Period

23. Given that Duquesne is in the process of assessing the company, customer, and technological needs, network designs, and other matters, it does not have a fully comprehensive plan at this time for after the Grace Period. To propose a Plan for post-Grace Period prior to necessary evolution would result in a Plan that would not be cost effective or in the best interest of Duquesne Light's customers. This is also true since the Commission is reviewing what capabilities the smart meter technology must possess. A system wide strategy will evolve as a result of further work and the results of the processes contained in our milestones. Duquesne's subsequent filing will include a timeline for post-Grace Period activities, including installation upon customer request, new construction, meter rollout and network installation.
24. **Installation Schedule/Deployment Strategy:** Duquesne will develop the strategy during the Grace Period and will submit it to the PUC for its consideration. Duquesne requests permission to provide detailed analysis on this issue as part of its Supplemental Filing(s) as it is premature to establish a schedule or strategy prior to analysis of the milestones during the Grace Period.
25. **Corporate Implementation:** Duquesne will administer implementation utilizing both internal and external resources. As many tasks are to be performed within a confined period, such as the Grace Period, it is anticipated outside contractors will be utilized.

Budget

26. Duquesne proposes a budget based on preliminary assessments and evaluations. Duquesne estimates that the total budget for this comprehensive project will fall somewhere between \$152,000,000 and \$262,000,000. This budget is based upon a review of the programs filed by other utilities, as well as an assessment of cost components that Duquesne is aware of at this time, but without having the benefit of detailed analysis. It is impossible to provide a firm, comprehensive budget at this time for the entire Smart Meter Procurement and Installation Plan, given that many key factors and costs will be determined upon assessment during the Grace Period and suppliers are yet to be selected. Duquesne will have a better sense of the total project budget once it completes various steps during the Grace Period, namely assessment of technological solutions and network design. Duquesne will provide a refined project budget and cost estimate in its proposed Supplemental Filing(s). Duquesne hereby provides a budget for the Grace Period, which is the first recovery period for the Smart Meter Charge.

Proposed Duquesne Light Company Budget 2010¹ - 2012			
Budget Categories	Component 1²	Component 2	Total
Personnel	\$2,240,000	\$3,706,150	\$5,946,150
Fringe Benefits	\$960,000	\$1,588,350	\$2,548,350
Equipment	\$1,900,000	\$6,225,500	\$8,125,500
Contractual	\$12,100,000	\$9,280,000	\$21,380,000
Total Direct Charges	\$17,200,000	\$20,800,000	\$38,000,000

27. **Cost Recovery:** Per Act 129, an EDC is permitted to recover reasonable and prudent costs of providing smart meter technology, and such recovery must be approved by the Commission. Section 2807(f)(7). The Commission has directed all EDC's, per the Implementation Order, to determine all costs associated with the smart meter procurement and installation, and to document such costs. These costs will include both capital and expense items relating to all plan elements, equipment and facilities, as well as an analysis of related administrative charges. The Commission has also required that EDCs provide a cost breakdown of the costs to comply with the requirements of Act 129, the costs to comply with the requirements of the Implementation Order, and the costs of each incremental function supported by estimates from at least two vendors, where available which information shall be forthcoming in a later filing. As part this filing, Duquesne seeks permission from the Commission to recover its budgeted costs that will be incurred during the 30 month grace period, estimated to be approximately \$38 million. Duquesne hereby seeks

¹ There are costs incurred prior to April 1, 2010 related to analysis and development.

² Component 1 and 2 are discussed in Exhibit A.

Commission approval of this proposed budget to recover these reasonable, necessary and prudent anticipated expenses listed above. Quarterly updates of projected and actual outlays will be provided. Duquesne seeks approval to recover in the Smart Meter Charge for the Grace Period of its expenses and anticipated depreciation, taxes, return, and related items for capital. Such expenditures are subject to reconciliation so that customers will pay no more than is actually spent. Costs incurred to date and anticipated between August 2009 and April 2010 will be included in the first year of the Smart Meter Charge for recovery. Timely cost recovery is imperative to maintain the cash flow needed to support the vast investments required for the Smart Meter Procurement and Installation Plan. The undepreciated cost of existing meters is not proposed to be recovered at this point, but is proposed to be reconciled and recovered at the end of full smart meter deployment.

Duquesne has applied with the United States Department of Energy for stimulus funding grants for its smart meter infrastructure and meter costs from 2009-2012. Currently its application is under review, and Duquesne expects an initial decision, for Round 1, in the next 90 days. Should any funds be granted to Duquesne, Duquesne would use those funds to offset the costs to be included in the Smart Meter Charge. Since nearly all requested funds are for capital investment, Duquesne would treat those funds as Contributions in Aid of Construction similar to funds that are provided by customers for new construction.

28. **Incremental Cost Recovery for Meters Installed at Customer Request:** Duquesne is aware of the Commission's requirement to include an itemization of incremental costs for installation of smart meters in advance of system wide deployment.

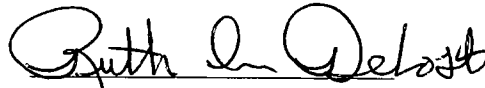
Duquesne requests approval to provide this information as part of its supplemental filing in December of 2011.

29. The testimony of Duquesne witness William V. Pfrommer, attached hereto as Exhibit D, sets forth the details of the proposed Smart Meter Charge and its derivation, to recover capital costs, depreciation, taxes and O&M with an annual true-up, as applicable to each meter type and customer class. Tariff Sheets in the form of a proposed tariff supplement are attached hereto in Exhibit D. As part of the compliance filing in this proceeding, the Company proposes to update the tariff pages using actual cost information to derive the initial Smart Meter Charge rates and submit for Commission approval, in order to recover expenses and capital outlays.
30. This filing contains the following: (1) Duquesne's SMPI Plan and associated appendices as compiled according to the guidance in Act 129 and the subsequent Implementation Order issued by the Commission, Exhibit A; (2) SMPI Budget information, Exhibit B; (3) the Direct Testimony of Ruth DeLost, Exhibit C; and (4) and the Direct Testimony of William Pfrommer, Exhibit D.

WHEREFORE, Duquesne Light Company requests that the Commission issue an order approving: (1) Duquesne's Smart Meter Procurement and Installation Plan as detailed in this Petition and the attached documentation; (2) the proposed plan budget for the Grace Period; (3) the proposed timeline; (4) cost recovery through a surcharge of its actual and proposed expenditures; (5) the waivers requested herein; and (6) such further relief as the Commission deems appropriate.

Respectfully submitted,

Duquesne Light Company



Ruth DeLost, Director,
Technology



Gary A. Jack
Erin H. Creahan
411 Seventh Avenue
Pittsburgh, PA 15219
Tel: (412) 393-1541
Fax: (412) 393-1418
gjack@duqlight.com
ecreahan@duqlight.com
Counsel for Duquesne Light

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EXHIBIT A

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

Pursuant to the Pennsylvania General Assembly's Act 129 directive that Electric Distribution Companies (EDCs) with more than 100,000 customers file a smart meter procurement and installation plan, 66 Pa.C.S. § 2807(f), by August 14, 2009 and the Smart Meter Procurement and Installation Implementation Order (Docket No. M-2009-2092655) issued June 24th, 2009, Duquesne Light Company ("Duquesne") herein submits its Smart Meter Plan.

Plan Format

Duquesne's plan is divided into the following sections:

- Executive Summary
- Current Meter Environment
- Managing customer requests and new construction within the 30 month grace period
- Network Development and Installation Milestones within the 30 month grace period. For each required milestone there is a detailed description of the milestone, a project plan overview and project descriptions including deliverables, tasks and schedules.
 - Smart Meter capability cost benefit analysis – Minimum/additional PUC requirements
 - Direct Access to and use of price and consumption information including:
 - Direct information on hourly consumption
 - Enabling time-of-use and real-time price programs
 - Effectively supporting the automatic control of electricity consumption by the customer, the EDC or third party
 - Assessment of needs and technological solutions
 - Selection of technologies and vendors
 - Establishment of network designs
 - Establishment of plans for training personnel
 - Establishment of plans for installation, testing and rollout of support equipment and software
 - Installation, testing and rollout of support equipment and software
 - Establishment of plans to design, test and certify EDI Transactions, Web Access and Direct Access following standards and formats for the communication with customers and third parties.
 - Establishment of plans for installation of meters and Outside Communications
- Milestone and status reporting schedule within the 30 month grace period
- Customer Requests
- New Construction
- System-Wide Deployment
- Cost Recovery
 - Stranded Costs
- Estimated Milestone and status reporting schedule after the 30 month grace period

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

Executive Summary

As an Electric Distribution Company (EDC) serving over 579,000 customers in the Commonwealth of Pennsylvania, Duquesne's Smart Meter Plan is designed to meet the requirements set forth in Act 129 Smart Meter Legislation.

This plan describes the smart meter technologies Duquesne proposes to install, upon request from a customer, in new construction and in accordance with a depreciation schedule not to exceed 15 years per Act 129 requirements. 66 Pa. C.S. §§ (f) (1) and (2). The plan also includes a summary of Duquesne's current meter deployment, as well as a plan for future smart meter technology deployment with dates for key milestones and measurable goals.

As filed in the comments of Duquesne Light Company April 20, 2009, Docket No. M-2009-2092655, it is important to recognize that Duquesne has already implemented an automatic meter reading (AMR) system and will be starting from a different point in the smart meter evolution. Through our AMR system, we currently obtain 15 minute interval reads on all large C & I customers with demand over 300 kw. We obtain daily reads on more than 90 percent of our residential and small C & I customers. The other 10% have billing reads picked up monthly via mobile drive by or with handhelds. Duquesne still has over \$57 million left in un-depreciated meter assets as is further described in the next section. Consequently Duquesne's greatest challenge is to design a plan that is cost effective for our customers and at the same time, meet the requirements of the order.

Duquesne's approach is to utilize the 30 month grace period to complete the necessary analysis of the current infrastructure options, assess the customer's and technological needs, select a vendor, design a network, establish plans for testing and rollout of meters, components, software, hardware, communications, training, customer education and Electronic Data Exchange (EDI) transactions, complete a cost analysis and build a solid technology platform that will support an efficient and cost effective transition to an advanced meter infrastructure.

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

Current Meter Environment

Duquesne took the lead, not only in Pennsylvania but in the entire country, and implemented Automated Meter Reading (AMR) across our zone. After the analysis, planning, and vendor selection phase of our AMR project, Duquesne signed, in 1996, a contract with Itron Inc., a leading provider of AMR equipment and services and began a two year territory-wide implementation. Duquesne is under contract with Itron until December 31, 2013 for maintenance and support of all Application software, polling engines, routers, mobile units, etc.

Duquesne currently has an 18 year aggregate depreciation schedule with over \$57 million dollars of un-depreciated metering assets on our existing AMR infrastructure.

<u>As of may 31, 2009</u>	<u>Gross Plant</u>	<u>Accum Depr</u>	<u>Net Book</u>
Meters	97,614,447	(41,950,129)	55,664,318
Com Devices	19,834,620	(18,424,361)	1,410,259
	<u>117,449,067</u>	<u>(60,374,490)</u>	<u>57,074,577</u>

Duquesne's AMR project began with a vision to provide customers with superior service and reliability in the changing energy marketplace. The advent of Customer Choice increased the requirements for accurate, reliable and frequent meter reads and created a need to manage data from those reads, not only for customer information, but for more accurate and timely Supplier settlement and reconciliation.

Having automated daily or interval reads provided for improved operations, eliminated field visits for final bills and high bill complaint resolution, tamper monitoring, load profiling, meter diagnostics reporting, data aggregation, outage detection and restoration monitoring and reporting. Duquesne eliminated over 90 % of our meter reading work force while improving the actual read rate to 99.9%. Based upon the high percent of actual billing reads, you can see that Duquesne's current meter infrastructure is extremely dependable.

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

Duquesne has over 608,000 meters deployed. Exhibit 1 below depicts Duquesne's current AMR system wide deployment.



The breakdown of meters deployed in Duquesne's territory, read intervals (i.e. 15 minute, hourly, daily or monthly) and frequency of backhaul are as follows:

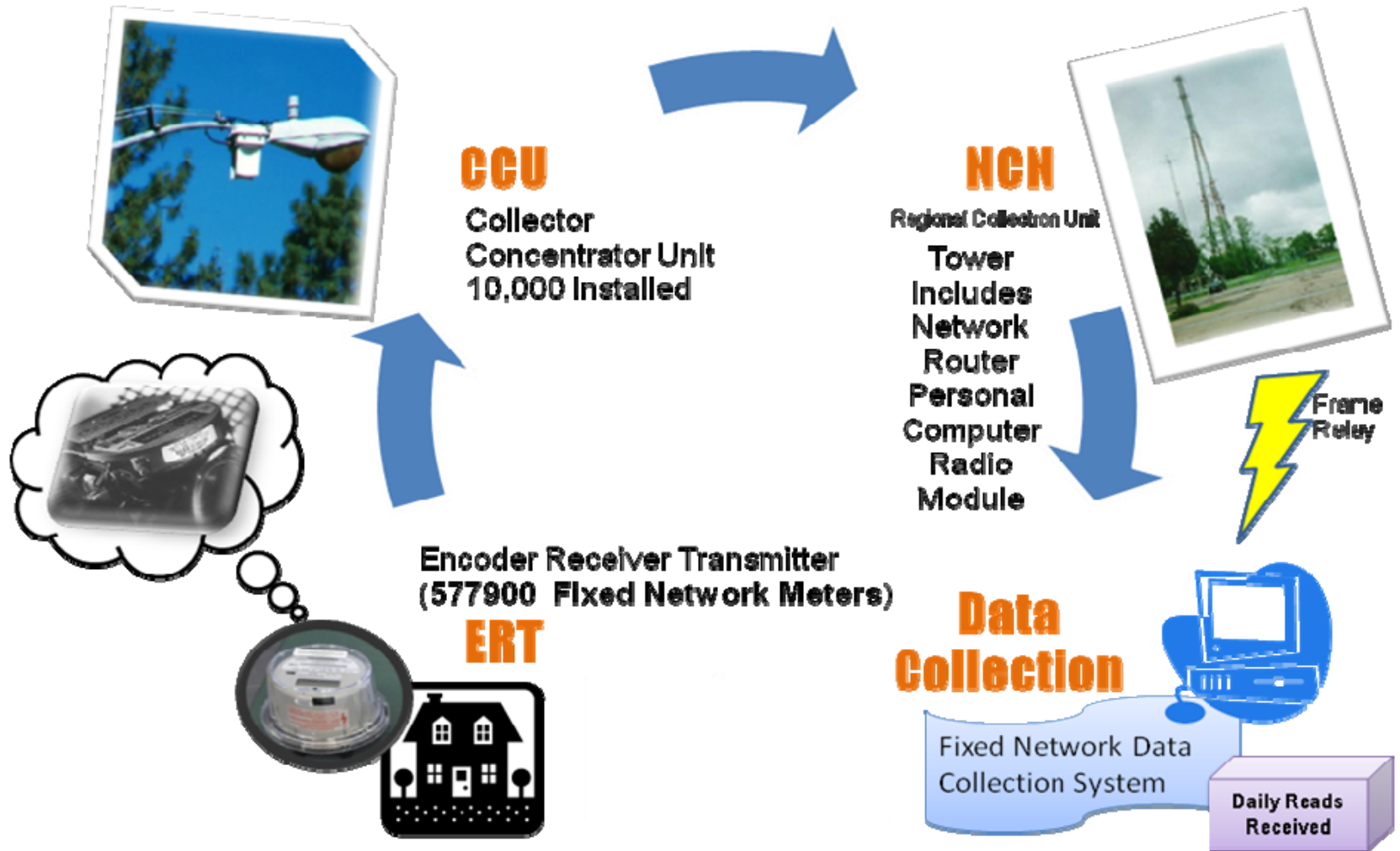
Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

Residential and very small C & I customers

- There are approximately 577,900 residential and very small C & I customers on our radio frequency fixed network. Approximately 90% of the meters report a midnight latch read. In other words, the midnight read is stored and collected for each customer. The meters are interrogated between midnight and 6 A.M. and are backhauled via radio frequency (RF) to the collector units which are polled by radio communication towers and then called/backhauled and stored in an Oracle database for access by the ITRON Fixed Network system. The remaining 10% are monthly reads picked up on the monthly bill cycle with handheld/drive by.
 - The fixed network AMR system consists of a fixed communications network over meter modules. The Itron system network components include a Cell Control Unit (CCU), a Network Control Node (NCN) a Genesis Itron Host Processor (GIHP), and an Encoder Receiver Transmitter (ERT).
 - The ERT is a radio based module that fits in our electro-mechanical meter. These ERT's gather consumption and tamper information from the meters and communicate that data via radio frequency communications into various data collection devices including handheld devices, mobile AMR devices and fixed network control units.
 - The CCU is installed on Power poles or street light arms. There are approximately 10,000 CCU's installed over Pittsburgh's saturated area with the majority of the CCUs hanging from street lights. These neighborhood concentrator cell control units read the meter modules via radio frequency. The CCU collects stores and passes information gathered from the meters to the regional NCN.
 - The NCN is basically a regional concentrator and routing device that is installed in radio communications facilities such as leased towers, substations or other communications facilities. Its primary components are a network router, a personal computer and a radio module. The primary function of the NCN is to collect data from the CCU's and route that information to the host computer, GIHP. There are 51 NCN's in the Pittsburgh area. Each NCN can communicate over many miles.
 - The GIHP is the computer that contains Itron software that manages the collection of data from the network devices. The GIHP also transfers the data to an Oracle database for storage and retrieval.
 - Duquesne Light utilizes a handheld device to procure contingency reads if there is a problem with meter communications and we need to obtain a bill cycle read. A need exists for some mobile routes where it doesn't make economic sense to install the network; Duquesne uses a mobile unit which includes a Data Command Unit (DCU) to obtain reads. Approximately 10% are monthly reads picked up on the monthly bill cycle with handheld/mobile units.

Exhibit 2 depicts Duquesne's Current AMR deployment for Residential customers.

Duquesne's Automated Meter Reading (AMR) – Residential Customers



Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

C & I Customers > 50 kW

- There are approximately 30,100 C & I meters that are backhauled to the MV-90 Data Collection System via cellular/landline. This customer group makes up about 50% of our zonal load.
 - Duquesne Light obtains interval reads on approximately 900 C & I customers >300 kw. The meters are interrogated every day between midnight and 6 A.M. and 15 minute interval reads are backhauled to the MV-90 system. Also included in the interval metering category are customers in other rate classes that Duquesne uses for profiling.
 - It is important to note that between the meter, the surrounding communications, and the backend data collection capabilities, this part of our infrastructure fully meets all of the minimum requirements set forth in 66 PA.C.S. §2807(g) and all of the additional requirements set forth in section C of the Order with the exception of remote connect disconnect. Remote connect disconnect can't be done with a poly phase meter even with the newest smart meters.
 - There are approximately 29,200 C & I customers that fall in the category of > 50 kw but < 300 Kw. Duquesne Light obtains daily reads from these customers' meters. The meters are interrogated between midnight and 6 A.M. and daily reads are backhauled to the MV-90 system.
 - Additional communications, reprogramming and backend data collections and management systems will be necessary before this meter technology can be upgraded to meet all of the minimum requirements set forth in 66 PA.C.S. §2807(g) and meet all of the additional requirements set forth in section C of the Order with the exception of remote connect disconnect which can't be done with a poly phase meter even with the newest smart meters.
 - Due to termination of analog (AMPS) cellular service, Duquesne replaced 12,000 analog devices with digital cellular modems communicating with 18,800 C & I meters. This upgrade was completed in February 2007 at a cost of \$6.5M.

Exhibit 3 depicts Duquesne's current AMR deployment for C & I customers

Duquesne's Automated Meter Reading (AMR) – C&I Customers

These customers make up approximately 50% of Duquesne's zonal load

30,100 Commercial & Industrial (C&I) Meters

900 > 300KW C&I Customers (15 minute Interval Data)

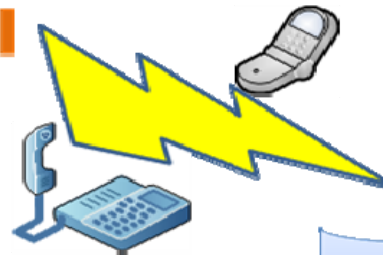
29,200 > 50KW < 300KW Daily Register Reads

Meets Smart Meter
Original Act 129
Legislation
Requirements

Could
With additional
backend systems and
configuration/cards
meet Original Act 129
Req.



**Commercial
Industrial
Account**



MV90

Data Collection
System



Interval / Daily
Reads
Received

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

Current Backend Systems

Duquesne's current customer care and data management systems satisfy today's business, but will need to be replaced to meet the multiple different Time of Use (TOU) and Real Time (R/T) billing options and to handle increased requirements of the management of the meter data. The handful of R/T bills that are created now are run outside of our Customer Care and Billing system and the process is not fully automated. There are still many places in the process where there is manual intervention required. Since there are approximately 80 accounts, the work is manageable, however to offer TOU and R/T to 30,100 C & I accounts Duquesne needs to implement new systems. Additionally in lessons learned from our AMR implementation, the company realized that it is a must to have a solid Purchasing and Work Management system to administer and control the meter implementation.

There is a growing demand for sophisticated metering (e.g. net metering), meter data management and price responsive rates as customers have a greater interest in reducing their electric bill. These new demands and requirements have surpassed the ability of Duquesne's current meter and system infrastructure to remain effective. Even though Duquesne currently has a group of large C & I customers that have the ability to respond to price signals as described above, the infrastructure to support this group is reaching capacity. So an important part of our 30 month grace period initiative is to implement price responsive rates to all customer classes and educate our customers so that they may reduce their consumption, their costs and contribute to a cleaner environment.

Managing customer requests and new construction within the 30 month grace period

Below is a discussion of Duquesne's approach to managing customer requests and new construction within the grace period.

Customer Requests within the grace period - During the grace period the Commission requires EDCs to provide interval data capable meters and direct access to the customer's interval data to third parties such as EGSs or CSPs, upon customer request. The access to this interval data should be available in real-time, if requested, and in a manner consistent with the RTO requirements.

Duquesne currently provides the means for customers to request interval metering under Rule 14.2 to the Retail Tariff Electric PA PUC No 24. Duquesne also follows the rules set by the PJM RTO and provides real time data via kyz pulse and time cards to requesting CSPs. Duquesne will implement the same meter type that we have installed on the large C & I customers with demand > 300. These meters meet the minimum requirements of the Act as well as all of the additional capabilities with the exception of remote connect disconnect and while Duquesne complies with nationally recognized standards we are C12.19 and C12.21 compliant. The Implementation Order specifies C12.22 compliancy.

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

New Construction within the grace period – The Commission does not require deployment of smart meters in new construction during the grace period. However, any customer in new construction requesting an interval meter will be handled pursuant to the procedures addressed above for customer requested meters.

Network Development and Installation plan within the 30 month grace period

This section provides a:

- Milestone description and scheduled completion date for the 30 month grace period milestones
- Milestone schedule
- Project Management overview describing how Duquesne will manage the project
- Discussion on how Duquesne will address project risks and security.
- Additionally, for each major component, you will find a project component description, methodology, deliverables, schedule, milestones and tasks.

Milestone Description

This section includes a detailed description and completion dates of the key milestones.

- Smart Meter capability cost benefit analysis and filing (07/01/2010) - Duquesne will analyze and prepare a cost benefit analysis on each of the requirements added by the Commission in the Implementation Order. Duquesne will file this analysis on, or before, 07/01/2010 and will seek approval for Duquesne’s proposed smart meter capabilities.

As discussed by the vendors in the stakeholder meetings, there are only a few of the additional requirements that will increase the cost of the meter, such as remote connect disconnect. The vendor stated that the majority of the additional capabilities are delivered as part of the base meter. As you are aware, a “smart meter” installed at a premise will provide no more information or functionality than a 40 year old mechanical meter until the systems, network and communications are put into place to make the meter technology “smart”. So while the capability may be in the meter, the cost is in the communications, network and backend systems to provide the functionality.

- The assessment of needs and technological solutions and selection of Technologies and vendors (12/31/2010) requires a thorough analysis of:
 - Communications – There are so many different communication mediums to analyze from communications from the meter to in home or downstream devices, to communications to the meter from a collector or tower, or mesh network, to backhauling via fiber, cellular, RF etc. Duquesne will adhere to the nationally recognized communication standards.
 - Networks – Included in the data network are data and security segregated systems, and network devices such as switches, edge routers, backbone switches, routing

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

- switches, firewalls and firewall enforcement pointes, network monitoring and client access devices, internet application switches, web filtering equipment, DHCP and DNS devices, internet monitoring devices, interfacing equipment and cabling.
- Hardware – The servers and storage for data collection systems, Web applications, Customer Care, Meter Data Management, corresponding operating systems, disaster recovery and business continuity etc. must all be analyzed.
 - Software – data collection systems, meter data management, warehousing, customer care and billing, service/work order systems for deployment, Web applications, Outage management , interfaces to all other business systems and programs to keep databases synchronized as we run two totally different automated meter reading systems.
 - Meters – There are multiple different meter types/forms depending on the customer service requirements. Duquesne currently has 8 different meter forms and each form has its own service functionality and capability. There are meters that are boosters, or can be a hub or collector etc. In addition, the Utility will have to manage software configurations and firmware versions for each Smart Meter over its useful life. Duquesne will adhere to nationally recognized standards when purchasing new meters.
 - Components – There are multiple different components that are tied to meters and the metering infrastructure. For example, there are internal modems, external modems, cellular devices, land-lines, boxes that enable communications with multiple meters, load control pulse interface equipment, as well as, Home Area Network (HAN) devices. With the onset of HAN devices the Utility will be challenged to manage the association between meter and a various number of customer owned devices. Duquesne will adhere to nationally recognized standards when purchasing the meter components.
 - Vendors – Vendor analysis comes with a whole host of tasks from product evaluation, to software, network, communication, and hardware requirements review just to name a few. There needs to be a financial analysis, customer references need to be checked, ability to manufacture and deliver product, costs and support, ongoing maintenance contracts etc.
 - Pilots – Pilots need to be run for proof of concept/product
 - Security – With meters being IP addressable and with so much dependency on sharing data with the customer and all of their third parties as well as Web deployments, this is a extremely important area for thorough analysis
 - Disaster Recovery (DR) and Business Continuity (BC) – If we are going to be billing customers on a real time or TOU basis, we don't have the luxury to be out of service for multiple days so DR and BC will play a very large role in the Smart Meter rollout.
 - Scheduling – Scheduling the deployment of each component of the Smart meter plan will take a concerted effort. This is such a massive undertaking that scheduling the material, the network, the systems, the communications, the labor and implementation will take an expert team.

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

- Cost analysis – As you can see with each and every item previous to this bullet that there are an enormous amount of pieces and parts to analyze and compare costs.
- Selection of technologies and vendors is the next step as all of the above analysis is the normal prerequisite for this task. Once assessments of needs and technologies and the selection of those technologies and vendors are complete then we will move forward with:
 - Board presentation – Once all of the above tasks are complete a presentation will have to be prepared for the Board of Directors.
 - Board approval – Once board approval has been obtained, only then can we move ahead with the project.
- Establishment of network designs (3/31/2011) After the Selection of the technologies and vendors, a comprehensive design must be created that allows for the implementation of Smart Meters System-Wide in an incremental planned manner, with the capability to add increasing functionality to fully utilize Smart Meter technology in the future. As part of this task Duquesne will:
 - Work with the Network , Meter, and Data Collection Vendors to establish the Network Architecture
 - Integrate the network design, with the existing Meter Network, to allow for an incremental roll out
 - Design the target Network after the complete roll out of Smart Meters
- Establishment of plans to design, test and certify EDI Transactions, Web Access and Direct Access capability consistent with order (06/30/2011)
 - **EDI** - Multiple EDI transactions will be created to meet the requirements of the order and to meet the needs of customers and other stakeholders. Duquesne will work through the Electronic Data Exchange Working Group (EDEWG) to develop the appropriate EDI transactions and follow the proper standards.
 - **Web Access** - Duquesne will also provide Web Access to consumption and price information for the customer, as well as the customer's authorized third party. Duquesne would like to work through the EDEWG Committee or another Commission group to create a standard Web Portal that is easily accessible by all authorized parties and follows a common layout.
 - **Direct Access**- As filed in the comments of Duquesne Light at Docket No. M-2009-2002655 Duquesne supports direct access to and use of price and consumption information and will make this information available first through EDI and the Web and then later through communication to in home devices. For security reasons, Duquesne does not support access directly to its meter but rather direct access in the real time to meter information i.e.consumption and real time meter data utilized for operational purposes.

The design, testing, and certification is a key milestone for EDI, Web and Direct Access and our plan will address the following tasks:

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

- Identify all the transactions required
 - Identify all 3rd parties to participate with each transaction
 - Identify all applicable standards
 - Design the transactions following standard formats
 - Create plans to rollout the transactions
 - Create the documentation to certify the transactions
 - Test
 - Certify the transactions
-
- Installation, testing and rollout of support equipment and software (9/30/2011)The successful Implementation of the Smart Meter Infrastructure are the most fundamental milestone of the project. In order to succeed with the roll out, a comprehensive test environment must be created. Without such an environment the Smart Meters can not be rolled out. It is also critical to have such an environment for training. The final key to the implementation is a well understood support process that is documented. This will allow for the seamless roll out of Smart Meters system-wide.
 - Creation of a Test Environment
 - Hardware
 - Software
 - Data Communication
 - Implementation of the Production Environment
 - Hardware
 - Software
 - Data Communication
 - Well Defined, Documented Support Process, implemented by trained personnel
-
- Establishment of plans for installation of meters, outside communications and training (11/1/2011) Duquesne will put together a detailed plan for post 30 month grace system wide smart meter rollout. During this phase of the project :
 - Installation Plans will be developed to begin the roll out of Smart Meters upon completion of the Smart Meter Technology infrastructure at the end of the 30 month grace period. These plans support a controlled roll out of 8,000 Smart Meters by year end 2013, and the rollout of 600,000 Smart Meters system-wide by year end 2018.
 - Roll out 8,000 Smart Meters by year end 2013 and begin to analyze the appropriate systems and technologies to further utilize the capabilities and functionality of the new Smart meters and components (i.e. outage and restoration, Home and Distribution networks etc).
 - Roll out remaining 600,000 meters between 2014 and 12/31/2018.
 - Outside Communications is crucial to the success of the Smart Meter Rollout. Duquesne will begin early on in the grace period analyzing and planning modes of

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

communications for the customer, EGS, CSPs and other interested parties. This is one of the 13 major areas under Component 2 discussed in this document.

- Training - It is critical to train all personnel that will be affected by the Smart Meter Implementation. This includes all the areas that have been identified in the plan. It will be necessary to establish a comprehensive training plan that focuses on the impact of Smart Meters on each area.
 - Each Area must identify a resource to be responsible for creating a Training Plan for that area
 - The Training plans must identify; the resources to be trained, scope of training, and duration of training.
 - The training plans should identify what criteria will constitute success for the person trained
- Supplemental Filing with Costs (12/31/2011) As Duquesne completes the analysis, vendor selection and each and every one of the plans and designs for the entire infrastructure; we will be in a position to submit a supplemental filing itemizing the costs.
 - Itemize the costs for the remainder of the project
 - Reconcile 30-month grace period costs

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

Milestone and Reporting Schedule – 30 Month Grace Period

- The following graphic highlights the key milestones during the 30 month grace period and the date each milestone will be completed. Following the graphic is a detailed description of each milestone.

Timeline, Milestone & Reporting Schedule

	8/14/2009	4/1/2010	7/1/2010	12/31/2010	3/31/2011	6/30/2011	9/30/2011	11/1/2011	12/31/2011	7/1/2012	10/1/2012
Smart Meter Plan Filing	Assume DLCo Plan Approved. (Upon approval immediately begin base system analysis, design, test tasks)	Supplimental filing cost/ benefit analysis. Minimum/additional requirements	Assessment of needs & technological solutions & selection of technologies & vendors	Establishment of network designs	Establishment of plans to design, test & certify EDI transaction capability consistent w/ order	Establishment of plans for installation, tsting & rollout of support equipment & software	Establishment of plans for installation of merters and plans for training personnel	Supplemental Filing w/ costs document	Supplemental Filing Approval	Installation of Network and base software including CC&B. End of grace period	

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

Project Management

The Duquesne Light Smart Meter Project Plan will adhere to the Project Management Standards developed by the Project Management Institute (PMI). The Program Office of Duquesne Light adheres to these standards and is organized to manage and control large projects that require interaction and coordination of many stakeholders within and external to Duquesne Light.

The PMI Standards break projects into five major **Process Groups** defined as:

- **Initiating Process** - *Authorizes the project or phase.*
- **Planning Processes** - *Define and refine objectives; select best alternative courses of action to attain objectives.*
- **Executing Processes** - *Coordinate the activity of people and other resources to carry out the plan.*
- **Monitoring and Controlling Processes** - *Ensure objectives are met; monitor and measure progress regularly to identify variances so necessary corrective action can be taken.*
- **Closing Processes** - *Formalize project or phase acceptance and bring it to an orderly end.*

Process Groups are linked by the results they produce, thus the results of one often becomes input to another. Links are iterated; the planning process provides the executing process with a documented project plan, and the plan is updated as the project progresses. Process groups are not discrete, one-time events; they are overlapping activities occurring at varying levels of intensity throughout project phases. Process group interactions cross phases such that closing one phase provides input to initiating the next.

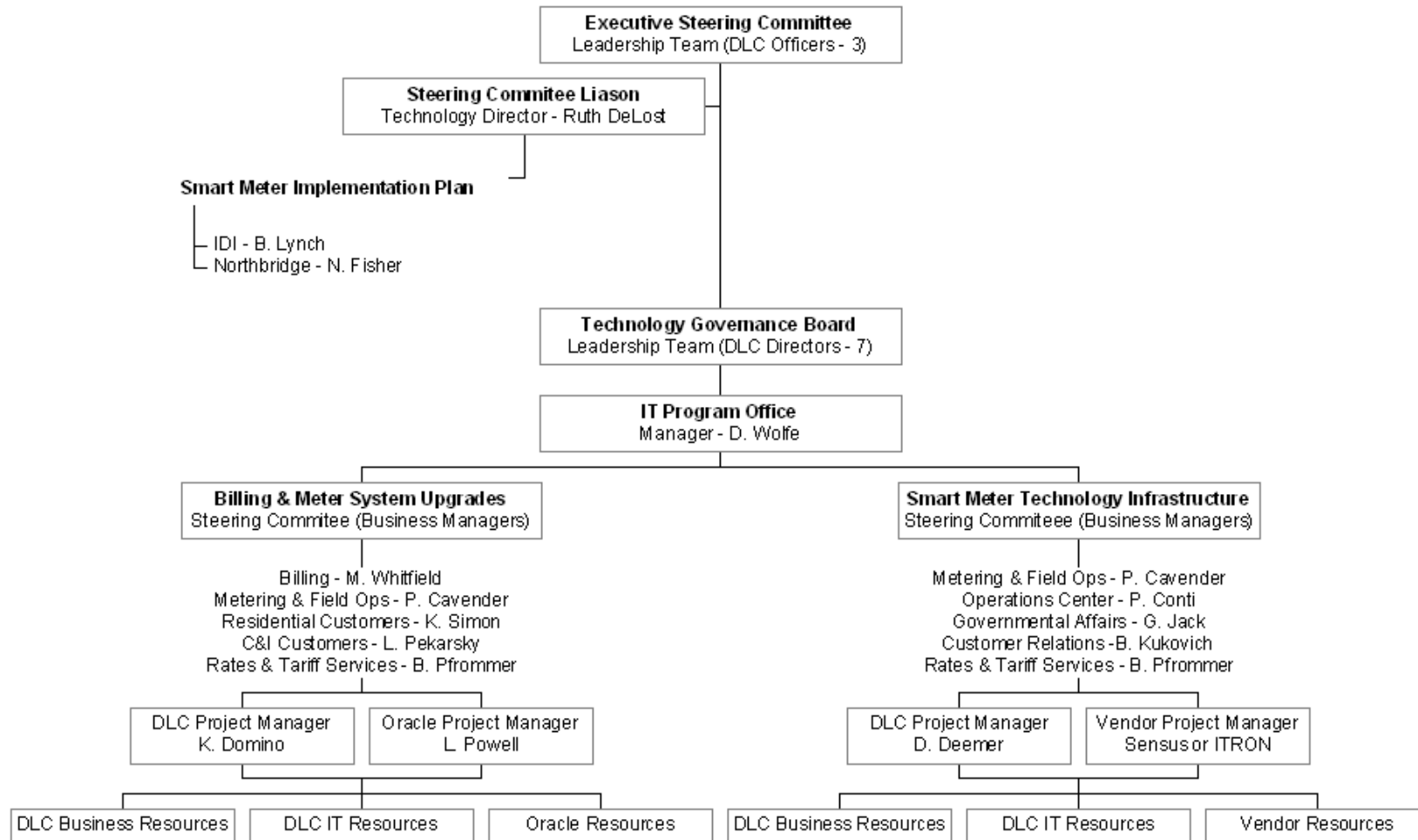
For example: closing a design phase requires customer acceptance of the design document; simultaneously, the design document defines the product description for the ensuing implementation phase.

Management Structure The management of the Smart Meter project will be incorporated into the existing Program Office structure that is already used at Duquesne Light to manage all significant technology initiatives.

A Smart Meter Project Management Structure chart which lists organizations and individuals involved in the management of the Smart Meter Project is included below.

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

Project Management Structure



Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

The roles and responsibilities for each of the organizations and individuals are briefly listed below:

Executive Steering Committee The project's strategic objectives along with a high-level budget and major milestone dates will be approved as well as championed by an Executive Steering Committee which is comprised of the company's Officers.

Technology Governance Board / Program Office As with all approved Information Technology (IT) related initiatives, both of the Smart Meter project components will be centrally managed by the IT Program Office. The IT Program Office is accountable to a Technology Governance Board which is comprised of the company's business unit Directors. The Technology Governance Board provides general oversight to ensure that the project's strategic objectives are being met within the approved budget and timeframes.

Technology Director The Technology business unit Director serves as the primary liaison between the Technology Governance Board and the Executive Steering Committee in order to facilitate approval of the original project objectives, budget and milestone dates as well as any significant changes to the project from the approved plan.

Smart Meter Implementation Plan Advisors A group of two consulting firms will be engaged to directly assist the Technology business unit Director in development of a Smart Meter Implementation plan. This implementation plan will encompass a comprehensive redesign of the technology and business processes necessary to support Smart Meters within 13 major areas of Duquesne Light. The Technology Director will review the plan with the Technology Governance Board and obtain consensus before presenting it to the Executive Steering Committee for approval.

IT Program Office Manager The IT Program Office Manager reports directly to the Technology business unit Director and is the primary person accountable for ensuring all project deliverables are met on-time and on-budget. The IT Program Office Manager also is responsible for controlling project scope as well as proactively escalating any changes required to meet strategic objectives that may impact the project budget or milestone dates.

Project Steering Committees Both of the Smart Meter project components will have their own Steering Committee comprised of the IT Program Office Manager along with department Managers from key areas of the business involved in the project. Each Steering Committee will monitor the project deliverables on a regular basis to ensure the project is progressing as planned. In addition, members of the Steering Committee will fully support their respective Core Team representatives so that the project scope, budget and milestones are not negatively impacted by unnecessary delays in project decision making and issue resolution processes.

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

Project Managers Both of the Smart Meter project components will be assigned a Project Manager from the IT Program Office as well as a Project Manager from the sub-award consulting firm. These Project Managers will work together to coordinate the daily activities of business, IT and vendor resources to ensure successful completion of project deliverables. The Project Managers also have responsibility to provide regular status updates to all project stakeholders and to proactively alert the IT Program Office

Risk Management

A formal Management Process is used at Duquesne for large projects. A Risk Management Plan document is created to identify, analyze, and respond to risks throughout the life of the Smart Meter Implementation Project. Identifying Risk can have a positive impact on developing realistic project schedules and costs, as well as, the performance of the project. The Risk Management Plan will summarize the results of risk identification, qualitative analysis, quantitative analysis, response planning and monitoring and control processes. This plan identifies the likely risks which may affect the Project. A series of risk categories is identified and for each category one or more potential risks are listed. Each of the risks identified is described in detail and documented within the Risk Management Plan.

A *risk* is defined as any event which is likely to adversely affect the ability of the project to achieve the defined objectives. Below are the likely categories of risks for this project. Each risk category is a particular aspect of the project which is likely to experience a risk during the lifecycle of the project.

Categories include:

- Financial
- Implementation Time
- Functionality
- Availability
- Performance
- Maintainability
- Supportability
- Technology
- Communication
- Resource(s)

Each Risk is then listed within each category and a strategy is created and documented to manage the risk, and a resource is assigned, who is responsible to manage the risk.

Security Management

Duquesne has in place a Physical and Cyber Security team that does asset evaluation and assures that Duquesne is in compliance with FERC and NERC standards. Part of the 30 month grace period tasks is to analyze and evaluate vendors and their products and design and implement the communication and networks to support the Smart Meter technology. Cyber security will be addressed in every phase of the engineering lifecycle of the project, including design and procurement, installation and commissioning, and the ability to provide ongoing maintenance and support. Cyber security solutions will be comprehensive and capable of being extended or upgraded in response to changes to the threat or technological environment. Duquesne will be bringing in an outside vendor to assist in the

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

establishment of further cyber security capabilities and will incorporate them in every part of the plan. Duquesne's Physical and Cyber Security Team will be the oversight committee as we move forward with the Smart Meter Technology Project.

Duquesne fully understands the critical importance of this aspect of the project and provides its full assurance that the Duquesne cyber security system for this project will provide the necessary and appropriate protection against broad based systemic failures in the electric grid in the event of a cyber security breach. In addition Duquesne met with the National Cyber-Forensics and Training Alliance and the FBI Cyber Division - Cyber Initiative and Resource Fusion Unit on the introduction of Smart Metering into our zone and on other aspects of our grid. We will continue to work with these groups throughout the project.

Project Plan Overview

Duquesne will refer to the 30 month grace period portion of the Duquesne Light Smart Meter Technology Project as segment 1. The Duquesne Light Smart Meter Implementation Project will establish the technical infrastructure, the appropriate processes, methods, standards, trained personnel, and software applications to support the effective roll out and use of Smart Meters for Duquesne Light customers. The project will require the coordination of activities of nearly every department within Duquesne Light as well as multiple specialized vendors, companies, and agencies.

In order to meet each of the major milestones, Duquesne split segment 1 of the project into the following two major components:

- *Component 1 – Billing and Metering System Upgrades*
- *Component 2 – Smart Meter Technology Infrastructure*

This section provides an overview for each component of segment 1 of the Duquesne Light Smart Meter Technology Project with the following plan details:

- Project Description
- Project Methodology
- Project Deliverables
- Project Schedule
- Project Milestones
- Project Tasks

Component 1 – Billing and Metering System Upgrades

Component 1 - Project Description

The first component of segment 1 of the Smart Meter Technology Project is upgrading Duquesne Light's existing billing and metering systems to support Smart Meter requirements. The current billing system satisfies today's business, but will need to be replaced to meet the multiple different Time of Use (TOU) and Real Time Price (RTP), Critical Peak Pricing (CPP) billing options and to handle increased requirements of the management of the meter data. The handful of RTP bills that are currently created run outside of the Customer Care and Billing system and the process is not fully automated. There are

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

still many places in the process where there is manual intervention required. Since there are only 80 accounts the work is currently manageable, however to offer TOU RTP and CPP to its customers, Duquesne Light needs to implement a new system. In addition, the current metering head-end system needs to be upgraded in order to leverage Smart Meter data during segment 1 of the project. The first component of segment 1 of the Smart Meter Technology Project is scheduled to begin in April of 2010 and be completed in December of 2011.

Component 1 - Project Methodology

The first project component will utilize the Oracle Utility's Practice project implementation methodology which follows an orderly progression of seven strategic phases; where at each stage the diverse information, processing, and regulatory requirements are accommodated. This methodology has been used successfully for several system upgrade projects at Duquesne Light involving Oracle.

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

In each project phase, the project team will address ten topics or areas of focus:

- | | | |
|------------------------------|----------------------------|----------------------|
| 1. Application functionality | 2. Business Transformation | 3. Data Conversion |
| 4. Deployment | 5. Interfaces | 6. IT Infrastructure |
| 7. Project Management | 8. Quality Management | 9. Testing |
| 10. Training | | |

Methodology Matrix							
Topic	Sales Handover	Initiation	Analysis	Assembly	Acceptance	Rollout	Post Imp Svcs
Application Functionality							
Business Transformation							
Data Conversion							
Deployment							
Interfaces							
IT Infrastructure							
Project Management							
Quality Management							
Testing							
Training							

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

Component 1 - Project Deliverables

Phase 1 – Plan/Handover

- Project schedules
- Staffing plans
- Risk Management plans
- Term sheets
- Statement of Work (SOW)
- Cost estimates
- Revenue & margin figures

Phase 2 – Initiation

- Project kick-off agenda
- Installed product
- Completed training
- Scope document
- Workshop schedule/attendee list
- Initial system architecture document
- Draft communication plan
- Detailed Project Plan
- Conversion Initiation Questionnaire

Phase 3 – Analysis

- Project Team Training
- Decision Sheets
- Process Analysis Report

Phase 4 – Assembly

- Project Team Training
- Interfaces
- Plug-Ins
- Reports
- Letters
- Business Process Manuals
- Re-engineered Business Processes
- Configured System
- Conversion Data Extract Program
- Deployment Plan
- Acceptance Testing Plan
- Updated Project Schedule

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

Phase 5 – Acceptance

- Train-The-Trainer Training
- Mock Conversion Runs
- Change Management Plan Execution
- Accepted system
- Final Deployment Plan
- Final Operating Procedures
- Updated Project Schedule

Phase 6 – Roll-out

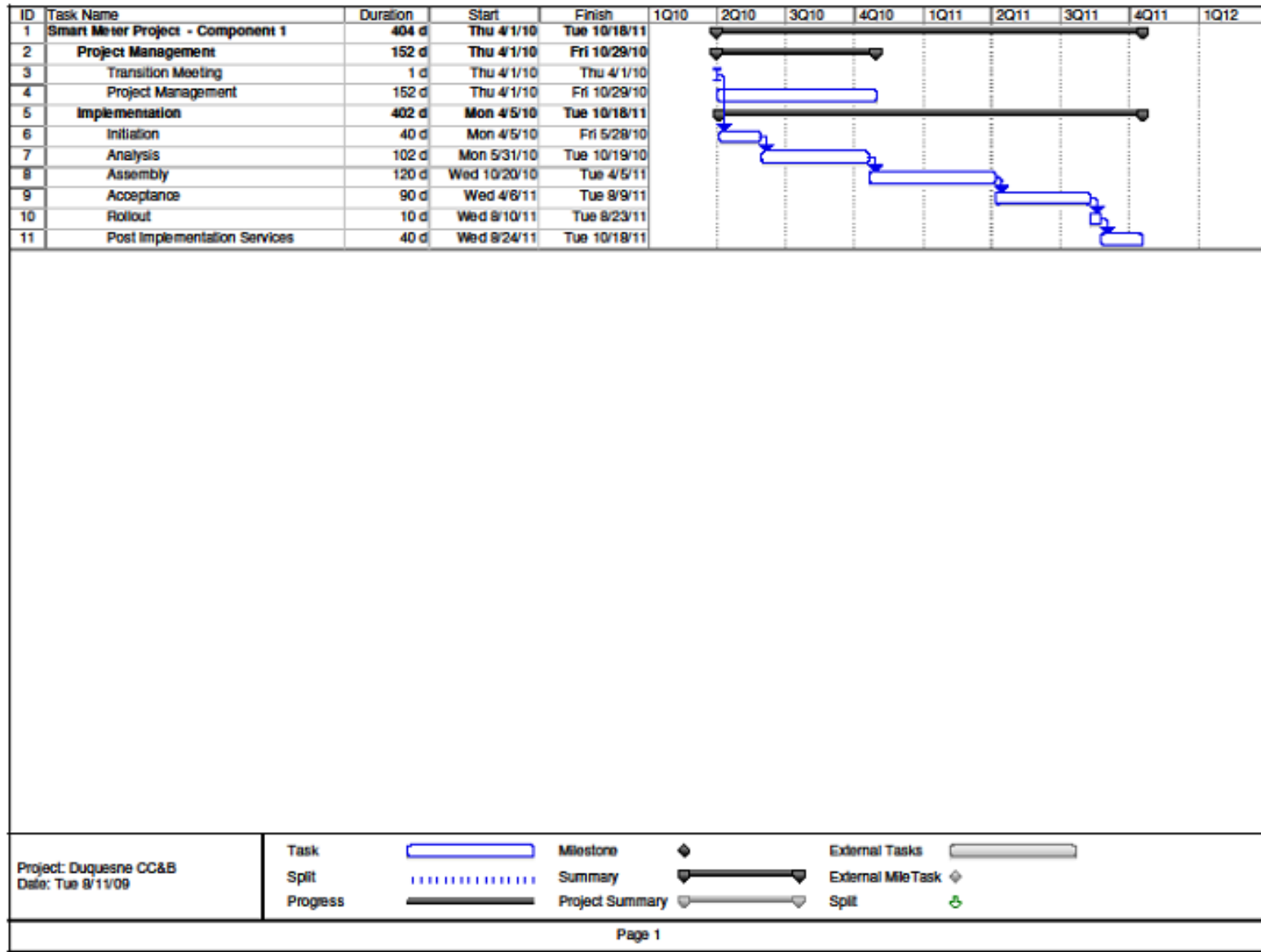
- System Go Live
- Cut Over Plan Execution & Measurement Report

Phase 7 – Post Implementation Services

- On Site Support
- Post Implementation Review/Audit Report

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

Component 1 - Project Schedule



Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

Component 1 – Project Milestones

Completion Date	Phase	Milestone	Critical Path
04/2010	Planning	Oracle Contract	
04/2010	Initiation	Project Kick-off	x
05/2010	Initiation	Core Team Training	
05/2010	Initiation	Software Installation	
08/2010	Analysis	Analysis Workshops	
09/2010	Analysis	Analysis Report	x
12/2010	Assembly	Software Configuration	x
12/2010	Assembly	Business Process Design	
12/2010	Assembly	Interfaces	x
12/2010	Assembly	Extensions	
12/2010	Assembly	Data Conversions	x
12/2010	Assembly	Reports	
01/2011	Assembly	Administrator Training	
02/2011	Assembly	Unit Testing	
05/2011	Acceptance	Acceptance Testing	x
08/2011	Acceptance	Conversion Trial Runs	
08/2011	Acceptance	End User Training	x
08/2011	Acceptance	Production Infrastructure	x
09/2011	Roll-out	Production Roll-out	x
10/2011	Post Implementation	Post-Implementation Support	

Component 2 – Smart Meter Technology Infrastructure

Component 2 - Project Description

The second component of segment 1 of the Smart Meter is establishing the technical infrastructure, processes, and systems to support the roll out of Smart Meters by year end 2012. This component has been defined to consist of 13 major areas that must be analyzed and redesigned with new technology and processes implemented to support Smart Meters. This component is scheduled to begin in April of 2010 and be completed in the last quarter of 2012.

The following are the major areas that are involved in the Smart Meter Technology Project:

- Information Technology
- Human Resources
- Metering
- Data Collections
- Legal
- Field Operations
- Customer Service
- Billing
- Rates and Regulatory
- Accounting
- Power Purchasing
- Outside Communications
- Materials and Inventory

Component 2 - Project Methodology

The second project component has been broken into twelve major phases. Each major area has activities and deliverables for each phase. The phases are:

1. Analyze the current environment and Smart Meter requirements
2. Perform a Gap Analysis between the current environment and the requirements
3. Develop 2 to 3 Alternatives to bridge the gaps
4. Develop a Solution Plan and RFQ's where necessary for the Alternatives
5. Establish the Criteria to Choose an Alternative
6. Select the Alternative and Vendors to Implement the Solutions
7. Develop Implementation Plans for the Components of the Solutions
8. Perform Detailed Designs for Each Implementation Plan
9. Build and Develop each component
10. Perform Integrated Testing of the Components
11. Train personnel
12. Implement the Smart Meter Environment

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

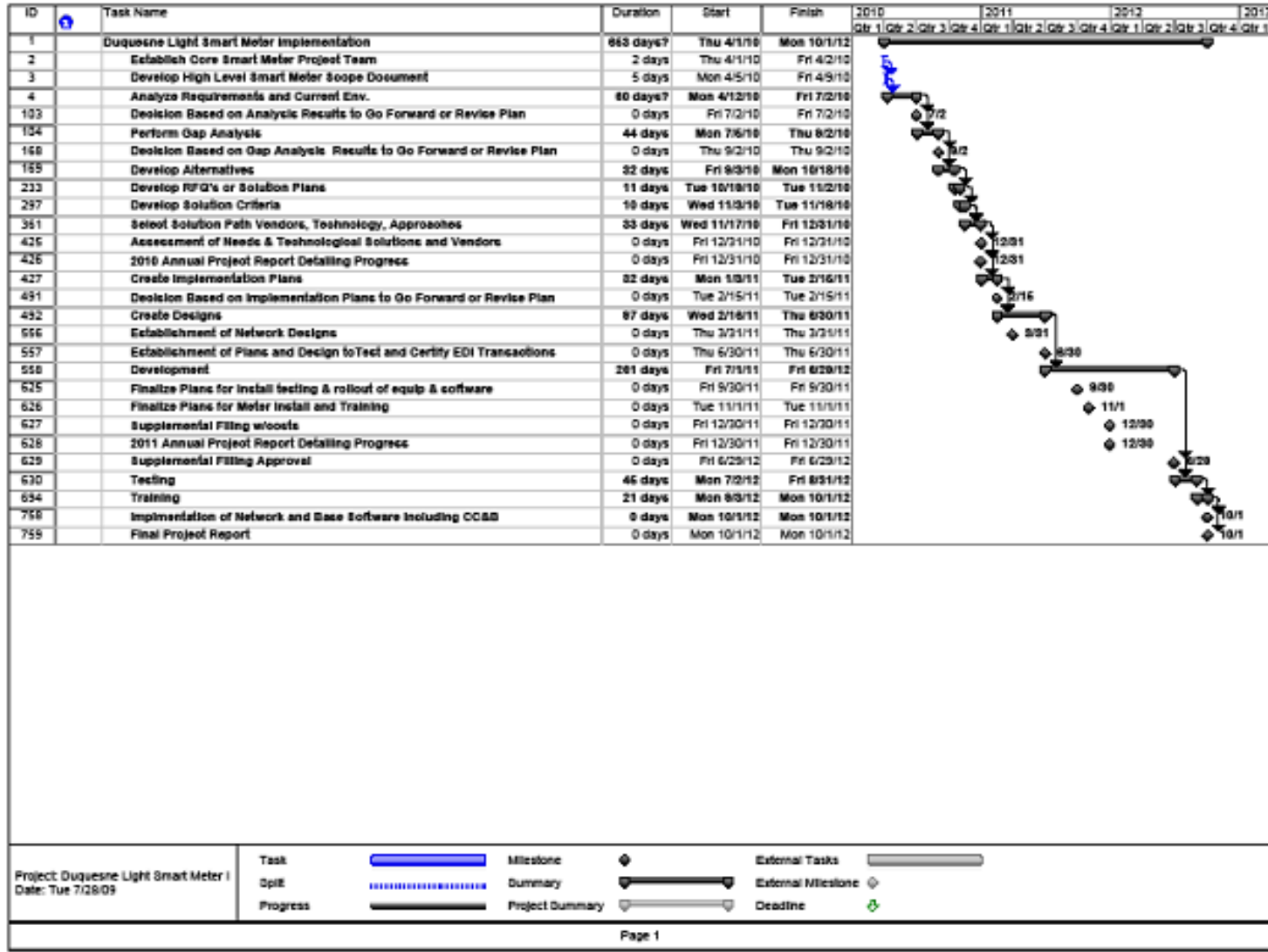
Component 2 - Project Deliverables

- Analysis documents that consist of the current environment and the requirements for implementing smart meters.
- Gap documents that details the requirements that are not capable of being met with the current environment.
- Alternatives Document for bridging the gaps. This includes enhancements, replacement, technology change, etc.
- "Request for Quotes" (RFQ's) to get resources, hardware, software, and intellectual property from 3rd parties.
- Solution Plans to implement the alternatives.
- Selection Criteria to evaluate the solutions.
- Comprehensive plan detailing the Integrated Solutions.
- Implementation Plans.
- Design Documents
- Test Plans
- Training Plans
- Hardware
- Software
- Networks
- Documentation
- Legal Documents
- Work Rules and Contracts
- Customer Material
- Interim Project Status Reports
- Annual Project Status Reports
- Change Control and Issues Management Reports

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

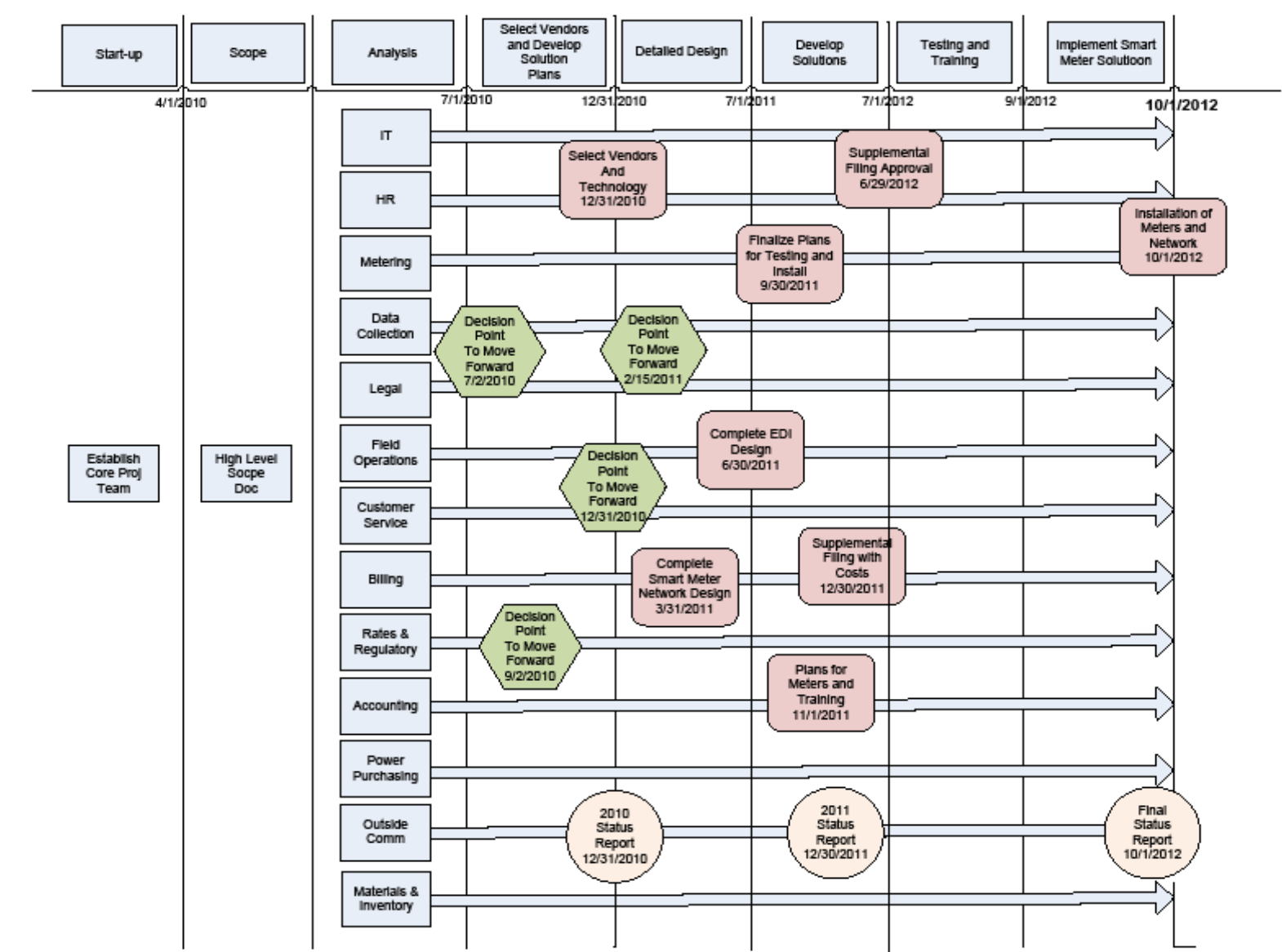
Component 2 - Project Schedules

Plan



Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

Component 2 - Chart



Component 2 - Project Schedule continued

Given the enormity of this project, it is clear from the outset that there will be involvement from all aspects of the Company, including: Information Technology, Human Resources, Metering, Data Collections, Legal, Field Operations, Customer Service, Billing, Rates & Regulatory, Accounting, Power Purchasing, Outside Communications and Materials and Inventory.

Duquesne has engaged in a detailed analysis of the involvement and responsibilities of each department throughout the life of this project, in order to ensure that personnel and resources are adequately accounted for.

The major tasks of the project will be performed by each key area, as defined below. These start with Analysis and move through the major processes described above ending with implementation. To a large degree each phase is dependent on the completion of a prior phase, and each area needs input from the other areas, thus the completion of phases must be synchronized across the project. Following details each area, the scope of that area's responsibility, the need for outside resources and the role the outside resources will fill.

Information Technology (IT):

- Business Applications – IT must address the business applications that are affected by a Smart Meter Infrastructure replacement. The applications include Work Management, Meter Data Management, Outage Management, IVR, Mobile Dispatch, Load Profiling and Forecasting and Material and Inventory Management.
- Data Integration Tasks – IT must determine Interfaces required, define Enterprise Service Bus requirements, determine high level Volume requirements, and determine high level frequency requirements.
- Data Communications must define current environment for Residential and C&I, define “short-term” co-existence strategy, and define “long-term” strategy.
- Data Warehouse - Must define Current Customer Data Warehouse (CDW), analyze requirements for CDW, define conversion for CDW to non DB2 platform, define requirement for Interval Read DW.
- Web Access must define current environment, develop requirements for future environment, and define conversion to future environment and address direct access.
- EDI – must define current environment and future EDI requirements.

Information Technology will use outside resources to assist with Data Integration, EDI, and Data Warehousing. Information Technology will require Subject Matter Experts (SME's) from within other organizations of Duquesne Light. This requirement will cause internal organizations, such as, Customer Service to hire outside services to provide coverage during the project.

The Information Technology infrastructure is being built upon Oracle Utilities Applications leveraging a Service Oriented Architecture. IBM AIX servers are the standard application platform.

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

Information Technology is dependent upon the Smart Meter and Network decision, and also on the availability of SME's to assist in Application replacement, enhancement, and testing.

Human Resources will focus on insuring the Union contracts and roles are in place to support the Smart Meter environment, and that personnel are trained to work in a safe, efficient knowledgeable fashion to implement the Smart Meter environment. Human Resources are dependent on Legal, and the creation of a timely testing environment to facilitate adequate training.

Metering will determine the Meter and Network Architecture for Residential and C & I customers. Metering will define meter replacement and retirement scenarios, meter retirement scenarios, network replacement and upgrade scenarios, meter network co-existence short term and post implementation long term. The Metering group will work closely with Information Technology, Data Collections, and Outside experts. Defining the Meter/Network architecture is the key to the project. The metering group will rely heavily on third party experts and look to upgrade/replace the Meter/Network environment as efficiently as possible.

Data Collections in a joint effort between IT and Metering tasks to analyze architecture scenarios for Data Collection for Residential and C & I meter reads, head-in, data collection archival and recovery must be completed. An analysis of data collection co-existence for the short term and post implementation long term will be completed. Information Technology and Metering will work closely with Outside experts. Defining the Data Collections architecture is one of keys to the project. The Data Collection group will rely heavily on third party experts and look to upgrade/replace the Data Collections environment as efficiently as possible. The key dependency for Data Collections is the Meter/Network Architecture.

Legal will be integral in defining work rules, contracts, tariffs, rates, and will work closely with Human Resources, Rates and Regulations, and Regulators. Legal will use outside services to assist with creating multiple documents for contracts, rates, and tariffs.

Field Operations will analyze work load, skill sets, methods, procedures and resources and plan processes to manage each of these areas in both the current and future environments. Field Operations will work closely with Human Resources, Information Technology, and Metering. Field Operations will need to provide a Subject Matter Expert (SME) for the project on a full time basis, and thus will need to use outside services to backfill the job performed by the SME. Field Operations is dependent on HR and Legal to finalize contract and Union rules. Field Operations is dependent on Metering and IT to establish a solid test environment to facilitate training.

Customer Service will analyze work load, skill sets, methods, procedures and resources and plan processes to manage each of these areas in both the current and future environments. Customer Service will work closely with Human Resources, Information Technology, and Metering. Customer Service will need to provide a Subject Matter Expert (SME) for the project on a full time basis, and thus

will need to use outside services to backfill the job performed by the SME. Customer Service is dependent on Metering and IT to establish a solid test environment to facilitate training.

Billing will define the current and future billing environment, billing requirements for Residential and C & I, billing system capabilities, and volumes and modes of delivery. Billing will work closely with Rates and Regulatory, Customer Service, and Information Technology. Billing will need to provide a Subject Matter Expert (SME) for the project on a full time basis, and thus will need to use outside services to backfill the job performed by the SME. Billing is dependent on Rates and Regulatory and IT to establish a solid test environment to facilitate training.

Rates and Regulatory will define current and future rates and regulatory requirements for residential and C & I customers, work load, documentation requirements and will define impacts. Rates and Regulatory will work closely with Billing, Legal, Metering, and Information Technology. Rates and Regulatory will use outside services to establish the appropriate rate structure to support the Smart Meter. Rates and Regulatory is dependent on IT to establish a solid test environment to facilitate testing and training.

Accounting will analyze and define current and future costing requirements for Residential and C & I, system capabilities, reporting requirements, work load, and documentation requirements. They will focus on gathering and reporting all costs associated with the project, and work closely with each group to insure timely and accurate data capture.

Power Purchasing will define data needed to support their purchasing requirements and strategies, define reporting requirements and timing. Power Purchasing will work closely with Data Collections, Metering, and Information Technology. Power Purchasing will use outside services to develop Purchasing profiles and strategies to support the Smart Meter. Power Purchasing is dependent on IT and Data Collections to establish a solid test environment to facilitate testing and training.

Outside Communications will analyze their current and future requirements for modes of communication to the customers, curtailment service providers and electric generation suppliers. They will analyze available technical capabilities, reporting requirements, work load and documentation requirements. Outside Communications will work closely with Customer Service and Field Operations. Outside Communications will use outside services to develop Customer messages, material and communications themes. Outside Communications is dependent on each group to deliver on time to match the communications release.

Materials and Inventory will analyze current levels of meter inventory, storage capacity for new meter delivery, current system capabilities and reporting requirements, work load and documentation to manage both the current and future meter and meter component inventories. Materials and Inventory Management will work closely with Field Operations, Information Technology, and Metering. Materials and Inventory Management will use outside services to establish inventory levels and warehousing and

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948)

storage strategies. Materials and Inventory Management is dependent on Metering, Field Operations and IT to manage the future project.

Component 2 - Project Milestones

The following are the key milestones identified for the second component of the project.

Completion Date	Milestone
7/2/2010	After reviewing the Gap Analysis a decision to move forward as planned or to alter project
12/31/2010	After reviewing the Comprehensive Plan a decision to move forward as planned or to alter project
12/31/2010	2010 Annual Status Report
2/15/2011	After reviewing the Implementation Plans a decision to move forward as planned or to alter project
3/31/2011	Completion of the Smart Meter Network Design
6/30/2011	Completion of Plans to design, test, and certify EDI transaction capability
9/30/2011	Finalize Plans for Install testing & rollout of equip & software
11/1/2011	Finalize Plans for Meter Install and Training
12/30/2011	2011 Annual Status Report
1/1/2012	Begin Customer Benefit Verification
10/1/2012	Implementation of Network and Base Software including CC&B
12/31/2012	Final Status Report

Component 2 - Key Interdependencies

The most critical interdependencies of the project center on the selection, design, and specific technologies of the network architecture for the smart meter deployment. The design of the network architecture will then lead to the selection of the network and smart meter vendors as well as the data collection vendors. The selections of those vendors will then lead to the specific technologies in terms of hardware, communications, and software. Thus once the network architecture is designed and the specific vendors and technologies are chosen, the design for all parallel activities can be completed. Each of the identified areas listed in the project plan can complete their design and plan the implementation.

The final key interdependency is configuring and deploying the target network architecture, with the appropriate hardware, communications, and software to a test environment. This environment will allow each area to test and integrate the new architecture and processes necessary for the smart meter deployment. This also establishes a training environment so that all key employees and affiliates are prepared for a successful implementation.

Component 2 - Key Critical Path Items

The timely successful completion of all activities is critical to any project. The following are the most significant to the Smart Meter Technology Project:

- Design of the Network Architecture
- Selection of Vendors, and exact technologies
- Integrated Implementation plan
- Development of Each Component
- Integration of each Component into a Test Environment
- Successful Testing of the Integrated Environment
- Successful Training of all key personnel

After the Grace Period Ends

Below is a description of how Duquesne will address Customer Requests, New Construction and System-Wide roll out.

Customer Request

Once the grace period expires the Commission requires each EDC to supply a smart meter upon request by a customer per Act 129. The Commission recognized that deployment of smart meters on a piecemeal or individual basis would involve greater costs than a systematic system-wide deployment. The Commission does not believe it was the intent of the General Assembly for the requesting customer to pay the entire cost of the smart meter and its supporting infrastructure, but rather the incremental costs over and above the cost for the system-wide deployment. The incremental cost, as well as the rollout, would vary depending on the meter vendor, the infrastructure, network, rollout schedule and communications that will be addressed during the grace period. Duquesne will comply with the Commission order and install a smart meter upon customer request after the end of the grace period and will file the incremental charges by 12/31/2011 which is the milestone for the supplemental filing. A detailed description of Duquesne's plan to deploy a smart meter upon customer request, as well as the associated incremental cost analysis, is product of the 30 month grace period required tasks to assess technologies, networks, software, hardware communications and meter deployment.

New Construction

The Commission directs all EDCs to develop a plan to install smart meters in new construction that is begun after the network grace period. Duquesne will comply with the Commission order to install smart meters within new construction after the end of the grace period. As part of the establishment of plans for installation of meters that is to be completed by the April 15th, 2012 milestone, Duquesne will include in our plan all new construction that we are aware of at the time we create the rollout schedule. Duquesne will make every effort to identify all formal requests for service and will also follow up on informal inquiries. As part of the plan, Duquesne will contact each municipality and request identity of any new development plans in their area. Duquesne will continually reassess the new construction as it is identified in our territory. If new construction has not been identified by the time we file our system wide plan, Duquesne will install a Smart Meter in new construction but all of the communications and infrastructure may not be in place at the time of installation. It is Duquesne's intent to work with the selected vendor during the grace period so that we may address each and every new construction site with not only the smart meters, but with some form of communications infrastructure to provide Duquesne and the customer with timely consumption information.

System-Wide Deployment

The Commission believes that it was the intent of the General Assembly to require all covered EDCs to deploy smart meters system-wide in accordance with a depreciation schedule not to exceed 15 years. Further the grace period is included as a period of time within the 15 year timeframe. The EDCs are

further directed to detail their system-wide deployment plans, including any type of tiered rollout the company proposes as well as the associated costs and benefits incurred from such a rollout.

Since Duquesne 's milestone for establishment of plans for installation of meters is April 15th 2012, and because we have to assess the company, customer and technological needs, select a technology, vendor, software, hardware, components, all of which tasks are in the proposed grace period milestone schedule, it is obviously too premature to layout a system wide plan. It is Duquesne's intent to meet the 15 year deployment schedule and we will design a plan that best meets the needs of our service territory, while at the same time operating in a manner that is both cost and time effective. A detailed account of the full system wide rollout will be part of the Supplemental filing on 12/31/2011.

Furthermore, after the Commission is provided with the grace period milestone reports, Duquesne will also file a "Smart Meter Progress" report on an annual basis that will update the status of their installation plans, including the number of customers who received meters in the prior year, the estimated number of customers scheduled to receive meters in the coming year and all costs associated with the meter plan incurred during the previous year.

Cost Recovery Options and timing

At Section 2807(F 7) the EDC may recover reasonable and prudent costs of providing smart meter technology, including the annual depreciation and capital costs of the Smart Meter Technology, system upgrades that the EDC may require to enable the use of the Smart Meter Technology less operating and capital cost savings realized by the installation and use of the smart meter technology. These costs may be recovered through base rates or on a full and current basis through a reconcilable automatic adjustment clause.

The Company proposes to implement a Smart Meter Charge ("Charge") that provides for full and current cost recovery through a reconcilable automatic adjustment clause under Section 1307. The proposed Charge is designed to recover smart meter plant in service ("PIS") and operating expense on a forward looking basis with quarterly filings and an annual reconciliation. This forward-looking mechanism will align revenue with the timing of expenditures. Under the Company's Smart Meter Charge, the rates paid by its customers in a given quarter will be based on the applicable smart meter revenue requirement ("SMRR") projected for that quarter using estimated expenses and capital expenditures for the upcoming quarter associated with the meter and support system costs. The Smart Meter Charge rate will be a fixed rate per meter per month calculated by dividing the projected SMRR by the forecast meters and customer bills for the upcoming period.

The Company proposes to calculate the Charge using a formula to provide a clear understanding of the methodology used to determine the rates for a given period.

The formula includes four primary components. First is a calculation of the revenue requirement for the upcoming period. Consistent with the Order, the revenue requirement includes the components of a pre-tax return on projected net PIS, depreciation and operating expenses. Net PIS includes eligible smart meter plant and supporting systems typically booked to FERC accounts 303 and 370 less accumulated depreciation applicable to eligible plant.

Second, an adjustment to the revenue requirement is made for operating cost savings, if any, realized by the Company by implementing smart meter technology.

Third, a reconciliation adjustment is made in an annual filing to reconcile for the actual revenue requirement for the previous calendar year versus the billed revenue for the same period. The sum of these three adjustments will be the net revenue requirement for the projected period.

Finally, the net revenue requirement is grossed-up to recover Pennsylvania gross receipts tax. The adjusted revenue requirement is divided by the projected number of meters and customer bills for the upcoming quarter to determine the monthly rate. The customer will be billed a fixed charge that is dependent on the type and quantity of smart meters installed at their premise.

The Company also proposes to expand Rule 14.2 of its tariff to charge customers for an interval meter and communication equipment during the grace period of smart meter deployment.

Cost recovery is discussed in detail in the direct testimony of William V. Pfrommer.

Milestone and status reporting schedule after the grace period will be detailed in the Supplemental filing. Below is a high level plan.

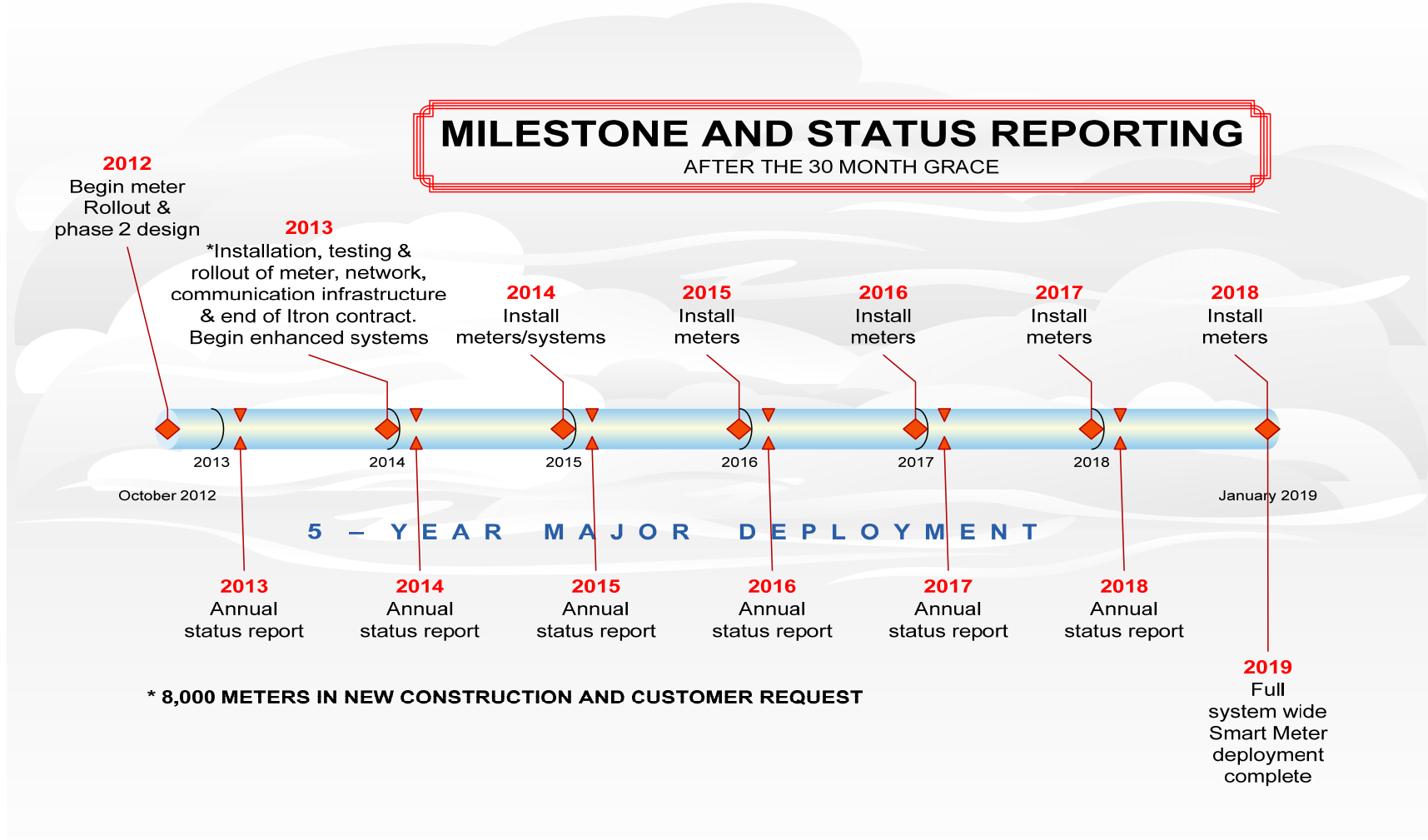


EXHIBIT B

Exhibit B - Duquesne's 30 Month Grace Period Budget Overview (Docket No. M-2009-2123948)

	2010	2011	2012	TOTAL
Component 1 - Billing & Metering System Upgrades				
<i>Duquesne Light</i>				
Direct Labor				
Information Technology	700,000	640,000	160,000	1,500,000
Business Areas	800,000	800,000	100,000	1,700,000
	<u>\$1,500,000</u>	<u>\$1,440,000</u>	<u>\$260,000</u>	<u>\$3,200,000</u>
Consultants - Information Technology	800,000	800,000	0	1,600,000
Equipment - Metering System Infrastructure	200,000	0	0	200,000
<i>Sub-award Contract - Oracle</i>				
<i>Scope: Replace existing CIS system with Oracle Utilities Customer Care & Billing system to enable dynamic billing</i>				
Professional Services: Lead	5,000,000	5,000,000	500,000	10,500,000
Equipment - CIS Application Software	1,700,000	0	0	1,700,000
Total - Component 1	\$9,200,000	\$7,240,000	\$760,000	\$17,200,000

Component 2 - Smart Meter Technology Infrastructure

<i>Duquesne Light</i>				
Direct Labor				
Technology	608,000	674,000	674,000	1,956,000
Human Resources	55,000	55,000	55,000	165,000
Metering	176,000	176,000	110,000	462,000
Data Collection	66,000	82,500	82,500	231,000
Legal	75,000	75,000	7,500	157,500
Field Operations	0	0	300,000	300,000
Customer Service	0	0	350,000	350,000
Billing	100,000	100,000	100,000	300,000
Rates & Regulatory	130,000	130,000	130,000	390,000
Accounting	55,000	55,000	55,000	165,000
Power Purchasing	137,500	137,500	137,500	412,500
Outside Communication	55,000	55,000	55,000	165,000
Materials & Inventory	82,500	82,500	75,500	240,500
	<u>\$1,540,000</u>	<u>\$1,622,500</u>	<u>\$2,132,000</u>	<u>\$5,294,500</u>
Consultants				
Technology	460,000	364,000	1,976,000	2,800,000
Metering	255,000	195,000	450,000	900,000
Data Collection	255,000	195,000	450,000	900,000
Legal	440,000	264,000	616,000	1,320,000
Field Operations	69,700	53,300	123,000	246,000
Customer Service	69,700	53,300	123,000	246,000
Billing	69,700	53,300	123,000	246,000
Rates & Regulatory	548,000	144,000	360,000	1,052,000
Power Purchasing	270,000	50,000	240,000	560,000
Outside Communication	120,000	30,000	40,000	190,000
Materials & Inventory	270,000	10,000	60,000	340,000
	<u>\$2,827,100</u>	<u>\$1,411,900</u>	<u>\$4,561,000</u>	<u>\$8,800,000</u>

Sub-award Contract - Sensus or ITRON

Scope: Implement SMART Meter communication and system infrastructure components listed under equipment below

Professional Services: Lead - TBD based on vendor	0	0	480,000	480,000
Equipment				
Communication/Network/Systems	0	0	2,500,000	2,500,000
Microtransceivers, HHD Install	0	0	125,500	125,500
Head End System	0	0	1,200,000	1,200,000
HAN/DR Software	0	0	400,000	400,000
Smart Meters / System / Components	0	0	2,000,000	2,000,000
	<u>\$0</u>	<u>\$0</u>	<u>\$6,225,500</u>	<u>\$6,225,500</u>

Total - Component 2 **\$4,367,100** **\$3,034,400** **\$13,398,500** **\$20,800,000**

TOTAL - Smart Meter Project **\$13,567,100** **\$10,274,400** **\$14,158,500** **\$38,000,000**

EXHIBIT C

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**DUQUESNE LIGHT COMPANY
Petition for Approval of Smart
Meter Procurement and
Installation Plan**

**:
:
:
:**

Docket No. M-2009-2123948

**DIRECT TESTIMONY OF
Ruth Ann DeLost**

Dated: August 14, 2009

1 **Q. Please state your name and business address.**

2 **A.** My name is Ruth Ann DeLost. My business address is Duquesne Light
3 Company, 411 Seventh Avenue, Pittsburgh, PA 15219.

4

5 **Q. By whom are you employed and in what capacity?**

6 **A.** I am employed by Duquesne Light Company (“Duquesne Light”. “Duquesne” or
7 “Company”) as the Director of Technology which includes Information
8 Technology, Telecommunications, Metering and Field Services.

9

10 **Q. Please describe your education and professional experience.**

11 **A.** I am an alumna of the Pennsylvania State University and have been in the
12 Technology and Business Analysis field for over 30 years. I have worked in a
13 variety of industries including utilities, manufacturing, distribution, transportation,
14 retail and professional services. The positions I held prior to joining Duquesne
15 include; Director of Manufacturing Consulting Services, MIS Manager for a heavy
16 manufacturing company, and Division Project Manager for a Fortune 100
17 Company installing manufacturing ERP systems at 14 plants. I also designed a
18 backend metering system for a Fortune 100 Company that would manage gas,
19 water, and electric metering data in conjunction with procuring appliance reads.

20

21 I began my tenure with Duquesne Light in 1996 before deregulation. I came to
22 Duquesne as a consultant to build Customer Data Warehouse and Decision
23 Support Systems. I then moved on to a major Automated Meter Reading (AMR)

1 project for both the fixed network and MV-90 Systems. In 1999 with the advent
2 of deregulation, I was named Project Lead of the Provider of Last Resort (POLR)
3 projects and was one of the 4 authors of the Supplier Tariff. In 2003 I became
4 Director of the Information Technology Department and in 2007 I had Telecom
5 Engineering, SCADA, Process Control, Metering and Field Services added to my
6 responsibilities.

7

8 **Q. What are your general duties as Director of Technology?**

9 **A.** I am responsible for overseeing the Company's Program Office, Information
10 Technology Applications and Infrastructure including SCADA and Process
11 Control, Telecommunications, Metering and Field Services. A portion of my
12 current responsibilities is to plan and design the Smart Meter Procurement and
13 Installation project to meet the requirements of Act 129.

14

15 **Q. What is the purpose of your testimony in this case?**

16 **A.** The purpose of my testimony is to describe how Duquesne's Smart Meter
17 Implementation Plan complies with Act 129 and the Commission Implementation
18 Order.

19

20 **Q. How is your testimony organized?**

21 **A.** There are four sections in my testimony. First, I describe Duquesne's overall
22 plan. Second, I describe Duquesne's current meter environment. Third, I
23 describe the tasks, schedule and milestones that we will meet within the 30

1 month grace period. Fourth, I describe how we will meet the legislative
2 requirements of satisfying customer requests, new construction and system wide
3 deployment after the grace period ends. I am also sponsoring the following
4 exhibits attached to the Petition:

5

6 Exhibit A - Smart Meter Plan “The Plan”

7 Exhibit B - Duquesne’s 30 month grace period Budget

8

9 **Q. Please explain how these exhibits were prepared.**

10 **A.** All of my exhibits were prepared either by me or under my direct supervision.

11 They were prepared, to the best of my knowledge, in accordance with

12 Commission requirements and practice.

13

14 **I. Duquesne’s overall Plan**

15

16

17 **Q. Please describe the background for Smart Meter implementation in this**
18 **proceeding.**

19 **A.** Act 129 of 2008 (“Act”) required electric distribution companies (“EDCs”) with at
20 least 100,000 customers to file a smart meter technology procurement and
21 installation plan (“Plan”) for Commission approval within nine months of the
22 effective date of the Act (2807 (f)). The Commission’s Implementation Order

1 ("Order") on smart meter filings entered June 24, 2009 set forth additional
2 details, requiring EDC's to submit their Plan by August 14, 2009.

3
4 Each smart meter plan is required to include: a summary of the EDC's current
5 deployment of smart meter technology, if any; a plan for future deployment,
6 complete with dates for key milestones and measurable goals; and such other
7 information as is required by this Order (Order at page 3).

8
9 The Order also identified specific information to be included in the EDC's Plan.

10
11 Implementation Development and Installation Milestones

12 Grace period for implementation

13 Installation at customer's request

14 Installation in new construction

15 Minimum smart meter requirements

16 Additional smart meter requirements

17 Meter/Data access

18 Cost recovery

19
20 I will discuss the company's proposed implementation plan, the current meter
21 environment, and the technical aspects of the meters. Mr. Pfrommer will discuss
22 Smart Meter cost recovery in his testimony.

23

1 **Q. Please summarize Duquesne's plan.**

2 **A.** Duquesne's Plan is designed to comply with the requirements set forth in the Act
3 and the Order. The Plan attached as Exhibit A addresses all of the elements of
4 the Order, with the exception of supporting data related to estimates of the cost
5 to install meters necessary to meet the minimum requirements of Act 129 and
6 the costs to implement the additional smart meter technology capabilities set
7 forth in the Implementation Order. As set forth In Duquesne's Petition
8 accompanying this filing, and for reasons explained later in my testimony,
9 Duquesne requests an extension to file this data on July 1, 2010. I note that
10 such a request for permission to file this data at a later date is authorized by the
11 Commission's Implementation Order, at page 31. My testimony includes a
12 summary of Duquesne's current meter deployment, describes the 30 month
13 grace period tasks and milestones, and addresses future deployment after the
14 grace period ends.

15

16 **II Current Meter Environment**

17

18

19 **Q. Please describe Duquesne's current meter environment.**

20 **A.** Duquesne took the lead in Pennsylvania and implemented an Automated Meter
21 Reading ("AMR") system across the entire zone between 1996 and 1998. Exhibit
22 A "Current Meter Environment", beginning on page 2, provides a detailed
23 description of the content and operation of Duquesne's current meter

1 environment along with illustrations of Duquesne's entire meter reading
2 environment, Duquesne's AMR system for Residential and very Small
3 Commercial and Industrial ("C & I") customers, Duquesne's Medium C & I
4 customers with billing demand >50 kw and <300 kw, and Duquesne's Large C &
5 I customers with billing demand > 300 kw.

6
7 **Q. How did the company fund the implementation of the current AMR system?**

8 **A.** The entire AMR system installation was undertaken without Duquesne filing for
9 an increase to rates to rate payers. The annual operational savings generated
10 from the AMR system offset much of the annual AMR cost.

11
12 **Q. Have Duquesne's customers received benefits from the current AMR
13 system?**

14 **A.** Yes. We have provided 99.9% actual reads for Customer Billing. The Daily
15 reads provide better support for customer inquiries and customer moves (start
16 and end of service readings) can be accomplished automatically. Hourly interval
17 data is provided for Large C&I customers and provides the opportunity for these
18 customers to participate in Real Time and Day Ahead Pricing programs as well
19 as PJM Demand Side Response programs.

20
21 **Q. Have Electric Generation Suppliers received benefits from Duquesne's
22 current AMR system?**

1 **A.** Yes. Because of the 99.9% actual reads for Customer Billing the EGSs start out
2 with a clean read on switching and are provided with more actual monthly
3 information on the Eligibility List. The Daily reads are utilized to populate the PJM
4 eSchedules so the EGS has a more accurate preliminary bill thus minimizing
5 reconciliation. Because Duquesne has daily reads on the majority of our
6 Residential and Small C & I accounts and we have hourly interval reads on the
7 Large C & I accounts, Duquesne is able to calculate the customer's 1CP and
8 5CP more accurately. Finally the AMR system has played an essential role in
9 supporting Duquesne's shopping environment as approximately 50% of our zonal
10 load is shopped.

11

12 **Q. Has Duquesne achieved operational benefits by implementing the current**
13 **AMR system?**

14 **A.** Yes. Duquesne eliminated over 90% of our meter reading work force. Our
15 Customer Service Representatives have more timely information to address
16 customer inquiries. Because Pittsburgh is a college town with at least 3 major
17 universities, and several colleges, Duquesne must support an enormous amount
18 of moves. Our AMR system has provided the means to automatically handle
19 service starts and ends. Finally the hourly interval and daily information is utilized
20 for daily forecast and day after PJM settlement and reconciliation.

21

22 **Q. Does Duquesne expect to achieve significant cost savings with the**
23 **implementation of Smart Meters?**

1 **A.** No. The Company has already realized significant operational savings through
2 implementation of the current AMR system. While the Company does not
3 anticipate any meaningful additional operational savings by replacing the existing
4 AMR system with smart meter technology, as we move through the process of
5 system design, vendor selection and testing, we will be better equipped to
6 identify other cost saving opportunities.

7
8 **Q. Does any portion of Duquesne's current meter infrastructure meet the
9 minimum legislative requirements of Smart Meter technology?**

10 **A.** Yes. The 900 meters on our large C & I customers with demand > 300 kw meet
11 the minimum smart meter requirements of the legislation and the additional
12 capabilities listed in the order with the exception of remote connect disconnect,
13 which cannot be done with a poly phase meter even with the newest smart
14 meters, and, while Duquesne is compliant with the nationally recognized ANSI
15 standards C12.19 and C12.21, our current meters are not C12.22 compliant.

16
17 **Q. Does the company anticipate benefits from the current AMR environment
18 to support the energy efficiency and conservation and demand response
19 plan?**

20 **A.** Partially. Because we procure hourly interval reads on our Large C & I
21 customers they can more easily participate in PJM's DSR.

22

1 **Q. Does the Company have any contractual obligations for the current meter**
2 **reading Environment?**

3 **A.** Yes. The Company is currently under contract with Itron for AMR maintenance
4 and support for all software, polling engines, routers, DCU mobile units,
5 programs etc. through 12/31/2013. Basically this contract applies to Metering
6 systems and components that support the Residential and Small, Medium and
7 Large C & I customers.

8
9

10 **III Duquesne's Requirements, Tasks, Schedules and Milestones for the 30**
11 **month grace period**

12
13

14 **Q. Has Duquesne laid out a plan, milestones and reporting schedule within**
15 **the 30 month grace period?**

16 **A.** Yes. The schedule is depicted in Exhibit A "Milestone and Reporting Schedule-
17 30 Month Grace Period". This schedule is based on the 30 month grace period
18 tasks, Duquesne's experience in implementing the existing AMR system,
19 contractual commitments, and input from publicly available information on Smart
20 Meter Implementations, vendor discussions and from an advisory consultant.

21

22 **Q. Why do you believe this schedule is reasonable/ appropriate?**

1 **A.** The Company's normal planning process requires thorough analysis of capital
2 projects. Duquesne created a Program Office in 2007 to manage major projects
3 and the Program Office adheres to the Project Management Standards
4 developed by the Project Management Institute (PMI). The steps that are laid
5 out in the plan are all necessary and expected when implementing a project of
6 this size and complexity. Meters are only one component in smart meter
7 technology. The plan includes details of major tasks and components of the
8 plan. There is a comprehensive list of all business processes/areas that must be
9 considered and analyzed as these areas are affected by Smart Meter
10 Technology. There is a task list providing detail of tasks that must be completed
11 in order to achieve a successful implementation. All of the above items are
12 included in Exhibit A. Finally, Duquesne has already been through an extremely
13 successful major meter infrastructure replacement when we implemented AMR
14 across our entire zone. Duquesne is well aware of the enormity of the project,
15 the pitfalls and risks and is extremely thorough in its analysis, design, planning,
16 testing, training and implementation of this important project.

17

18 **Q. What is the company's plan to install an interval meter upon customer**
19 **request during the grace period?**

20 **A.** During the grace period Duquesne will implement the same meter that we
21 currently have implemented on our Large C & I customers with demand >300 kw.
22 These meters provide 15 minute interval data.

23

1 **Q. Does Duquesne provide access to interval data in real-time, if requested, in**
2 **a manner consistent with the RTO requirements?**

3 **A.** Yes, Duquesne follows the rules set by the PJM RTO and provides real time data
4 via kyz pulse and time cards to requesting customers and/or CSPs.

5
6 **Q. Can the Medium and Large C&I Meters be converted to Smart Meters with**
7 **full compliance with the basic requirements of the act?**

8 **A.** Yes. With meter configuration changes, purchase and installation of additional
9 communication equipment, increased communication costs, purchase of an
10 additional MV-90 system and multiple work stations and, with backend system
11 changes, these meters would meet what the Commission has deemed the
12 minimum “smart meter technology” requirements of the Act. They could also
13 meet the additional capabilities listed in the order with the exception of remote
14 connect disconnect, which cannot be done with a poly phase meter even with the
15 newest smart meters, while Duquesne is compliant with the nationally recognized
16 ANSI standards C12.19 and C12.21, our current meters are not C12.22
17 compliant.

18 This option will be examined during the grace period, but with the new smart
19 meter technology communications functionality and other capabilities, this option
20 will probably be less cost effective than full replacement.

21
22 **Q. Please describe the need for a new Customer Care and Billing, Data**
23 **Management and Web Application implementation during the grace period.**

1 **A.** By January 1, 2010, Duquesne must have filed a Time-of-Use (TOU), Real Time
2 Pricing (RTP) or Critical Peak Pricing (CPP) plan for all customers/customer
3 classes that have Smart Meter Technology installed. While our current
4 customer care, data management and web applications systems satisfy today's
5 business, they will not support the TOU, RTP or CPP rate structures, the large
6 amount of usage data or the sharing of that data with the customer or their
7 authorized third party. Today only a handful of the Company's customers
8 currently have interval meters in place and are able to respond to pricing signals.
9 However, these customers cannot be billed through our current customer care
10 and billing system as it does not have the capability to manage such a rate.
11 Rather they are billed through a separate set of programs written to manage
12 these very few specific customers and this side system is reaching full capacity.
13 Only with the replacement of the Customer Care and Billing system will
14 Duquesne be able to meet the requirements of the Act by establishing a system
15 that can effectively manage and bill TOU, RTP or CPP rates for every customer
16 class. A data management system will support the Customer Care and Billing,
17 metering systems (both current and future) and support the new Web
18 Applications. The Web Applications will enable Duquesne to provide customers,
19 the EGS, the CSP or any customer authorized third party with consumption and
20 price information, all of which are requirements of the Act. As explained in the
21 Smart Meter Plan, Exhibit A, the Company will be upgrading its existing Oracle
22 billing system during the first half of the Grace Period to accommodate the later
23 addition of Smart Meters, and to support billing of new metering options during

1 the Grace Period. The appropriate upgrade module has already been selected,
2 and the upgrade is expected to be completed by the last quarter of 2012. I
3 emphasize that these base systems are not meter vendor specific. In other
4 words, they can house and share data no matter which meter vendor is selected,
5 and regardless of what Smart Meter capabilities are ultimately chosen. They are
6 the foundation to the infrastructure.

7
8 **Q. Please explain the spend during the grace period.**

9 **A.** Exhibit B “Duquesne’s 30 Month Grace Period Budget” displays components
10 and their associated costs for the 30 month grace period activities. The tasks
11 cover the base systems such as Customer Care and Billing, the Web
12 applications, interfaces, analysis, design, RFPs, pilots, vendor selection
13 processes, the development of training, outside communications and
14 implementation plans and the actual training and implementation of the base
15 systems needed to support a rollout. Once vendor selections, designs and plans
16 are complete, Duquesne will submit a Supplemental Filing by 12/31/2011 that will
17 include the detailed costs of the full rollout and any reconciled costs from the
18 2009 through 2011 spend. The estimated \$38 million spend during the grace
19 period covers the normal steps that are all normal prerequisites to full
20 implementation of Smart Meter Technology.

21

22

1 **Q. Did Duquesne file for Stimulus funds under the U.S. Department of**
2 **Energy’s (DOE) Smart Grid Investment Grant (SGIG) Program?**

3 **A.** Yes. On August 6th, 2009, Duquesne filed under the SGIG for funding to cover
4 the design and development of a smart meter technology project. Included in the
5 scope were detailed steps to plan, design, test and build a solid back end
6 infrastructure to support Smart Meter Technology. These are the same tasks
7 that are detailed in Duquesne’s 30 month grace period milestones including the
8 initial year rollout of 8,000 meters. DOE anticipates notifying applicants selected
9 for award within 90 days after application date of August 6, 2009.

10

11 **IV Duquesne’s Plan after the Grace period**

12

13

14 **Q. Please describe how you will coordinate system wide deployment.**

15 **A.** As part of the 30 month grace period Duquesne will be engaged in the analysis,
16 design, vendor selection, planning and implementation of the base network
17 systems. The Commission directs each EDC to complete these steps in the 30
18 month grace period. One of the required tasks is the “Establishment of plans for
19 installation of meters consistent with the rollout requirements” The system wide
20 rollout depends on many things including the vendor selection and
21 communications. Duquesne will provide a system wide rollout plan within the 30
22 month grace period as directed by the Commission by 11/1/2012.

23

1 **Q. How will Duquesne handle the implementation of Smart Meters upon**
2 **customer request after the 30 month grace period?**

3 **A.** Duquesne will comply with the Commission's Implementation Order and install a
4 Smart Meter upon customer request after the end of the grace period. The
5 Commission recognized that deployment of smart meters on a piecemeal or
6 individual basis would involve greater costs than a systematic system-wide
7 deployment. The Commission does not believe it was the intent of the General
8 Assembly for the requesting customer to pay the entire cost of the smart meter
9 and its supporting infrastructure, but rather the incremental costs over and above
10 the cost for the system –wide deployment. The incremental cost would vary
11 depending on the meter vendor, the infrastructure, network, rollout schedule and
12 communications that will be addressed during the grace period. Duquesne will
13 file a tariff for recovery of the incremental charges from requesting customers, if
14 any, by 12/31/2011, which is prior to expiration of the requested 30 month grace
15 period.

16
17 **Q. How will Duquesne handle new construction after the grace period?**

18 **A.** Duquesne will comply with the Commission order and install smart meters within
19 new construction after the grace period. The Commission directs all EDCs to
20 develop a plan to install smart meters in new construction that is begun after the
21 network grace period. As part of the establishment of plans for installation of
22 meters that is to be completed by the April 15th, 2012 milestone, Duquesne will
23 include all new construction that it is aware of at the time of scheduling the

1 system-wide deployment and will include those new developments in its plan.
2 Duquesne will make every effort to identify all formal requests for service and will
3 also follow up on informal inquiries. As part of the plan, Duquesne will contact
4 each municipality and request identification of any new development plans in
5 their area. If new construction has not been identified by the time the system
6 wide plan is filed, Duquesne will install a Smart Meter in new construction but all
7 of the communications and infrastructure may not be in place in that area at the
8 time of installation. Duquesne will work with the selected vendor during the
9 grace period so that we may address each and every new construction site with
10 not only the meter installation, but with a form of communications infrastructure to
11 provide Duquesne and the customer with timely consumption information.

12
13 **Q. How will Duquesne address standards and formats for electronic data**
14 **communications with customers and third parties?**

15 **A.** Duquesne will work through the Electronic Data Exchange Working Group
16 (EDEWG) to develop appropriate EDI transactions meeting all of the applicable
17 standards. Duquesne will also provide Web Access to consumption and price
18 information for the customer, as well as the customer's authorized third party.
19 Duquesne would like to work through the EDEWG Committee or another
20 Commission group to create a standard Web Portal that is easily accessible by
21 all authorized parties and that will follow a common layout and standard.
22 Duquesne will provide direct access to and use of price and consumption
23 information as well as real time operational meter data. It is Duquesne's hope

1 that managing this through the Commission established working group, such as
2 EDEWG, will assure that standards as well as standard formats are met.

3
4 **Q. When does the company plan to file the annual smart meter progress
5 report?**

6 **A.** Per Exhibit A “Milestone and Status Reporting Schedule After The Grace Period”,
7 Duquesne proposes to file the smart meter progress report on or about March
8 1st, each year after the grace period ends. The report will be prepared to reflect
9 calendar year progress and future plans. The status update of our installation
10 plans will include the number of customers who received meters in the year, the
11 estimated number of customers scheduled to receive meters in the coming year
12 and all costs associated with the meter plan incurred during the previous year.

13
14 **Q. Is the company seeking any waivers of cost benefit analysis on the cost of
15 the minimum and extended Smart Meter requirements?**

16 **A.** Yes. Duquesne is seeking a waiver for the cost benefit analysis of the basic and
17 extended Smart Meter capabilities. At this time Duquesne does not have the
18 required cost information, and it will take some time to assess existing and
19 expanded system capabilities to estimate the cost of basic and extended
20 capabilities. The Company proposes to provide the cost benefit analysis to the
21 Commission by July 1, 2010. At that time, the Company will make a
22 recommendation to the Commission regarding the extended capability
23 technology selection. The Company anticipates having a final determination of

1 meter capabilities before the end of 2010, in order to prepare timely bid
2 specifications. This time frame is important in order for the Company to complete
3 system design and technology and vendor selection within the Grace Period.
4

5 **Q. Do you wish to provide concluding remarks?**

6 **A.** Yes. First, the Plan is based on Duquesne's real-life experience with AMR, and
7 presents a thorough process to ensure the entire project is successful as well as
8 cost effective. Second the customers will be provided with TOU, RTP, CPP
9 and/or other dynamic rates as well as timely consumption information, so that
10 they can more effectively manage their consumption and their electricity costs
11 while contributing to a cleaner environment. Third, Duquesne is performing the
12 due diligence that is required and would be expected for such a major
13 investment. In doing so we will provide our customers with a product that best
14 meets their needs while at the same, implementing and operating the
15 infrastructure in a manner that is cost and time effective. We respectfully request
16 the Commission approve the \$38 M grace period budget and authorize cost
17 recovery pursuant to the cost recovery mechanism as proposed by Mr.
18 Pfrommer.
19

20 **Q. Does this conclude your direct testimony?**

21 **A.** Yes it does.

EXHIBIT D

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Docket No. M-2009-2123948

Duquesne Light Company

Exhibit D

Direct Testimony of William V. Pfrommer

1 **Q. Please state your full name and business address.**

2 A. My name is William V. Pfrommer. My business address is 411 7th Avenue,
3 Pittsburgh, PA 15219.

4
5 **Q. By whom are you employed and in what capacity?**

6 A. I am Manager, Rates & Tariff Services, for Duquesne Light Company
7 (“Company”).

8
9 **Q. Please provide your educational background and describe your professional
10 experience.**

11 A. I received a Bachelor of Science Degree in Mechanical Engineering from Grove
12 City College in 1978 and a Masters in Business Administration from the
13 University of Pittsburgh in 1989. I was employed by Westinghouse Air Brake
14 Company in 1978 and performed various duties as a staff engineer. I began my
15 career at the Company in 1982 as a Project Engineer in the Engineering and
16 Construction Division at the Beaver Valley Power Station. Over the last 27 years,
17 I have held staff, supervisory and managerial positions in engineering, nuclear,
18 construction, customer technical services, marketing and rates. In the Rate
19 Department at Duquesne, I was responsible for the calculations to unbundle the
20 rates to support the implementation of electric utility restructuring and customer
21 choice in Pennsylvania. As General Manager of Rates at AquaSource, Inc., the
22 previous water and wastewater subsidiary of DQE, Inc., I was responsible for
23 providing direction to regional controllers on all regulatory matters, and
24 maintaining the tariffs in the 12 states where AquaSource had utility operations. I
25 have testified on rate design matters before the Pennsylvania Public Utility
26 Commission (“Commission”) and Federal Energy Regulatory Commission
27 (“FERC”). A list of proceedings in which I have submitted testimony is provided
28 in Appendix A. I am a licensed professional engineer in the Commonwealth of
29 Pennsylvania.

30
31 **Q. What is the purpose of your direct testimony?**

1 A. The purpose of my testimony is to describe and support the proposed smart meter
2 cost recovery mechanism and tariff changes to recover the Company's cost of
3 implementing smart meter technology required by Act 129.

4
5 **Q. Are you sponsoring any exhibits as part of your direct testimony?**

6 A. I am sponsoring the following exhibits:
7 Exhibit WVP – 1: Smart Meter Charge Proposed Tariff Supplement Format
8 Exhibit WVP – 2: Hypothetical Smart Meter Charge Calculations

9
10 **Q. Please explain how these exhibits were prepared.**

11 A. All of my exhibits were prepared either by me or under my direct supervision.
12 They were prepared, to the best of my knowledge, in accordance with
13 Commission requirements and practice.

14
15 **Q. How is your testimony organized?**

16 A. My testimony may be summarized as follows. First, I will discuss the cost
17 recovery aspects of the Act and Implementation Order. Second, I will discuss the
18 Company's proposed cost recovery mechanism and the elements of the
19 mechanism. Finally, I will discuss the proposed tariff supplement and the
20 additional changes to the tariff to recover the cost of smart meter implementation.

21
22 **I. BACKGROUND**

23
24 **Q. Please describe the background for smart meter cost recovery in this filing.**

25 A. Act 129 of 2008 ("Act") requires electric distribution companies ("EDCs") with
26 at least 100,000 customers to file a smart meter technology procurement and
27 installation plan ("Plan") for Commission approval. The cost of smart meter
28 technology may be recovered under a 66 Pa. C.S. §1307 ("Section 1307") filing
29 (66 Pa. C.S. § 2807 (f) (4)). The Act allows an EDC to recover reasonable and
30 prudent costs of providing smart meter technology including annual depreciation
31 and capital costs over the life of the smart meter technology and the cost of any

1 system upgrades required to enable the smart meter technology, less operating and
2 capital cost savings realized by the EDC (66 Pa. C.S. § 2807(f) (7)).

3 The Commission’s Implementation Order (“Order”) on smart meter filings
4 entered June 24, 2009 set forth additional details, requiring EDC’s to submit their
5 Plan by August 14, 2009.

6
7 In order to determine what these costs are, each EDC will document all costs
8 relating to its smart meter deployment and installation plan. These costs will
9 include both capital and expense items relating to all plan elements,
10 equipment and facilities, as well as an analysis of all related administrative
11 costs. More specifically, these costs would include, but not be limited to,
12 capital expenditures for any equipment and facilities that may be required to
13 implement the smart meter plan, as well as depreciation, operating and
14 maintenance expenses, a return component based on the EDC’s weighted cost
15 of capital, and taxes. Administrative costs would include, but not be limited
16 to, incremental costs relating to plan development, cost analysis, measurement
17 and verification, and reporting. In addition, the plan should include cost
18 estimates for testing, upgrades, maintenance and personnel training. The EDC
19 must also provide sufficient support to demonstrate that all such costs are
20 reasonable and prudent with respect to its smart meter plan. Consistent with
21 Section 315(a), the burden of proof shall be on the EDC. 66 Pa.C.S. § 315(a).
22 (Order at page 29).
23

24
25 The Commission will allow each EDC to develop a reconcilable adjustment
26 clause tariff mechanism in accordance with 66 Pa.C.S. § 1307 and include this
27 mechanism in its smart meter plan. Such a mechanism shall be designed to
28 recover, on a full and current basis from each customer class, all prudent and
29 reasonable smart meter costs less operating and capital cost savings realized
30 by the EDC from the installation and use of smart meter technology. The
31 mechanism shall be set forth in the EDC’s tariff, accompanied by a full and
32 clear explanation as to its operation and applicability to each customer class.
33 The tariff mechanism will be subject to an annual review and reconciliation in
34 accordance with 66 Pa.C.S. § 1307(e). Such annual review and reconciliation
35 will be scheduled to coincide with the submission of the “Smart Meter
36 Progress” annual report outlined in Section B.1 above. (Order at page 31).
37

38 **Q. Were you able to identify all of the costs to fully deploy smart meter**
39 **technology in your calculations as described above in the Act and in the**
40 **Order?**

1 A. No. The Order established a 30 month Grace Period starting upon each EDCs
2 Plan approval during which EDCs are not required to install a smart meter. The
3 Order sets forth additional criteria for smart meter deployment during the Grace
4 Period specifically upon customer request and in new construction. As described
5 by Ms. DeLost, the Company plans to conduct analysis during the Grace Period to
6 determine the best Plan for the Company. The Company also plans to install the
7 back office resources and systems required to support the full deployment of
8 smart meters which are necessary now regardless of the smart meter that is
9 selected. As such, the exhibits to my testimony use hypothetical numbers to
10 illustrate the concept and calculations to support the proposed cost recovery
11 mechanism.
12

13 II. COST RECOVERY MECHANISM

14
15 **Q. Please provide an overview of the Company’s proposed cost recovery
16 mechanism.**

17 A. The Company proposes to implement a Smart Meter Charge (“Charge”) that
18 provides for full and current cost recovery through a reconcilable automatic
19 adjustment clause under Section 1307. The proposed Charge is designed to
20 recover smart meter plant in service (“PIS”) and operating expense on a forward
21 looking basis with quarterly filings and an annual reconciliation. This forward-
22 looking mechanism will align revenue with the timing of expenditures. Under the
23 Company’s Smart Meter Charge, the rates paid by its customers in a given quarter
24 will be based on the applicable smart meter revenue requirement (“SMRR”)
25 projected for that quarter using estimated expenses and capital expenditures for
26 the upcoming quarter associated with the meter and support system costs. The
27 Smart Meter Charge rate will be a fixed rate per meter per month calculated by
28 dividing the projected SMRR by the forecast meters and customer bills for the
29 upcoming period.
30

1 **Q. Does the Company have other cost recovery mechanisms in place to recover**
2 **costs on an ongoing basis?**

3 A. Yes, there are several. The proposed Smart Meter Charge is similar in concept to
4 the method used by the Company to update its transmission rates. In Docket R-
5 00061346, the Company proposed and the Commission approved a transmission
6 tracker to synchronize revenue and expense as well as retail and wholesale rates
7 on a forward-looking basis. The transmission tracker also provides a
8 reconciliation of prior period revenue and expense. The transmission tracker is
9 defined in Appendix A of the Company's tariff.

10 In Docket M-2008-2032278, the Commission approved the Company's Consumer
11 Education Surcharge that provides full and current cost recovery with an annual
12 true-up. The surcharge is based on projected consumer education expenses in the
13 upcoming year.

14 Recently, in Docket M-2009-2093217, the Company filed for Commission
15 approval of its proposed Energy Efficiency and Conservation and Demand
16 Response ("EEC&DR") Plan cost recovery surcharge. This surcharge is forward-
17 looking based on the projected expense for the upcoming planning year of the
18 EEC&DR Plan. The EEC&DR surcharge is currently pending before the
19 Commission.

20

21 **Q. Please describe the components of the proposed Smart Meter Charge.**

22 A. The smart meter initiative is a new service and incremental to the existing
23 business. All incremental direct and indirect costs associated with implementing
24 this new service will be captured in the Smart Meter Charge. The Company
25 proposes to calculate the Charge using a formula to provide a clear understanding
26 of the methodology used to determine the rates for a given period.

27 The formula includes four primary components. First is a calculation of the
28 revenue requirement for the upcoming period. Consistent with the Order, the
29 revenue requirement includes the components of a pre-tax return on projected net
30 PIS, depreciation and operating expenses. Pre-tax return is the Company's
31 weighted cost of capital grossed-up for the cost of state and federal income taxes

1 applicable to the return on net PIS. Net PIS includes eligible smart meter plant
2 and supporting systems typically booked to FERC account 370 less accumulated
3 depreciation applicable to eligible plant.

4 Second, an adjustment to the revenue requirement is made for operating cost
5 savings, if any, realized by the Company by implementing smart meter
6 technology.

7 Third, a reconciliation adjustment is made in an annual filing to reconcile for the
8 actual revenue requirement for the previous calendar year versus the billed
9 revenue for the same period. The sum of these three adjustments will be the net
10 revenue requirement for the projected period.

11 Finally, the net revenue requirement is grossed-up to recover Pennsylvania gross
12 receipts tax. The adjusted revenue requirement is divided by the projected
13 number of meters and customer bills for the upcoming quarter to determine the
14 monthly rate. The customer will be billed a fixed charge that is dependent on the
15 type and quantity of smart meters installed at their premise.

16

17 **Q. Have you prepared an exhibit that provides the formulas for the SMRR**
18 **calculations?**

19 A. Yes. Exhibit No. WVP-1 provides the form of tariff supplement the Company
20 proposes to use for the Smart Meter Charge. The proposed tariff supplement
21 provides the formula and a description of each component of the formula. Exhibit
22 No. WVP-2 provides the format the Company proposes to use for the quarterly
23 update populated with hypothetical numbers to illustrate the calculation of the
24 SMRR and a Smart Meter Charge.

25

26 **Q. What is the rate of return the Company proposes to use in the SMRR**
27 **calculations?**

28 A. The Company proposes to use the most recently available data to derive the rate
29 of return for the SMRR calculation. The Company proposes to use the cost of
30 debt and cost of preferred equity stated in the most recent quarterly earnings
31 report filed with the Commission at the time of each quarterly Smart Meter

1 Charge filing. In addition, the Company proposes to use the common equity
2 parameters from the Company's most recent proceeding that had an approved
3 return on equity to determine the rate of return. The most recent approved return
4 on equity was established in the Company's transmission formula proceeding at
5 FERC at Docket No. EL06-109-000. The FERC order established a base return
6 on common equity of 10.90% and a common equity capitalization between 45%
7 and 59%. In combination, adjustments to the common equity share of
8 capitalization due to the FERC order parameters will result in an offsetting
9 adjustment to the debt capitalization component.

10 Page 2 of Exhibit WVP-2 shows the derivation of a hypothetical weighted cost of
11 capital. The calculations are a combination of the Company's first quarter 2009
12 earnings report data and the approved common equity components. As shown,
13 the return component of the Company's proposed Smart Meter Charge using
14 these figures reflects a 9.32% weighted average cost of capital. Adjusting the
15 non-debt components of the cost of capital for state and federal income taxes
16 produces a pre-tax rate of return of 14.17%.

17

18 **Q. What depreciation rate are you proposing to use for smart meters and**
19 **common costs to calculate the applicable SMRR?**

20 A. The Company proposes to use a depreciable life of 15 years for smart meters to
21 align with the 15 year depreciation period defined in the Act. The Company
22 proposes to use a depreciable life of 10 years for capital investment in common
23 costs for the smart meter system. This is the typical life for these systems and is
24 consistent with the composite depreciation rate of existing Company systems.

25

26 **Q. Does the SMRR calculation provide for recovery of costs incurred prior to**
27 **implementation of the SMC?**

28 A. Yes. The first quarterly filing for the SMC will reflect a proposed one-year
29 amortization of deferred costs incurred prior to implementation of the charge.
30 The Commission's Implementation Order provides that all costs associated with

1 smart meters after November 14, 2008, are eligible for recovery. The Company
2 proposes to recover these deferred costs over the initial year of the SMC.

3

4 **Q. Please describe the savings component of the formula in Exhibit WVP-1 and**
5 **in the hypothetical calculations in Exhibit WVP-2.?**

6 A. The savings component of the formula is a reduction to the SMRR to reflect
7 operational savings to the Company by implementing a smart meter system.
8 However, it is important to recognize the Company has already implemented an
9 Automated Meter Reading (“AMR”) system prior to the effective date of the Act
10 (November 14, 2008). As described by Ms. DeLost, the Company has already
11 recognized significant savings from implementation of that system. True
12 operational savings will not be known until a meter vendor is selected and new
13 processes are deployed. At that time, and in subsequent quarterly Smart Meter
14 Charge filings, the Company will quantify the operational benefits, if any, and
15 include an adjustment to the SMRR.

16

17 **Q. Please describe the proposed reconciliation component of the SMRR and**
18 **subsequently in the design of the Smart Meter Charge.**

19 A. The Company will submit a reconciliation adjustment each year to coincide with
20 and support its annual smart meter progress report submitted to the Commission.
21 The Company will reconcile the actual revenue requirement for the previous
22 calendar year with actual billed revenues for the same period. The actual revenue
23 requirement will be calculated using actual PIS and expenses. Revenue collected
24 in excess of the Company’s actual SMRR will be returned to customers through a
25 credit against the projected SMRR in the quarter following the reconciliation
26 calculation. Revenue deficits likewise will be recovered in the Company’s rates
27 in the subsequent quarter. All over- and under-recovery calculations will include
28 interest at 6%.

29

30 **Q. Will the calculations of the SMRR fairly assign costs to customer classes?**

1 A. Yes. In the Company's April 20, 2009 comments on the draft implementation
2 order for smart meters, the Company agreed with the Commission that costs must
3 be recovered among the customer classes receiving the benefit. The Company
4 envisions three primary capital cost components of the smart meter system: a)
5 single-phase meters, b) three-phase or poly-phase meters and c) common costs for
6 infrastructure to collect, back haul, store and bill the customer, all of which are
7 required to implement the Plan and make the smart meter fully functional
8 regardless of the meter type. A separate SMRR will be calculated for each meter
9 type and for common costs. The SMRR for common costs will be allocated to the
10 SMRR for each meter type based on the number of meters. A charge per meter
11 type for each meter installed at the customer premise will ensure costs are fairly
12 recovered from the customer class.

13

14 **Q. Has the Company submitted an application for funding through the**
15 **Department of Energy's Smart Grid Investment Grant ("SGIG") Program?**

16 A. Yes. As described by Ms. DeLost, the Company has filed for SGIG funding for
17 the initial phase of the Company's smart meter Plan. This funding is primarily for
18 the costs the Company expects to incur for the period up to full deployment of
19 smart meters. Nearly all of the requested funding is for capital investment.

20

21 **Q. How would you adjust the SMRR calculations if the Company is successful**
22 **in obtaining grant funding?**

23 A. Funds received for capital investment would be treated equivalent to contributions
24 in aid of construction for rate making purposes. This adjustment would reduce
25 net plant in service and in turn would also reduce the return and associated
26 income taxes on the return component of the SMRR. The Company would apply
27 this adjustment proportionately to the calculation of each SMRR (i.e. single-phase
28 and poly phase-meters, common costs), and proportionately to the projected PIS
29 by quarter over the period for which the SGIG funds are granted. Funds received
30 for expense items, if any, would be credited against operating expenses in the
31 formula.

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Q. Is the Company implementing processes to ensure costs are properly and accurately captured to be used in calculating the SMRR?

A. Yes. The Company plans to implement Funding Project Numbers (“FPNs”) to track smart meter capital and expense items by work order as they are projected and as they are incurred. The work orders capture all of the cost elements identified in the Order. FPNs will be issued to capture costs for single-phase meters, for poly-phase meters and common costs that will be allocated between the meter types. FPN’s with work orders are a proven method for the Company and have worked successfully in the Company’s transmission formula filings at FERC. As with the current transmission tracker approved by the Commission, the Smart Meter Charge will be subject to Commission review and audit.

Q. The Order states the Commission believes EDCs should install smart meters in a manner that coincides with the full depreciation of existing meters so as to minimize the stranded costs (Order at page 33). What is the Company’s level of undepreciated investment in its existing AMR system?

A. As of July 31, 2009, the Company had approximately \$56.5 million of undepreciated investment in the existing AMR system. The composite remaining life of the meters is 18.7 years.

Q. Will the Smart Meter Charge be adjusted to recover stranded costs associated with existing meter?

A. Yes, though at the completion of full meter deployment. The Smart Meter Charge as proposed does not include an explicit adjustment for recovery of stranded costs. As described by Ms. DeLost, the initial phase of smart meter deployment will primarily be for common costs for infrastructure, followed by smart meter deployment. The Company proposes to continue to recover depreciation on existing meters through its current distribution rates. At the end of smart meter deployment once the last smart meter is installed and fully functional, the Company will reconcile the PIS and accumulated depreciation for the old meters.

1 The Company will calculate a revised Smart Meter Charge to recover any
2 remaining undepreciated investment in existing meters and new smart meter
3 investment over the proposed depreciable life associated with those assets.
4

5 **Q. How long does the Company plan to keep the Smart Meter Charge in effect?**

6 A. The Company proposes to keep the Smart Meter Charge in effect at least until the
7 final smart meter and common plant is installed and fully functional. At such
8 time, the Company will calculate a reconciliation adjustment effective with the
9 final annual report on smart meter deployment. Within one year after filing of the
10 final reconciliation adjustment, the Company will either roll the Charge into base
11 rates or include the plant and expenses in base rates through a distribution rate
12 case, whichever is first.
13

14 **III. IMPLEMENTATION**

15
16 **Q. What are the anticipated components of the initial tariff supplement
17 provided in Exhibit WVP-1 and when does the Company anticipate it will go
18 into effect?**

19 A. Exhibit No. WVP-1 is the form of proposed tariff supplement submitted for
20 Commission approval. The Company anticipates the final form of tariff
21 supplement will be included in the Company's compliance filing in this
22 proceeding and define the initial rates the Company proposes to place in effect.
23 Assuming the Company's plan is approved, the Company would anticipate the
24 first Smart Meter Charge to become effective April 1, 2010 based on the timeline
25 established by the Commission in the Order (Order at page 6). The first Smart
26 Meter Charge will be based on plant in service and expenses incurred through
27 April 1, 2010 and the projected expenditures through the second quarter of 2010.
28 The initial charge will primarily be for common costs related to the scope of work
29 described by Ms. DeLost.
30

1 **Q. When will the Company submit updates to the Smart Meter Charge for**
2 **approval by the Commission?**

3 A. The Company proposes to update the rates in the Smart Meter Charge effective on
4 January 1, April 1, July 1 and October 1 of each year. As such, the Company
5 proposes to submit the filing 60 days prior to each effective date. The Company
6 proposes to submit the reconciliation filing for the previous calendar year on or
7 about March 1 of the subsequent year as part of the annual smart meter progress
8 report described by Ms. DeLost. This will allow sufficient time for the
9 reconciliation adjustment to be reviewed and included in the rates for the 12
10 month period effective July 1.

11

12 **Q. Will the Smart Meter Charge require payment by everyone in each customer**
13 **class?**

14 A. Yes. The proposed rates are non-bypassable charges applicable to all metered
15 customers regardless of the customers' generation supplier.

16

17 **Q. How will the Smart Meter Charge be reflected on customer bills?**

18 A. Since the proposed mechanism is a fixed monthly charge based on the number of
19 meters installed at the customer premise, the Company proposes to add the Smart
20 Meter Charge to the applicable fixed monthly charge of the tariff rate schedules.
21 For residential and small commercial and industrial general service rate classes,
22 the Smart Meter Charge will be added to the applicable fixed monthly distribution
23 charge. For general service tariff rate schedules that do not have a fixed monthly
24 charge, the Smart Meter Charge will be added to the monthly first block of
25 distribution demand charges.

26

27 **Q. Are there additional issues the Company must address to begin to implement**
28 **smart meters?**

29 A. Yes. Page 7 of the Order states that during the Grace Period, the Commission
30 will require EDC's to provide interval data capable meters in lieu of smart meters.
31 Further, the customer requesting the smart meter must agree to pay for the cost of

1 the smart meter (Order at page 9). Page 10 of the Order requires EDC's to
2 provide a proposal to install smart meters before full system deployment and after
3 the grace period, along with an itemization of incremental cost. Finally, the
4 Commission interprets the Act to mean that the customer must pay the EDC
5 upfront for the task of installing a meter (Order at page 11).

6

7 **Q. What is the Company's proposal to charge customers for the cost of a meter**
8 **during the Grace Period?**

9 A. The Company will comply with the Order. Rule 14.2 in the Company's Tariff
10 Electric PA. P.U.C. No. 24, pages 22-23, already includes a base charge of \$586
11 for a customer who wants an interval meter installed on their premise. The
12 Company proposes to expand Rule 14.2 of the tariff to include charges the
13 customer must pay for the Company to provide an interval meter with the
14 required communications equipment. The total charge to the customer to have an
15 interval meter installed as an interim solution to a smart meter during the grace
16 period will be \$1305. This charge includes the base charge of \$586 for the meter
17 and \$719 for the required communications equipment. Customers who desire to
18 have access to KYZ pulse data from the interval meter to interface with devices
19 downstream of the meter will be charged an additional \$197. These charges are
20 the costs incurred by the Company to provide this equipment and functionality.

21

22 **Q. Have you prepared a tariff supplement to expand Rule 14.2 for these charges?**

23 A. Yes. Exhibit WVP-1 includes a proposed revision to Rule 14.2 for Commission
24 approval to include the above charges.

25

26 **Q. Does the proposed tariff supplement provide for recovery from customers of**
27 **incremental costs incurred to install smart meters at the request of customers**
28 **after the Grace Period but prior to full system deployment?**

29 A. As explained in the Plan and the Petition, the Company does not yet have an
30 itemization of the incremental costs to be incurred to install a smart meter in
31 response to such customer requests received after the Grace Period but before full

1 implementation. As explained by Ms. DeLost, the Company will develop such
2 costs and propose a recovery mechanism in a filing to be made by December 31,
3 2011.

4
5 **Q. Do you wish to provide any concluding remarks?**

6 A. Yes. First, the proposed Smart Meter Charge is consistent with and complies with
7 the requirements of the Act and the Commission's Order on smart meter
8 implementation. Second, the form of tariff supplement proposed as Tariff Rider
9 No. 20, Smart Meter Charge, included in Exhibit WVP-1 provides a mechanism
10 and formula to recover smart meter implementation costs from customers. The
11 form of calculations in Exhibit WVP-2 provides the format of the formula
12 mechanism the Company proposes to use to update the Smart Meter Charge
13 quarterly and fairly recovers smart meter costs from the applicable customer class.
14 Proposed Tariff Rider 20 and the formula calculations should be approved by the
15 Commission as the foundation of the formulas for the Company to use to recover
16 its cost of smart meters. Finally, the proposed language and costs in revised Rule
17 14.2 of the Tariff Supplement in Exhibit WVP-1 should be approved to allow the
18 Company to recover its cost of providing an interval meter during the Grace
19 Period established by the Commission.

20
21 **Q. Does this conclude your written testimony?**

22 A. Yes, it does.

23

1 **Appendix A**

2
3 **William V. Pfrommer**

4
5 **Rates and Regulatory Proceedings**

6
7 Pennsylvania Public Utility Commission:

8 Docket P-00032071 - Provider of Last Resort (POLR III)

9 Docket R-00061346 – Distribution Rate Case

10 Docket P-00072247 - Provider of Last Resort (POLR IV)

11 Docket M-2009-2093217 - Act 129 Energy Efficiency and Conservation and Demand
12 Response Plan

13
14 Federal Energy Regulatory Commission:

15 Docket No. ER05-85-000 – Changes to the PJM Open Access Transmission Tariff to
16 integrate the Company into the PJM Interconnection, L.L.C.

17 Docket No. ER08-1309-000 – Changes to the MISO Open Access Transmission Tariff to
18 integrate the Company into the Midwest Independent System Operator, Inc.

19
20 Other:

21 Cause No. 42416, Filed April 14, 2003, Indiana Utility Regulatory Commission - Petition
22 of Utility Center, Inc., d/b/a AquaSource

23 Cause No. 41968, Filed March 30, 2001, Indiana Utility Regulatory Commission - In the
24 Matter of Utility Center, Inc., d/b/a AquaSource

25 Docket Nos. 2000-1074-UCR and 2000-1075-UCR, Filed June 15, 2000 - Texas Natural
26 Resource Conservation Commission, Applications of AquaSource Utility, Inc. to
27 Change its Water and Sewer Tariffs and Rates

Exhibit 1

SUPPLEMENT NO. XX
TO ELECTRIC – PA. P.U.C. NO. 24



SCHEDULE OF RATES

For Electric Service in Allegheny and Beaver Counties

(For List of Communities Served, see Pages No. 4 and 5)

Issued By

DUQUESNE LIGHT COMPANY

411 Seventh Avenue
Pittsburgh, PA 15219

Morgan K. O'Brien

President and Chief Executive Officer

ISSUED: XXXXXX XX, XXXX

EFFECTIVE: XXXXXX XX, XXXX

Issued in compliance with Commission Order dated XXXXXXXX XX, XXXX, at Docket No. M-2009-2123948.

NOTICE

THIS TARIFF SUPPLEMENT INTRODUCES A NEW RIDER

See Page Two

LIST OF MODIFICATIONS MADE BY THIS TARIFF**CHANGE****Table of Contents****Eleventh Revised Page No. 3
Cancelling Tenth Revised Page No. 3**

The Table of Contents has been updated to reflect the addition of Original Page No. 109A and Original Page No. 109B – Rider No. 20 – Smart Meter Charge.

Rule No. 14.2 – Customer Request for Special Metering**Third Revised Page No. 22
Cancelling Second Revised Page No. 22**

Wording has been updated to reflect the Company's current procedure.

Rule No. 14.2 – Customer Request for Special Metering**Third Revised Page No. 22
Cancelling Second Revised Page No. 22**

In compliance with the Commission's Order issued on XXXXXXXX XX, XXXX, at Docket No. M-2009-2123948, wording has been added to address customer requests for smart meter installation prior to October 2012.

Rule No. 17 – Fluctuations and Unbalances**Original Page No. 22A**

In order to accommodate the additional information added to Rule No. 14.2 – Customer Request for Special Metering, Rule No. 17 – Fluctuations and Unbalances was moved to Original Page No. 22A.

Rider No. 20 – Smart Meter Charge**Fifth Revised Page No. 108
Cancelling Fourth Revised Page No. 108****Fourth Revised Page No. 109
Cancelling Third Revised Page No. 109****Original Page No. 109A**

In compliance with the Commission's Order dated XXXXXXXX XX, XXXX, at Docket No. M-2009-2123948, Rider No. 20 – Smart Meter Charge is being placed into the Tariff.

TABLE OF CONTENTS

	Page Number
List of Modifications	2
Table of Contents	3
List of Communities Served	4-5
RULES AND REGULATIONS	6-31
RATES:	
RS Residential Service	32-33
RH Residential Service Heating.....	34-36
RA Residential Service Add-on Heat Pump	37-39
GS/GM General Service Small and Medium	40-42A
GMH General Service Medium Heating.....	43-46A
GL General Service Large.....	47-49
GLH General Service Large Heating.....	50-52
L Large Power Service	53-56
HVPS High Voltage Power Service	57-60
AL Architectural Lighting Service.....	61-63
SE Street Lighting Energy	64-67
SM Street Lighting Municipal.....	68-70
SH Street Lighting Highway.....	71-73
UMS Unmetered Service	74-75
PAL Private Area Lighting.....	76-78
STANDARD CONTRACT RIDERS:	
General.....	79
No. 1 Consumer Education Surcharge.....	80-80A
No. 2 Untransformed Service	81
No. 3 School and Government Service Discount Period.....	82
No. 4 Budget Billing HUD Finance Multi-Family Housing	83
No. 5 Time of Day Discounts	84-85
No. 6 Temporary Service	86
No. 7 SECA Charge.....	87
No. 8 Default Service Supply.....	88-88C
No. 9 Day-Ahead Hourly Price Service.....	89-93A
No. 10 State Tax Adjustment Surcharge	94
No. 11 Street Railway Service	95
No. 12 Billing Option - Volunteer Fire Companies and Nonprofit Senior Citizen Centers.....	96
No. 13 General Service Separately Metered Electric Space Heating Service	97
No. 14 Residential Service Separately Metered Electric Space and Water Heating	98-99
No. 15 Energy Efficiency and Conservation and Demand Response Surcharge	100-100C
No. 16 Service to Non-Utility Generating Facilities.....	101-102
No. 17 Emergency Energy Conservation	103-104
No. 18 Rates for Purchase of Electric Energy from Customer-Owned Renewable Resources Generating Facilities.....	105
No. 19 Off-Peak Water Heating Service.....	106-107
No. 20 Smart Meter Charge.....	108-109B
No. 21 Net Metering Service	110-112
APPENDIX A:	
Transmission Service Charges	113-116

(C)

(C) – Indicates Change

RULES AND REGULATIONS - (Continued)**MEASUREMENT AND USE OF SERVICE - (Continued)****14.2 CUSTOMER REQUEST FOR SPECIAL METERING – (Continued)**

The Company has adopted a program that provides all customers with meters to provide data for normal monthly billing services. In the event that a residential or small commercial customer, or an EGS on behalf of a residential or small commercial customer, requests an upgrade to an Alpha Powerplus meter, which the Company provides for large commercial and industrial customers, installation of that meter will be provided at a cost of \$586.00, plus additional costs for the appropriate communication/system infrastructure. These net incremental charges, as set forth in the Company's Advance Meter Catalog, may be paid to the Company by either the customer or the EGS, or jointly by the customer and the EGS pursuant to a mutual agreement. (C)

Act 129 of 2008 ("Act") required electric distribution companies ("EDCs") with at least 100,000 customers to file a Smart Meter Procurement and Installation Plan ("Plan") for Commission approval. The Commission's Smart Meter Procurement and Installation Implementation Order entered June 24, 2009, at Docket No. M-2009-2092655 set forth additional details for EDCs and rules for customers who request a smart meter prior to the EDC installing a smart meter on their premise. For customers who request a smart meter installed at their premise prior to October 2012, the Company will install an interval meter in lieu of a smart meter. The meter will be provided at a cost of \$586.00, as specified above, plus \$719.00 for the appropriate communication/system infrastructure. For a customer requesting pulse data from the interval meter, an additional charge of \$197.00 will apply. The requesting customer's account must be current and all payments must be made up-front prior to installation. (C)

14.3 SUB-METERING If a customer wishes to have metering installed in addition to the Company installed meter, the meter must be installed on the customer's electrical system and at the expense of the customer.

15. INABILITY TO READ RESIDENTIAL METERS When scheduled readings of kilowatt-hour meters are not obtained because of inability to gain access to the meter location, the customer may read his meter and furnish the Company the reading on cards supplied by the Company, or by telephone to the Company, in which case the bill will be rendered on the basis of such reading; otherwise, the Company will estimate the bill. No more than five (5) successive bills will be rendered on readings made by the customer.

15.1 INABILITY TO READ COMMERCIAL OR INDUSTRIAL METERS When scheduled readings of kilowatt-hour and demand meters are not obtained, the Company may render an interim statement for each month until the meters are read.

16. USE OF SERVICE BY CUSTOMER The customer shall use the electric service only at the premise where service is established; and after electric service has been established, shall notify the Company of any change in connected load, demand, or other conditions of use. The customer shall notify the Company of other on site sources of electric generation or electricity concurrently produced as a by-product of another process or electricity produced utilizing renewable resources. Customers who own and operate electric generation equipment shall conform with the Company's "Electric Service Installation Rules", copies of which may be obtained at the Company's offices. For customers who own and operate electric generation, the provisions of Rider No. 16, "Service to Non-Utility Generating Facilities" and Rider No. 21, "Net Metering Service" may also apply.

RULES AND REGULATIONS - (Continued)**(C)****MEASUREMENT AND USE OF SERVICE - (Continued)**

17. FLUCTUATIONS AND UNBALANCES The customer's use of electric service shall not cause fluctuating loads or unbalanced loads of sufficient magnitude to impair the service to other customers or to interfere with the proper operation of the Company's facilities. The Company may require the customer to make such changes in his equipment or use thereof, or to install such corrective equipment, as may be necessary to eliminate fluctuating or unbalanced loads; or, where the disturbances caused thereby may be eliminated more economically by changes in or additions to the Company's facilities, the Company will, at the request of the customer, provide the necessary corrective facilities at a reasonable charge. Payment will be made in full in advance for supplying special equipment installed under this Rule.

STANDARD CONTRACT RIDERS - (Continued)**(C)****RIDER NO. 20 – SMART METER CHARGE****(Applicable to Rates RS, RH, RA, GS/GM, GMH, GL, GLH, L, HVPS and AL)****PURPOSE**

The Smart Meter Charge (“SMC”) is instituted as a cost recovery mechanism to recover all costs to implement the Company’s Smart Meter Procurement and Implementation Plan (“Plan”). The SMC has been added per Commission Order at Docket No. M-2009-2123948. Act 129 (“Act”) became effective November 14, 2008, requiring all Pennsylvania electric distribution companies (“EDCs”) with more than 100,000 customers to implement smart meters. Act 129 set forth the timeline for implementation, the definition of smart meters and the provisions for full and current cost recovery of all costs incurred by EDCs to install and make fully functional a smart meter system defined in and required by Act 129. The Company filed its Plan on August 14, 2009, in compliance with the Act, including this Charge and provisions for cost recovery. This Charge shall be updated as described below to recover all costs associated with implementing the Plan.

The SMC is a non-bypassable charge and shall be applicable to the monthly bill of all metered customers based on the number of meters installed at the premise.

ELIGIBLE COSTS

The SMC recovers all eligible costs incurred by the Company to implement smart meter technology and the supporting infrastructure. Eligible costs, described in 66 Pa.C.S. § 2807(f), include capital and expense items relating to all Plan elements, equipment and facilities, as well as all related administrative costs. Plan costs include, but are not limited to, capital expenditures for any equipment and facilities that may be required to implement the Plan, as well as depreciation, operating and maintenance expenses, a return component based on the EDC’s weighted cost of capital and taxes. In general, eligible administrative costs include, but are not limited to, incremental costs relating to Plan development, cost analysis, measurement and verification and reporting. The costs associated with testing, upgrades, maintenance and personnel training are considered eligible costs.

MONTHLY SMART METER CHARGE

Meter Type	Monthly Charge Per Meter
Single-Phase	\$X.XX
Poly-Phase	\$X.XX

The SMC, calculated independently for each meter type, shall be applied to all applicable customers served under the Tariff. Customers will be billed based on the number of meter types installed at their premises. Customers with multiple meters will incur multiple charges. The SMC shall be determined in dollars and cents per month per meter in accordance with the formula described in the “Calculation of Charge” section and shall be applied to all applicable customers served during any part of a billing month.

(C) – Indicates Change**ISSUED: XXXXXX XX, XXXX****EFFECTIVE: XXXXXX XX, XXXX**

STANDARD CONTRACT RIDERS - (Continued)

(C)

RIDER NO. 20 – SMART METER CHARGE - (Continued)

(Applicable to Rates RS, RH, RA, GS/GM, GMH, GL, GLH, L, HVPS and AL)

CALCULATION OF CHARGE

The Company will update the monthly SMC effective January 1, April 1, July 1 and October 1 each year. At least 60 days prior to each effective date, the Company will submit a filing to the Commission with calculations described in this section supporting the proposed SMC. The initial charge, effective April 1, 2010, shall recover the eligible Plan costs that are not reflected in the Company's rates and are projected to be placed in-service or incurred as expense from April 1, 2010, through June 30, 2010. The initial charge for the SMC will also include a one-year amortization of deferred costs incurred prior to implementation of the Charge. The SMC will be updated to reflect eligible plant projects to be placed in-service and projected operational expense for the upcoming quarter.

The Company will calculate the quarterly revenue requirement for three primary capital cost components of the smart meter system: a) single-phase meters, b) three-phase or poly-phase meters and c) common costs. The Company will then assign and allocate common costs, to the extent possible, to the single-phase and poly-phase revenue requirement.

The following formulas set forth the calculation of the quarterly revenue requirement of each capital cost component and the monthly charge per meter type.

$$\text{SMRR} = ((\text{NPIS} * \text{PTRR}) / 4 + \text{Depr} / 4 + \text{O\&M} - \text{S} + \text{e} / 4)$$

Where: **SMRR** = The Smart Meter Revenue Requirement ("SMRR") calculated separately for single-phase and for poly-phase meters for the quarter. The SMRR for each meter type shall include an allocated share of the SMRR for common costs. The SMRR for common costs shall be allocated to each meter type based on the number of meters of each meter type.

NPIS = Net plant in-service projected for the applicable quarter.

PTRR = Pre-tax rate of return. The pre-tax rate of return will be calculated using the State and Federal income tax rates, the Company's capital structure and cost rates for the long-term debt, preferred stock and common equity approved by the Commission in the Smart Meter Proceeding establishing this Rider.

Depr = Depreciation Expense. The depreciation expense is the net original cost of smart meter eligible plant multiplied by the annual accrual rates employed by the Company.

O&M = Operating and maintenance, administrative and other applicable expenses associated with the net plant in-service for the quarter.

S = Operating cost savings for the Company, if any, associated with implementing the smart meter system.

STANDARD CONTRACT RIDERS - (Continued)

(C)

RIDER NO. 20 – SMART METER CHARGE - (Continued)**(Applicable to Rates RS, RH, RA, GS/GM, GMH, GL, GLH, L, HVPS and AL)****CALCULATION OF CHARGE – (Continued)**

- e** = Experienced net over or under collection of revenue included in the SMC as of the end of the 12-month period ending December 31 each year including applicable interest. Interest shall be computed monthly at the appropriate rate, as provided for in Section 1308(d) of the Pennsylvania Public Utility Code, from the month the over or under collection occurs to the effective month that the over collection is refunded or the under collection is recouped. The e-factor shall be updated and included in the bills effective July 1 of each year.

$$\text{SMC} = \text{SMRR} / \text{M} * (1 / (1 - \text{T}))$$

Where: **SMC** = The Smart Meter Charge per meter per month.

M = Forecast meter count for each meter type for the upcoming quarter applicable to customer bills.

T = The total Pennsylvania Gross Receipts Tax rate in effect during the billing month, expressed in decimal form.

ANNUAL RECONCILIATION

On or about March 1 of the filing year, the Company will submit a reconciliation filing to the Commission Pursuant to 66 Pa.C.S. § 1307(e) for the previous calendar year, the reconciliation period. The revenue billed under the SMC for each quarter of the reconciliation period will be compared to the actual revenue requirement for each quarter. The over or under collection of revenue during the reconciliation period will be recouped or refunded, as appropriate, with interest, over a one-year period commencing on July 1 of the filing year. The over or under collection will be included in the quarterly calculation of the SMRR.

MISCELLANEOUS

Minimum bills shall not be reduced by reason of the SMC, nor shall charges hereunder be part of the monthly rate schedule minimum.

Rider No. 10 – State Tax Adjustment Surcharge (STAS) shall be applicable to the Charge defined in this Rider.

The SMC will be added to the monthly Customer Distribution Charge of each applicable rate schedule. For those rate classes that do not have a Customer Distribution Charge, the SMC will be added to the First Block of Demand Charge as stated in the applicable Tariff rate schedule.

STANDARD CONTRACT RIDERS - (Continued)

RIDER NO. 20 – SMART METER CHARGE - (Continued)

(Applicable to Rates RS, RH, RA, GS/GM, GMH, GL, GLH, L, HVPS and AL)

MISCELLANEOUS – (Continued)

The Company shall file reconciliation statements annually.

The SMC shall be subject to review and audit by the Commission. The SMC shall remain in effect until full smart meter deployment is complete or until otherwise directed by the Commission.

This Rider will remain in effect until the final reconciliation statement is approved and charges fully recovered.

Exhibit 2

HYPOTHETICAL (1)

Duquesne Light Company
Smart Meter Cost Recovery Charge
Calculation of Smart Meter Charge Rates
Proposed Tariff Rider No. 20
Effective April 1, 2010

<u>Line</u>	<u>Common Plant</u>	<u>Single Phase Meters</u>	<u>Poly Phase Meters</u>
1 Smart Meter Plant	\$3,000,000	\$200,000	\$100,000
2 Annual Depreciation (years)	10	15	15
3 Annual Depreciation	\$300,000	\$13,333	\$6,667
4 Accrued Depreciation	\$0	\$0	\$0
5 Weighted Average Pre-Tax Rate of Return (PTRR)(page 2)	14.17%	14.17%	14.17%
<u>Formula and Calculation</u>			
6	SMRR = [((NPIS * PTRR)/4 + Dep/4 + O&M - S + e/4) / M] * (1/(1-T))		
7	<u>(Plant-accrued depreciation)*Return + Depreciation + O&M - Savings + e-Factor</u>		
8	Meters per Quarter * (1-Gross Receipts Tax)		
9 Smart Meter Plant	\$3,000,000	\$200,000	\$20,000
10 Less Accrued Depreciation	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
11 Net Plant	\$3,000,000	\$200,000	\$20,000
12 Weighted Rate of Return/4	3.54%	3.54%	3.54%
13 Return	\$106,240	\$7,083	\$708
14 Depreciation/4	\$75,000	\$3,333	\$1,667
15 Operation & Maintenance	\$300,000	\$200,000	\$20,000
16 Savings	\$0	\$0	\$0
17 e-Factor	\$0	\$0	\$0
18 <u>Smart Meter Revenue Requirement (SMRR)</u>	<u>\$481,240</u>	<u>\$210,416</u>	<u>\$22,375</u>
19 Meters		585,000	23,000
20 Share of Total Meters		96.2%	3.8%
21 Allocated Common Plant SMRR Based on Meters		\$463,035	\$18,205
22 Total Revenue Requirement by Meter Type for Upcoming Quarter		\$673,451	\$40,580
23 Projected Meter Count for Quarter		585,000	23,000
24 Monthly Charge per Meter for Upcoming Quarter		\$0.38	\$0.59
25 Pennsylvania Gross Receipts Tax Rate (PA GRT)		5.9%	5.9%
26 Monthly Smart Meter Charge per Meter Including GRT		\$0.41	\$0.62

1/ Calculations shown using hypothetical numbers for illustrative purposes only.