



Duquesne Light

Our Energy...Your Power

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Erin H. Creahan

Senior Attorney

June 10, 2010

VIA OVERNIGHT MAIL

RECEIVED

JUN 10 2010

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

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

Dear Secretary Chiavetta:

Enclosed for filing please find one (1) original plus three (3) copies of Duquesne Light Company's Smart Meter Plan, Revision 1 June 10, 2010, as mandated by ALJ Meehan's January 28, 2010 Initial Decision, and affirmed by the Commission's May 11, 2010 Opinion and Order in the above-referenced proceeding. For ease of review, Duquesne Light is providing a red-line and clean copy of the revised Plan as part of this filing.

Sincerely yours,

Erin H. Creahan
Senior Attorney

Enclosures

cc: Service List (via Electronic Mail and United States First Class Mail)

Duquesne Light Smart Meter Plan (Docket Number M-2009-2123948) Revision
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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
 - Capital structure, Return on Common Equity and Cost Rate of Debt and Preferred Stock
 - Revised Schedule Through the Grace Period

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- Estimated Milestone and status reporting schedule after the 30 month grace period

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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.

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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.

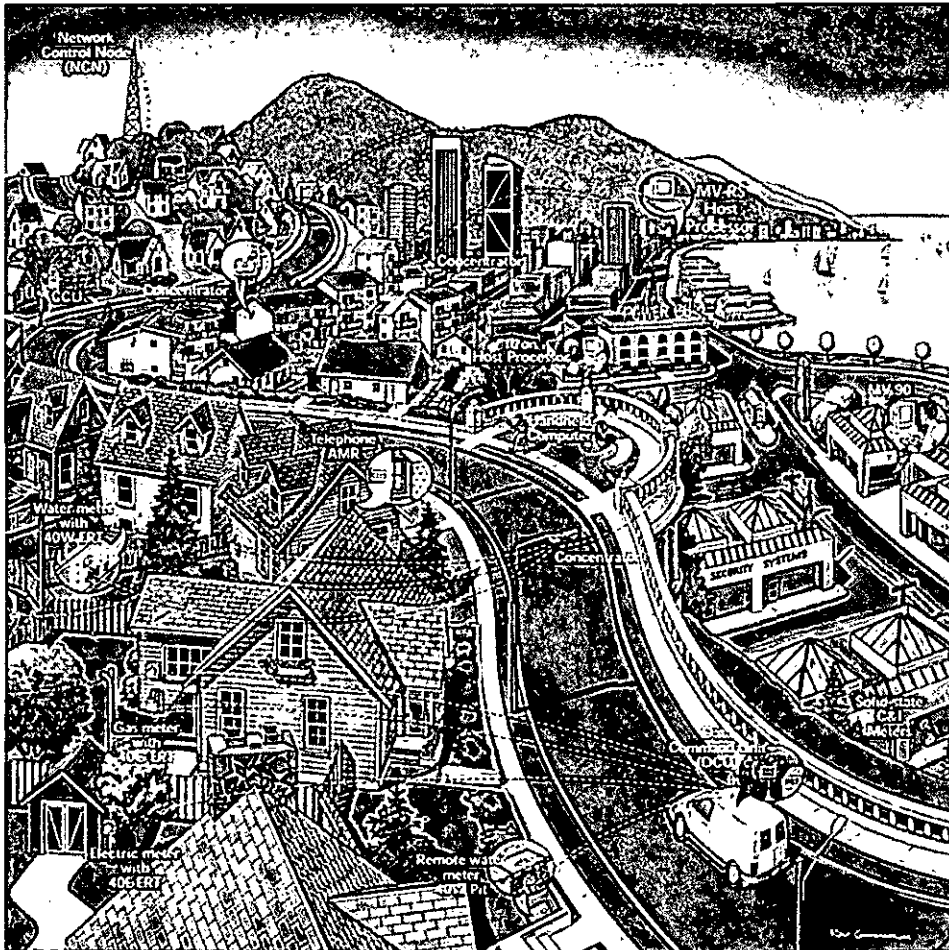
<u>As of may 31, 2009</u>	<u>Gross Plant</u>	<u>Accum Depr</u>	<u>Net Book</u>
Meters	97,614,447	(41,950,129)	55,664,318
Com Devices	19,834,620	(18,424,361)	1,410,259
	<u>117,449,067</u>	<u>(60,374,490)</u>	<u>57,074,577</u>

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.

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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:

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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

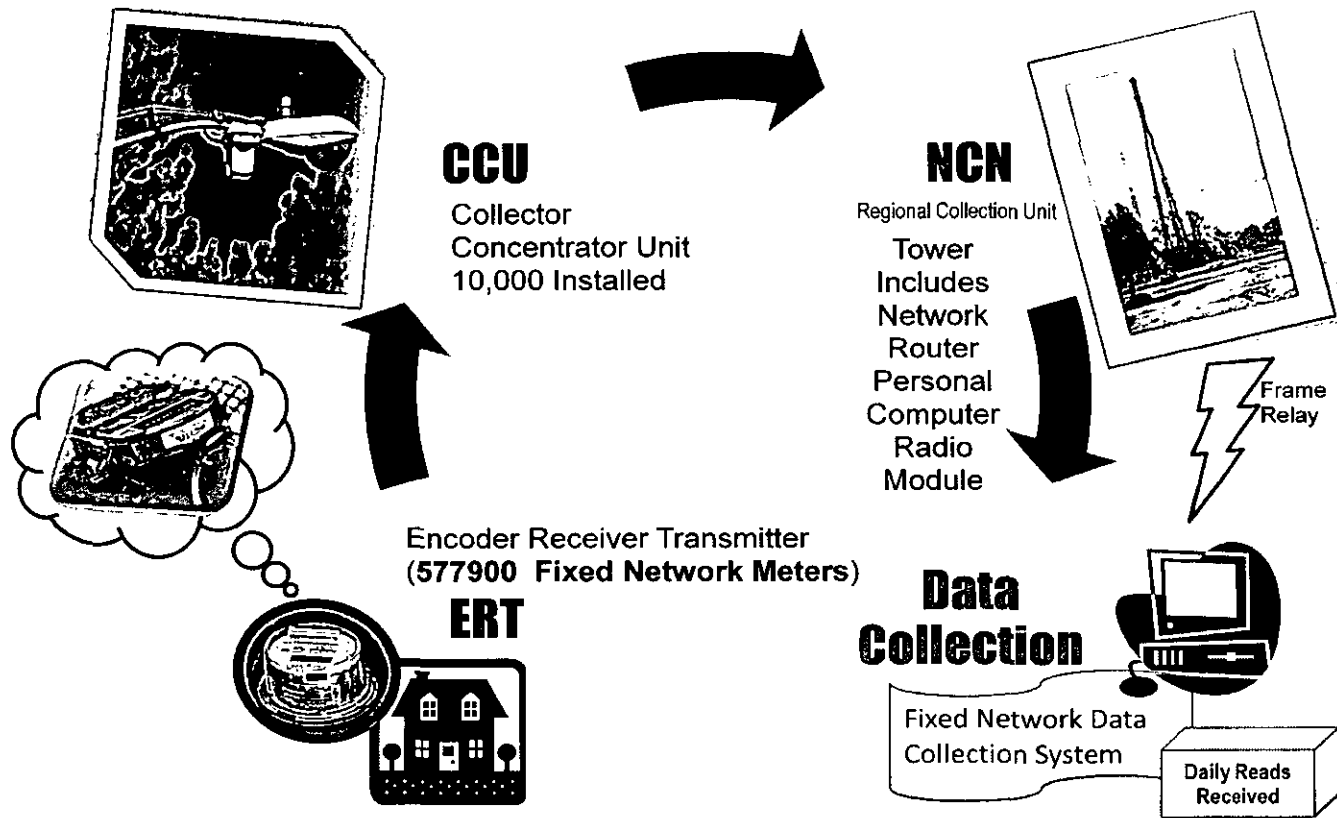
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(DCU) to obtain reads. Approximately 10% are monthly reads picked up on the monthly bill cycle with handheld/mobile units.

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

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



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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

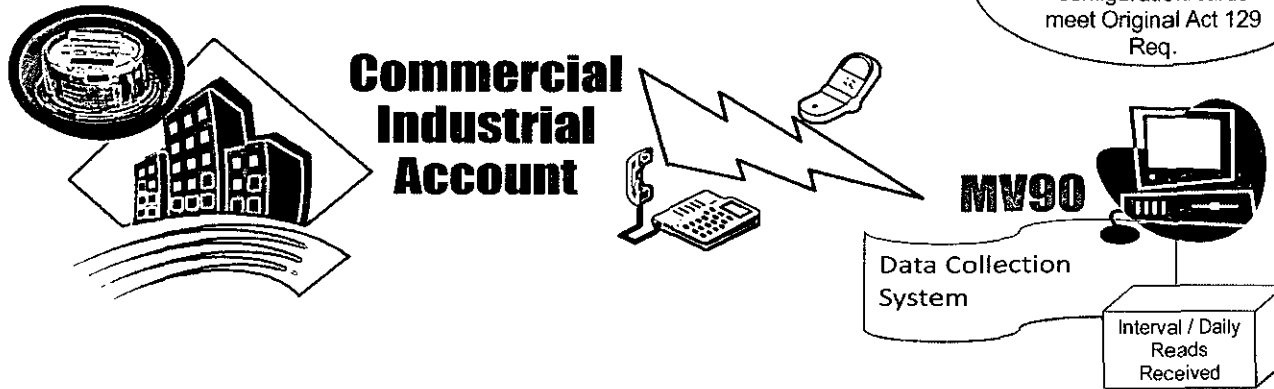
30,100 Commercial & Industrial (C&I) Meters

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.



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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.

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Duquesne Light will charge customers interested in having an interval meter, per Rule 14.2 in the Company's Tariff Electric PA P.U.C. No 24, a base charge of \$1305, which includes the base charge of \$586 for the interval meter and \$719 for the required communications equipment. Customers who desire to have access to KYZ pulse data from the interval meter to interface with devices downstream of the meter will be charged an additional \$197.

Duquesne Light will investigate whether there are alternatives other than the interval meter available from vendors that would be less expensive to residential and small commercial and industrial customers until smart meters are available, and will report back to the Commission on this issue in conjunction with its December 31, 2010 filing.

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:

- o Milestone description and scheduled completion date for the 30 month grace period milestones
- o Milestone schedule
- o Project Management overview describing how Duquesne will manage the project
- o Discussion on how Duquesne will address project risks and security.
- o 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.¹

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.

- Included in this analysis will be an analysis of the costs and benefits of fifteen-minute interval metering.

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¹ For the three milestones that include filings, 7/1/2010, 12/31/2010 and 12/31/2011, the filing dates are approximate, in light of many factors, including Commission approval, uniform decisions, progress, etc. Thus, the filings will be made "on or about" the dates proposed. Any delay with respect to filing deadlines or milestone deadlines will be submitted to the Commission for review.

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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 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

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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. Specifically, Duquesne Light will analyze HAN capabilities and will include its findings as part of its July 1, 2010 filing and perhaps subsequent reports to the Commission.

- o 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
 - o 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
 - o 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.
 - o 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.
 - o 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.
 - o 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.
- o There will be a filing in conjunction with this milestone discussing technology and infrastructure.
- o This filing will also discuss Duquesne Light's efforts undertaken to locate and identify less expensive meters for use in its smart meter procurement and installation plan during the grace period, and vendors of any less expensive meters so found, along with a detailed explanation why any such meter is or is not acceptable or compatible with the smart meter procurement and installation plan, and, as to those meters found

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acceptable or compatible with the plan, whether Duquesne intends to install such meters as part of its plan.

- 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:

- 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

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- Certify the transactions
- Installation, testing and rollout of support equipment and software (9/30/2011)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 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 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.
 - In conjunction with Outside Communications, Duquesne will also focus on customer education and outreach as part of this milestone, and will report to the Commission on this issue in the 12/31/2011 filing.

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- 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.²
 - Itemize the costs for the remainder of the project
 - Reconcile 30-month grace period costs
 - Submit the final details and smart meter implementation schedule; and
 - Submit information on consumer education and outreach.

Also, in addition to the milestones listed above, Duquesne Light has agreed to consider stakeholder input throughout the Grace Period, and will schedule several stakeholder meetings during the Grace Period.

² The costs for the last two milestones of Component 2 will be submitted with this 12/31/2011 subsequent filing.

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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	8/1/2010	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 DL Co Plan Approved. (Upon approval immediately begin base system analysis, design, test tasks)	Supplemental 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, testing & rollout of support equipment & software	Establishment of plans for installation of meters 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	

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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.*

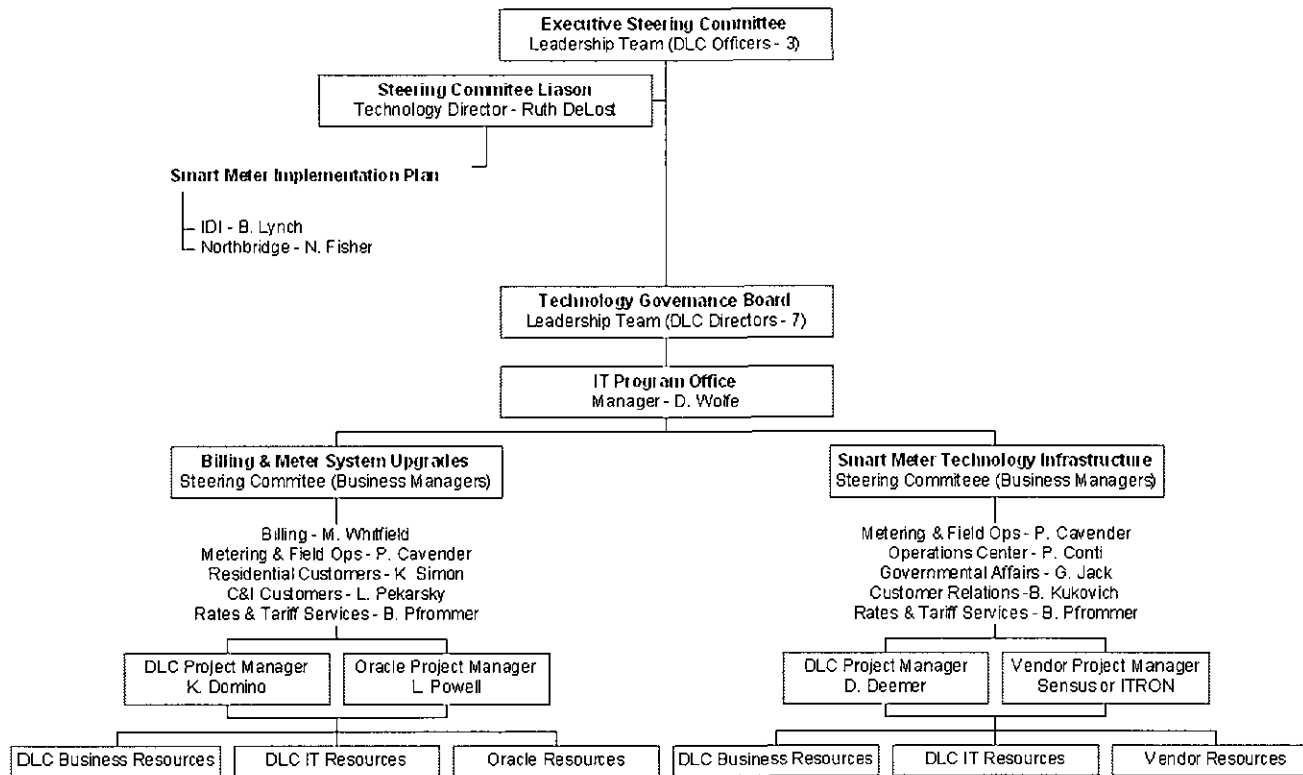
Process Groups are linked by the results they produce, thus the results of one often becomes input to another. Links are iterated; the planning process provides the executing process with a documented project plan, and the plan is updated as the project progresses. Process groups are not discrete, one-time 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.

Project Management Structure



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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.

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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

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technological environment. Duquesne will be bringing in an outside vendor to assist in the 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

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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 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.

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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							
Phase	Sales Handover	Initiation	Analysis	Assembly	Acceptance	Rollout	Post-Improvement
Topic							
Application Functionality	●	●	●	●	●	●	●
Business Transformation		●	●	●		●	
Data Conversion		●	●	●	●	●	
Deployment		●				●	●
Interfaces			●	●	●	●	
IT Infrastructure	●	●	●	●	●	●	●
Project Management	●	●	●	●	●	●	
Quality Management	●	●	●	●	●	●	●
Testing			●	●	●		
Training		●	●	●	●	●	

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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

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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

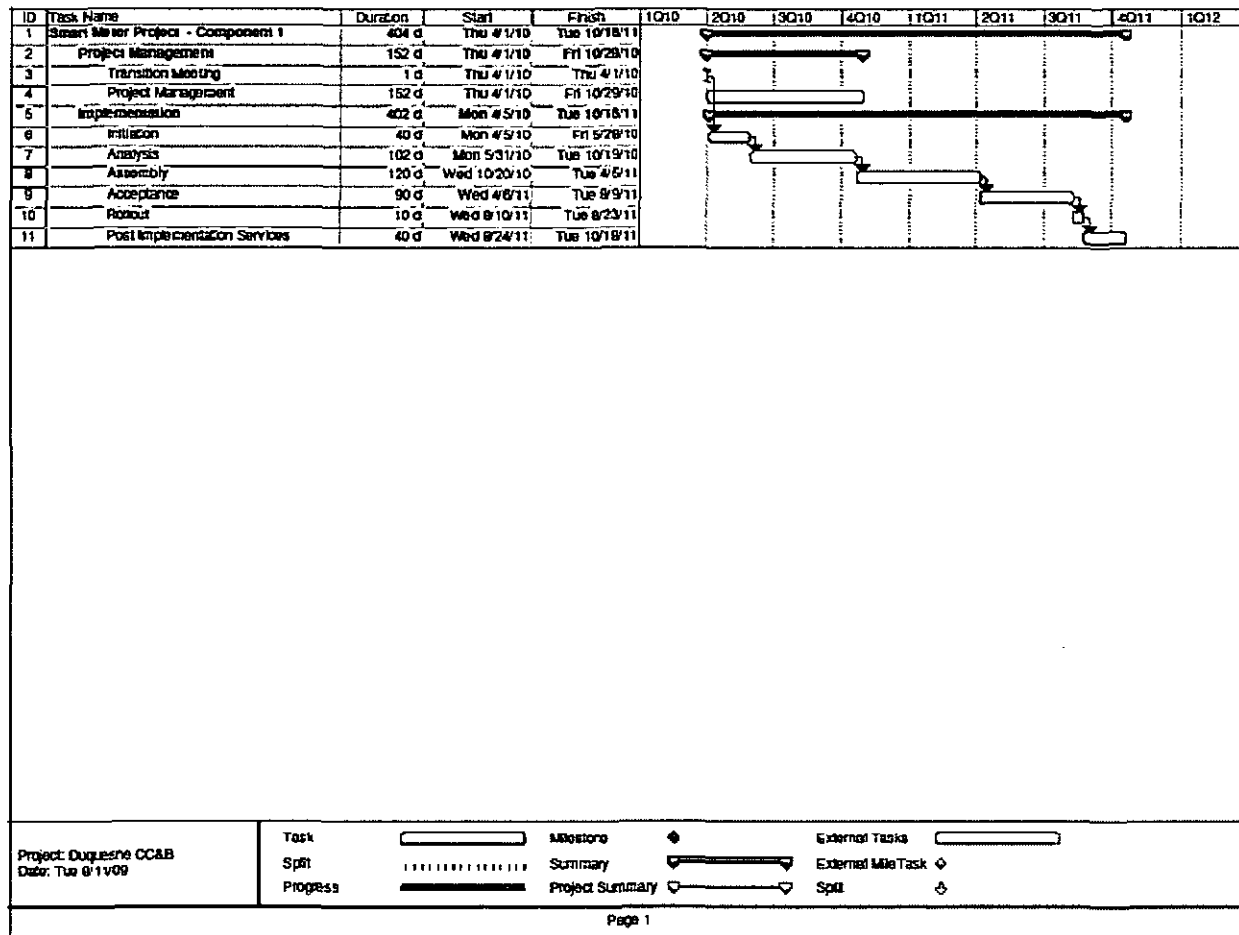
- System Go Live
- Cut Over Plan Execution & Measurement Report

Phase 7 – Post Implementation Services

- On Site Support
- Post Implementation Review/Audit Report

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Component 1 - Project Schedule



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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	<i>Business Process Design</i>	
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	

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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

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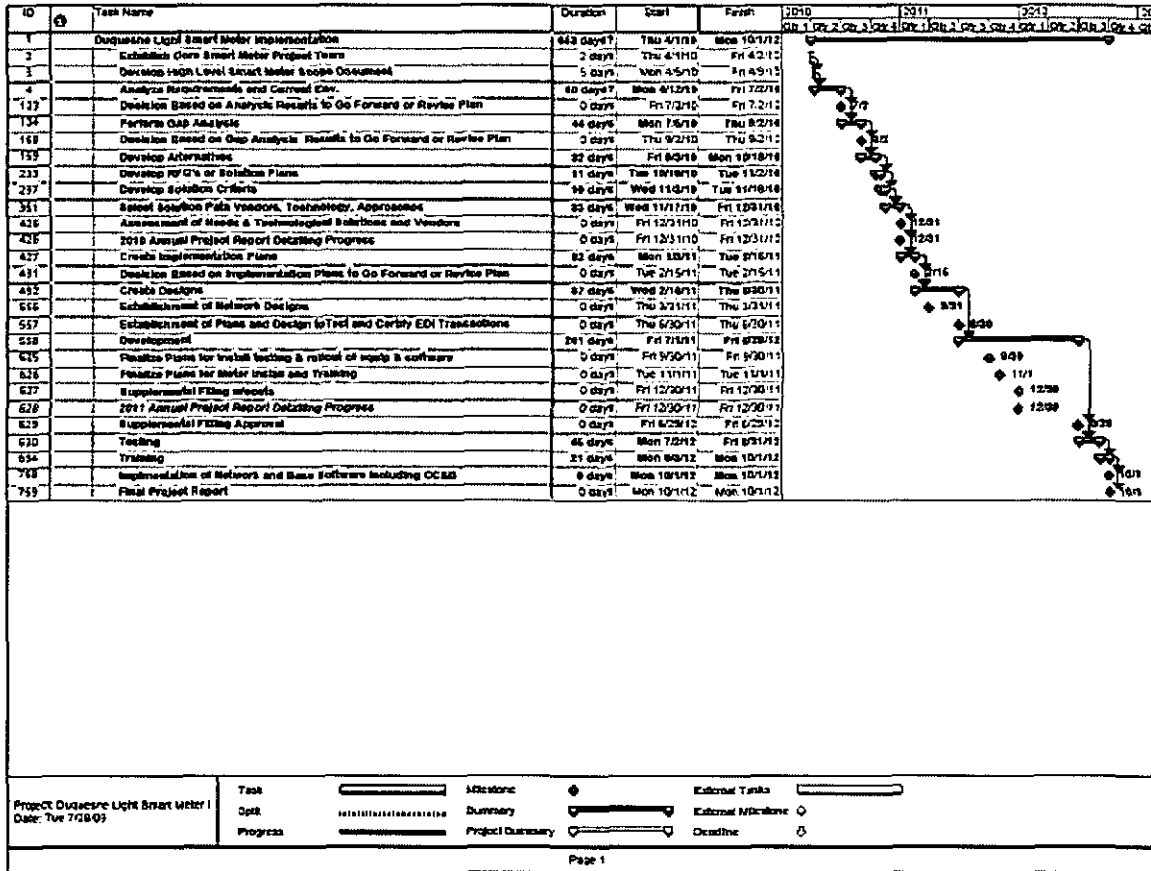
Component 2 - Project Deliverables

- 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

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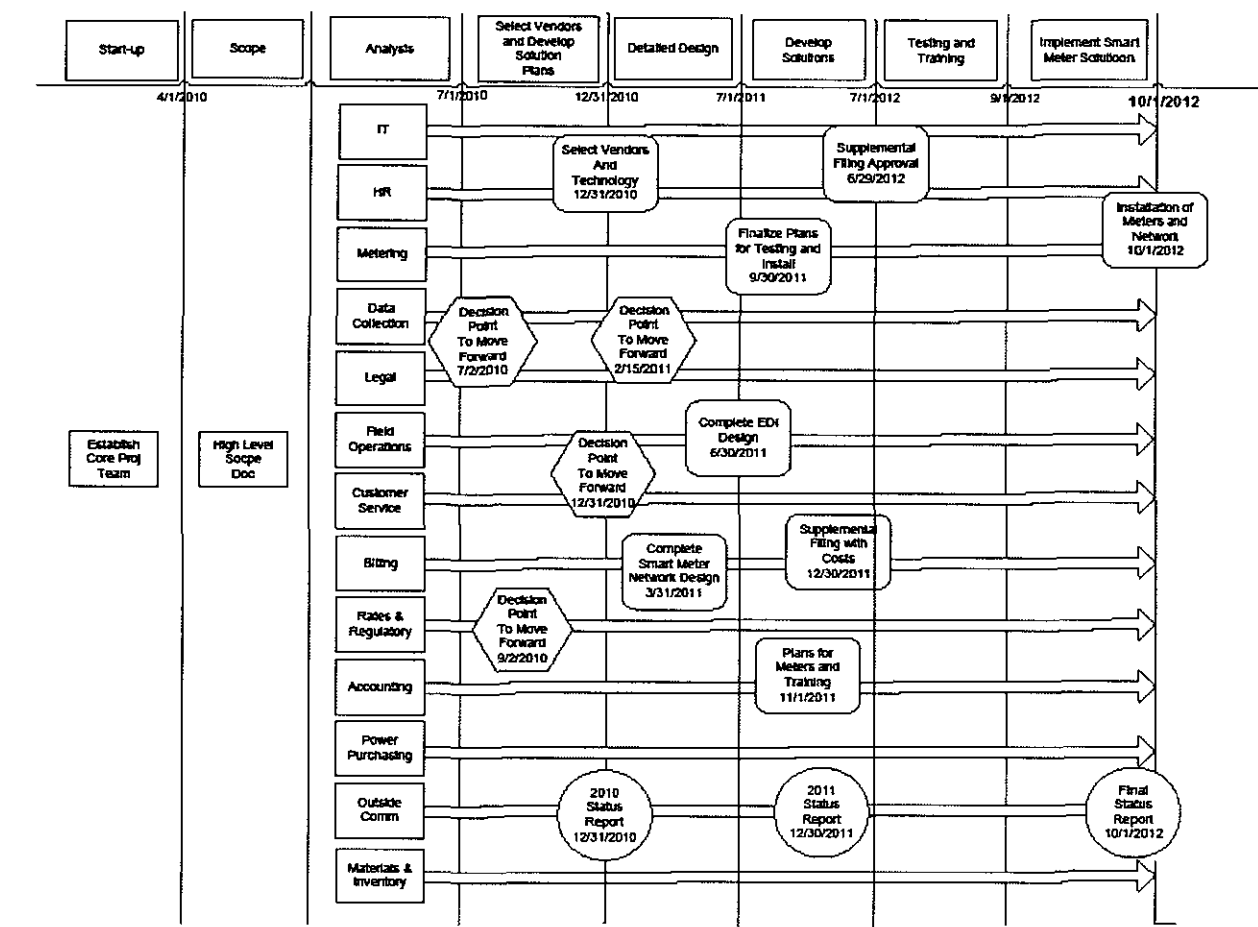
Component 2 - Project Schedules

Plan



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Component 2 - Chart



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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.

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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

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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

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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

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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.

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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 Annual Progress Report" ~~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

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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.³

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. When setting the Charge prospectively, per Commission Order, Duquesne will utilize the projected average plant balance for the quarter, since setting the rate on the basis of projected average plant balance more closely reflects the actual costs. 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

³ All costs, including both expenses and capital items (net of tax) and revenues included in Duquesne's smart meter revenues, shall not be included in the revenue requirement used in future distribution rate cases and will be subject to Commission review and audit.

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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.

Common costs will be allocated based upon the number of meters connected to the system. The cost of each type of meter, whether single-phase or multi-phase, will be directly assigned to the respective customer groups.

The Company proposes to calculate the Smart Meter 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 average net PIS plant balance, depreciation and operating expenses.

Average 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 Smart Meter Charge will have a 12 month reconciliation period ending June 30 of each Plan year, requiring annual filings on August 1 of each year beginning in 2011. Hearings will be held by October 1 of each year. The reconciliation adjustment will be reflected in the filing effective January 1 of each year. The first reconciliation filing in August of 2011 will encompass more than 12 months. The annual filing will include monthly breakdowns, and it is up to Duquesne Light's discretion whether to incorporate interim or quarterly adjustments as necessary to maintain a balance between smart meter plan net costs and revenues collected under a separate cost recovery mechanism under the tariff. Quarterly filings made will be made at least 10 days prior to the commencement of the next quarter.

Interest on surcharge over or under recoveries will be 6 percent.

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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.

The Company will file, for approval, a tariff supplement containing a revised Smart Meter Charge Rider, including supporting documentation reflecting the calculation of these charges, consistent with the Commission's Opinion and Order, to become effective August 1, 2010. The first filing will include recovery of costs incurred prior to the Order, recovered over the first four quarterly SMC filings. Statutory notice for the filing of these tariff supplements is not necessary.

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

Capital structure, Return on Common Equity and Cost Rate of Debt and Preferred Stock

Capital structure for Duquesne Light will be determined as follows: If Duquesne Light has a capital structure from a litigated base rate case that is less than three years old, the capital structure ratios used for the purposes of the base rate case shall be used for Duquesne's Smart Meter Charge cost recovery (including a hypothetical capital structure). If Duquesne's last litigated base rate case is more than three years old, the capital structure that will be used is Duquesne's actual capital structure included in the most recent Quarterly Earnings Report. If the Company's actual capital structure from the Quarterly Earnings Report is outside the zone of reasonableness for the electric utility industry, the capital structure ratio that will be used is the average of the electric utility barometer group as reflected in the then most recent Quarterly Earnings Report. The applicable capital structure ratio shall be refreshed after the results of the next base rate case for Duquesne. To the extent that Duquesne's subsequent base rate case is settled, the parties are to establish the applicable capital structure ratio to apply for the purposes of the SMP recovery mechanism in that proceeding.

The cost of common equity for Duquesne will be determined as follows: if Duquesne has a Return on Equity (ROE) from a litigated base rate case that is less than three years old, that ROE is to be used to determine the weighted average cost of capital under the Plan. If, however, the last litigated base rate case is more than three years old, the Quarterly ROE as calculated and recommended by the Bureau of Fixed Utility Services for the electric utility barometer group included in the then most recent Quarterly Earnings Report is to be utilized until an ROE is determined in a subsequent litigated base rate case, to be effective for the subsequent three year period. To the extent that the subsequent base rate case is settled, the parties are to establish the applicable ROE to apply for the purposes of the Plan recovery mechanism in that proceeding.

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Regarding cost rate of debt and preferred stock, Duquesne will use the cost rates contained in its most recent quarterly financial reports submitted to the Commission at the time of each quarterly SMC filing for the cost rates of debt and preferred stock to be used in the rate of return calculation of the SMC. Duquesne's identified cost rate of debt and cost rate of preferred stock should be blended proportionately to determine a composite debt cost rate to be used in the calculation.

Revised Schedule

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<u>Completion Date</u>	<u>Milestone, Event, or Filing</u>
<u>8/14/2009</u>	<u>Smart Meter Plan Filing</u>
<u>1/28/2010</u>	<u>Initial Decision issued</u>
<u>5/11/2010</u>	<u>Plan approval</u> <u>Grace Period begins</u>
<u>6/10/2010</u>	<u>Filing of Comments Regarding Sub-Hourly Metering</u> <u>Revised Plan Filing</u>
<u>7/1/2010</u>	<u>Supplemental filing of cost/benefit analysis regarding the minimum additional requirements</u>
<u>8/1/2010</u>	<u>First quarterly surcharge effective date</u>
<u>10/1/2010</u>	<u>Quarterly surcharge effective date</u>
<u>12/31/2010</u>	<u>Assessment of needs & technological solutions & selection of technologies and vendors, including filing. Filing will also address investigation of less expensive meters during Grace Period</u>
<u>1/1/2011</u>	<u>Quarterly surcharge effective date</u>
<u>3/31/2011</u>	<u>Internal Milestone: Establishment of network</u>

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	<u>designs</u>
<u>4/1/2011</u>	<u>Quarterly surcharge effective date</u>
<u>6/31/2011</u>	<u>Internal Milestone: Establishment of plans to design, test & certify EDI transaction capability consistent with Implementation Order</u>
<u>7/1/2011</u>	<u>Quarterly surcharge effective date</u>
<u>8/1/2011</u>	<u>First annual reconciliation filing</u> <u>Annual Smart Meter progress report may be filed on this date (alternative date is 12/31/2011)</u>
<u>9/30/2011</u>	<u>Internal Milestone: Establishment of plans for installation, testing & rollout of support equipment & software</u>
<u>10/1/2011</u>	<u>Smart Meter Charge Reconciliation Hearing to be held no later than this date</u> <u>Quarterly surcharge effective date</u>
<u>11/1/2011</u>	<u>Internal Milestone: Establishment of plans for installation of meters and plans for training personnel</u>
<u>12/31/2011</u>	<u>Supplemental filing with costs document. This filing will also identify Duquesne Light customer education and outreach efforts</u>
<u>1/1/2012</u>	<u>Smart Meter Reconciliation adjustment goes into effect</u> <u>Quarterly surcharge effective date</u>
<u>4/1/2012</u>	<u>Quarterly surcharge effective date</u>
<u>7/1/2012</u>	<u>Anticipated Supplemental Filing Approval</u>

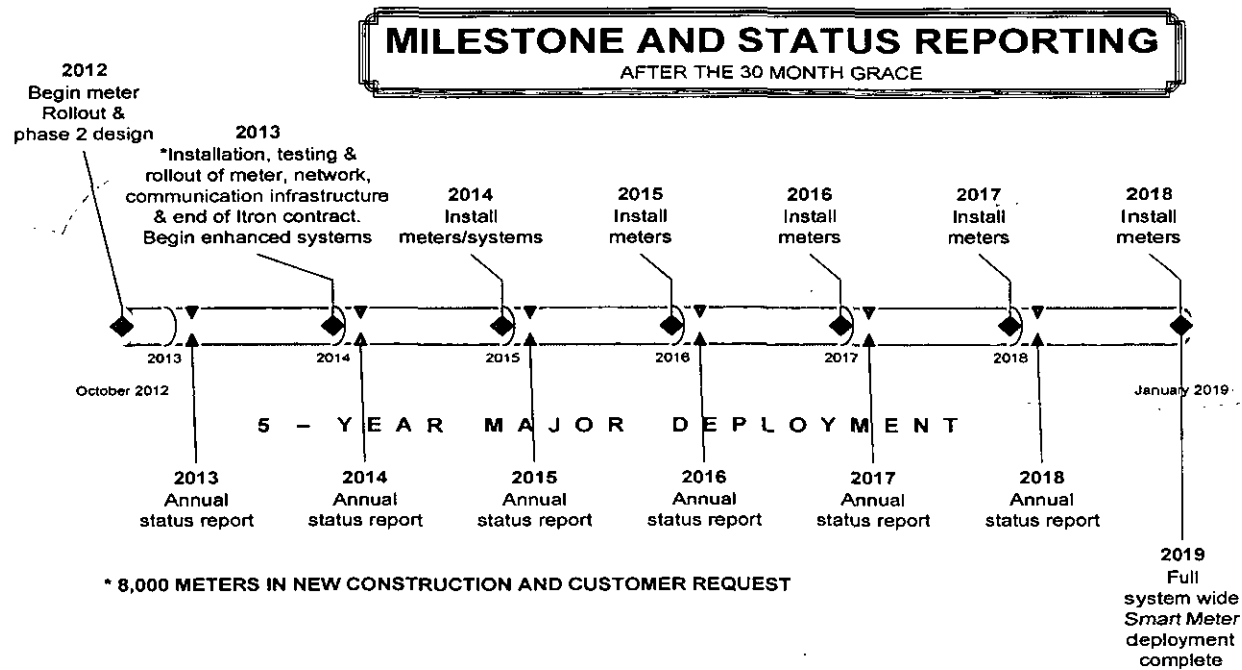
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	<u>Quarterly surcharge effective date</u>
<u>8/1/2012</u>	<u>Annual reconciliation filing</u> <u>Annual Smart meter progress report may be filed on this date</u>
<u>10/1/2012</u>	<u>Smart Meter Charge Hearing to be held no later than this date</u> <u>Quarterly surcharge effective date</u>
<u>11/11/2012</u>	<u>Internal Milestone: Installation of Network and Base Software, including CC&B.</u> <u>End of Grace Period</u> <u>Final Grace Period Status Report</u>

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



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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
- Capital structure, Return on Common Equity and Cost Rate of Debt and Preferred Stock
- Revised Schedule Through the Grace Period

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- Estimated Milestone and status reporting schedule after the 30 month grace period

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.

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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.

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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:

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Residential and very small C & I customers

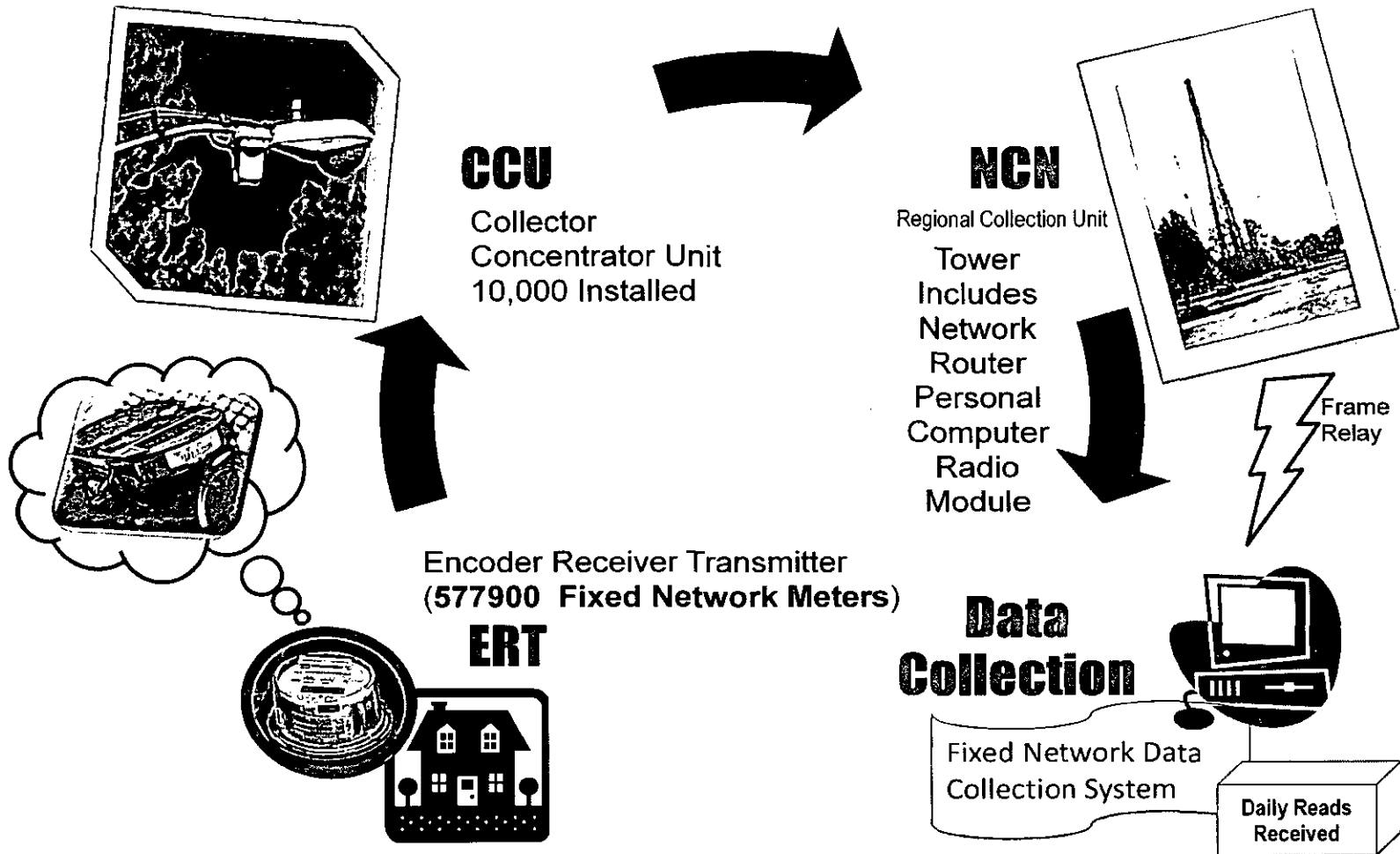
- There are approximately 577,900 residential and very small C & I customers on our radio frequency fixed network. Approximately 90% of the meters report a midnight latch read. In other words, the midnight read is stored and collected for each customer. The meters are interrogated between midnight and 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

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(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



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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

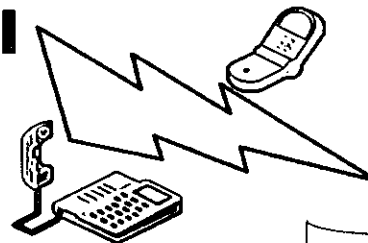
30,100 Commercial & Industrial (C&I) Meters

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

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



**Commercial
Industrial
Account**



MV90

Data Collection
System



Interval / Daily
Reads
Received

Meets Smart Meter
Original Act 129
Legislation
Requirements

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

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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.

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Duquesne Light will charge customers interested in having an interval meter, per Rule 14.2 in the Company's Tariff Electric PA P.U.C. No 24, a base charge of \$1305, which includes the base charge of \$586 for the interval meter and \$719 for the required communications equipment. Customers who desire to have access to KYZ pulse data from the interval meter to interface with devices downstream of the meter will be charged an additional \$197.

Duquesne Light will investigate whether there are alternatives other than the interval meter available from vendors that would be less expensive to residential and small commercial and industrial customers until smart meters are available, and will report back to the Commission on this issue in conjunction with its December 31, 2010 filing.

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.¹

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.

Included in this analysis will be an analysis of the costs and benefits of fifteen-minute interval metering.

¹ For the three milestones that include filings, 7/1/2010, 12/31/2010 and 12/31/2011, the filing dates are approximate, in light of many factors, including Commission approval, uniform decisions, progress, etc. Thus, the filings will be made "on or about" the dates proposed. Any delay with respect to filing deadlines or milestone deadlines will be submitted to the Commission for review.

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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. 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 switches, firewalls and firewall enforcement points, 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

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- 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. Specifically, Duquesne Light will analyze HAN capabilities and will include its findings as part of its July 1, 2010 filing and perhaps subsequent reports to the Commission.
- 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.
 - 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.
 - There will be a filing in conjunction with this milestone discussing technology and infrastructure.
 - This filing will also discuss Duquesne Light's efforts undertaken to locate and identify less expensive meters for use in its smart meter procurement and installation plan during the grace period, and vendors of any less expensive meters so found, along with a detailed explanation why any such meter is or is not acceptable or compatible with the smart meter procurement and installation plan, and, as to those meters found

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acceptable or compatible with the plan, whether Duquesne intends to install such meters as part of its plan.

- 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:

- 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

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- Certify the transactions
- Installation, testing and rollout of support equipment and software (9/30/2011)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 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 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.
 - In conjunction with Outside Communications, Duquesne will also focus on customer education and outreach as part of this milestone, and will report to the Commission on this issue in the 12/31/2011 filing.

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- 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.²
 - Itemize the costs for the remainder of the project
 - Reconcile 30-month grace period costs
 - Submit the final details and smart meter implementation schedule; and
 - Submit information on consumer education and outreach.

Also, in addition to the milestones listed above, Duquesne Light has agreed to consider stakeholder input throughout the Grace Period, and will schedule several stakeholder meetings during the Grace Period.

² The costs for the last two milestones of Component 2 will be submitted with this 12/31/2011 subsequent filing.

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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 DL Co 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	

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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.*

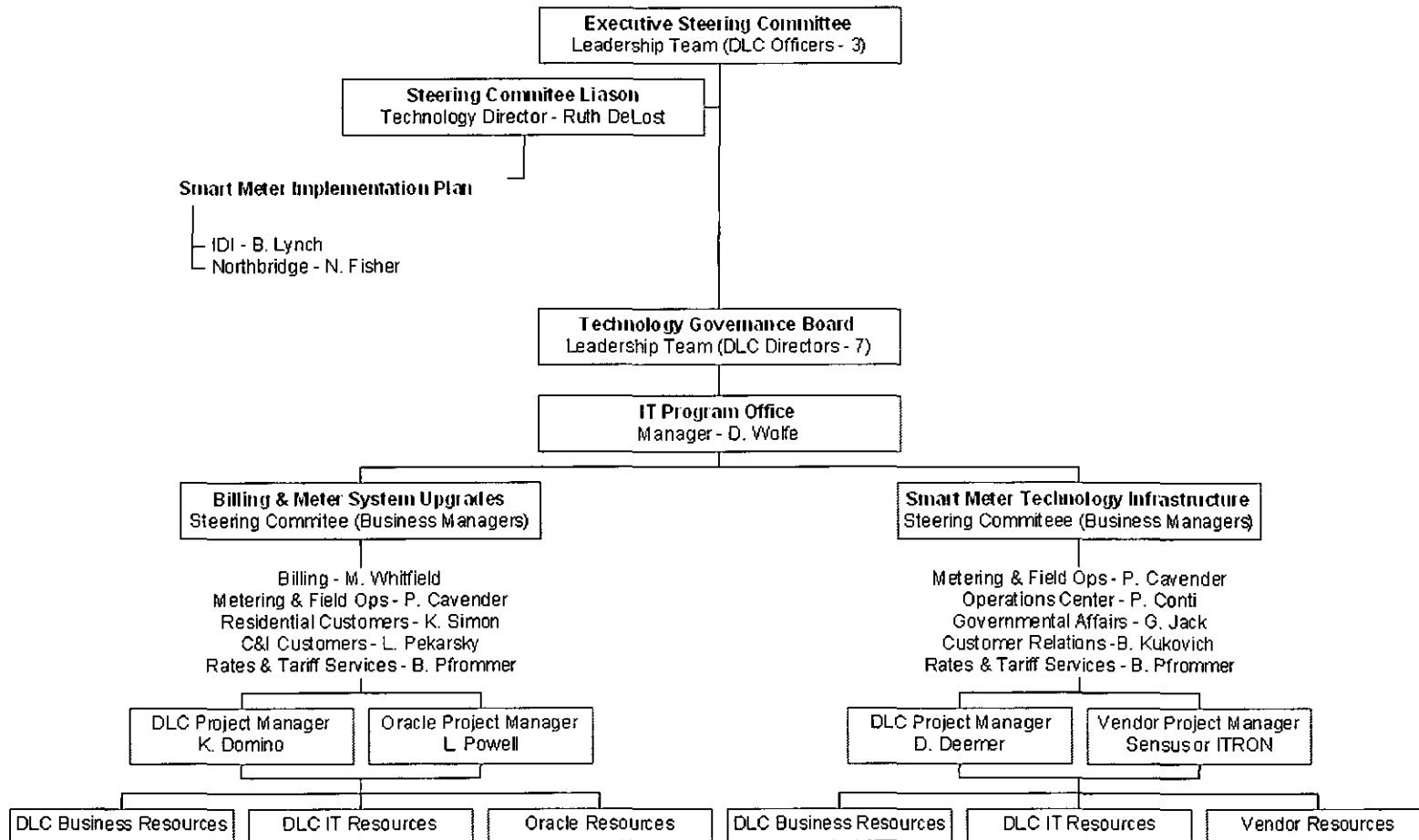
Process Groups are linked by the results they produce, thus the results of one often becomes input to another. Links are iterated; the planning process provides the executing process with a documented project plan, and the plan is updated as the project progresses. Process groups are not discrete, one-time 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.

Project Management Structure



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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.

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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

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technological environment. Duquesne will be bringing in an outside vendor to assist in the 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

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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 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.

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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							
Phase:							
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							

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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

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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

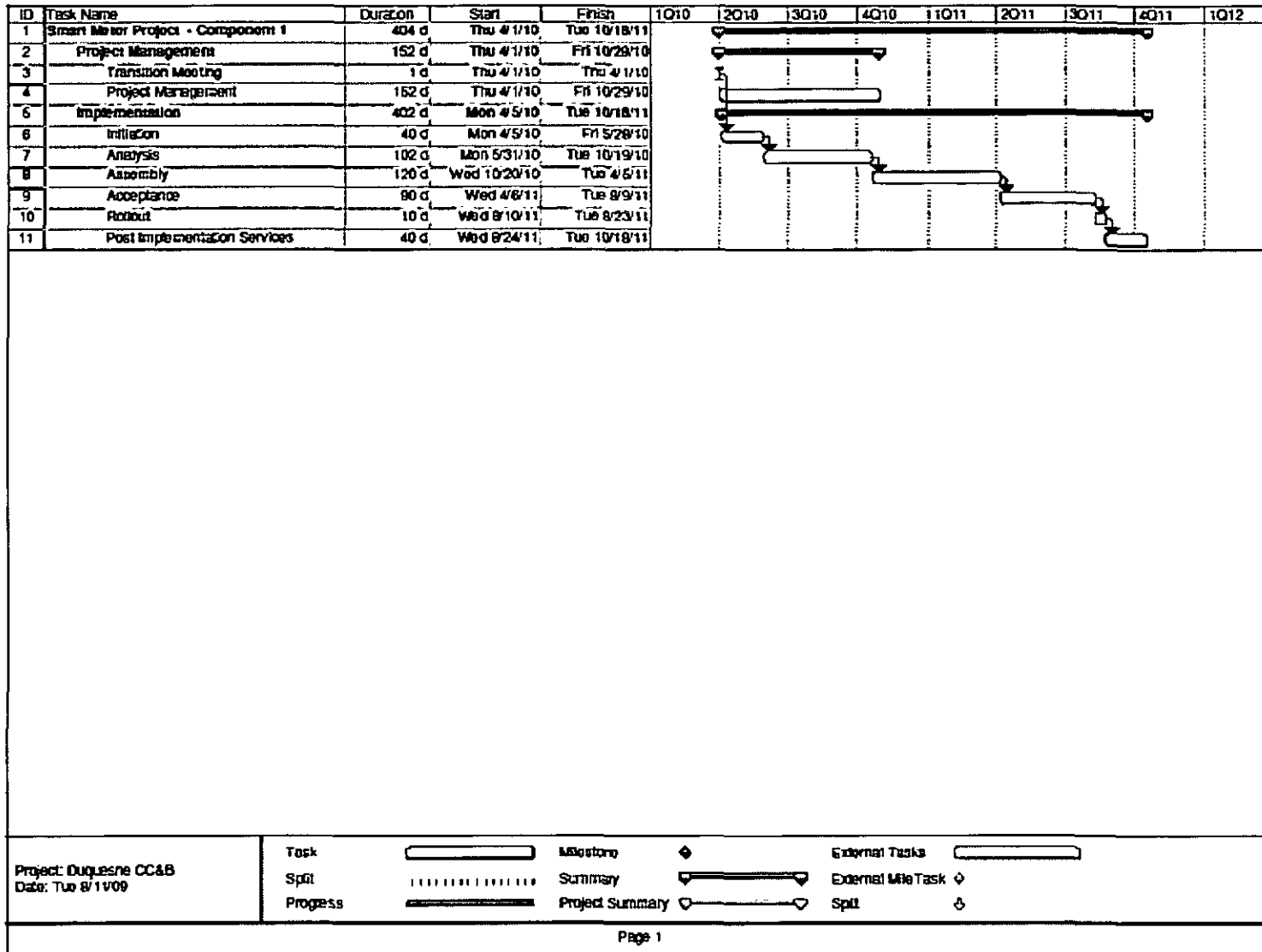
- System Go Live
- Cut Over Plan Execution & Measurement Report

Phase 7 – Post Implementation Services

- On Site Support
- Post Implementation Review/Audit Report

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Component 1 - Project Schedule



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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	

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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

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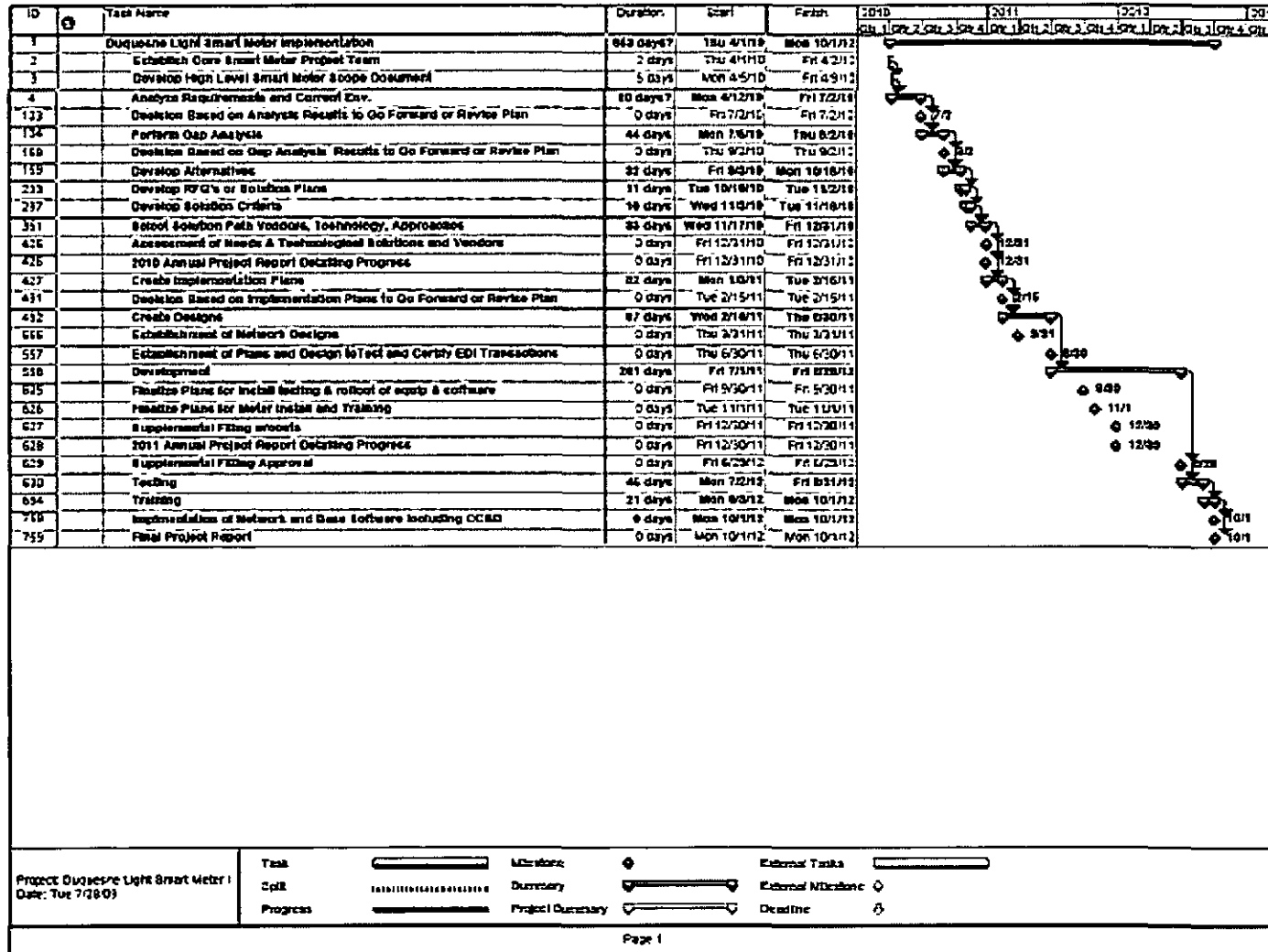
Component 2 - Project Deliverables

- Analyze 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

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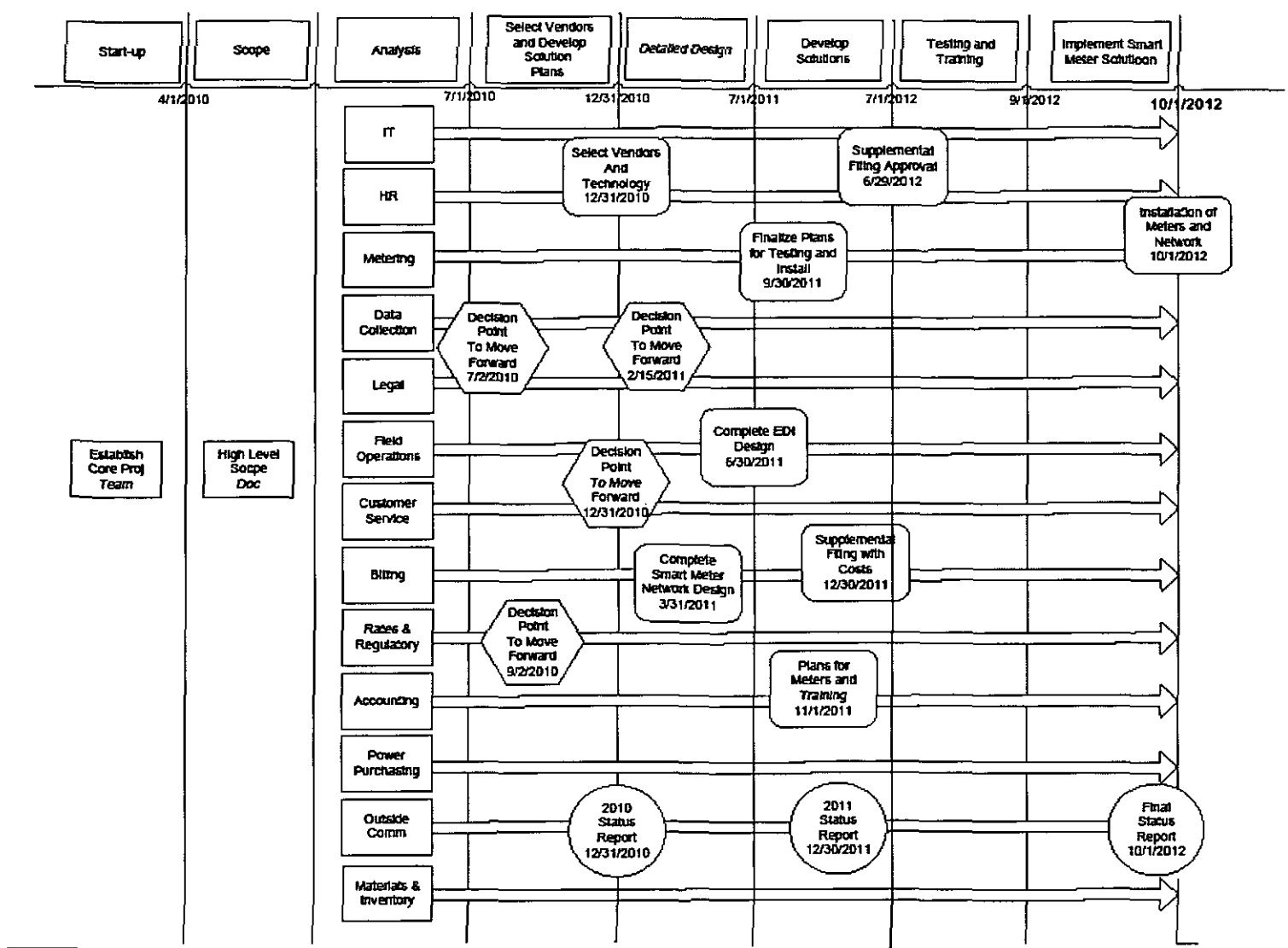
Component 2 - Project Schedules

Plan



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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.

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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

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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

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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.

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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 Annual 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.³

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. When setting the Charge prospectively, per Commission Order, Duquesne will utilize the projected average plant balance for the quarter, since setting the rate on the basis of projected average plant balance more closely reflects the actual costs. 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

³ All costs, including both expenses and capital items (net of tax) and revenues included in Duquesne's smart meter revenues, shall not be included in the revenue requirement used in future distribution rate cases and will be subject to Commission review and audit.

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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.

Common costs will be allocated based upon the number of meters connected to the system. The cost of each type of meter, whether single-phase or multi-phase, will be directly assigned to the respective customer groups.

The Company proposes to calculate the Smart Meter 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 average plant balance, depreciation and operating expenses. Average 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 Smart Meter Charge will have a 12 month reconciliation period ending June 30 of each Plan year, requiring annual filings on August 1 of each year beginning in 2011. Hearings will be held by October 1 of each year. The reconciliation adjustment will be reflected in the filing effective January 1 of each year. The first reconciliation filing in August of 2011 will encompass more than 12 months. The annual filing will include monthly breakdowns, and it is up to Duquesne Light's discretion whether to incorporate interim or quarterly adjustments as necessary to maintain a balance between smart meter plan net costs and revenues collected under a separate cost recovery mechanism under the tariff. Quarterly filings made will be made at least 10 days prior to the commencement of the next quarter.

Interest on surcharge over or under recoveries will be 6 percent.

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.

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The Company will file, for approval, a tariff supplement containing a revised Smart Meter Charge Rider, including supporting documentation reflecting the calculation of these charges, consistent with the Commission's Opinion and Order, to become effective August 1, 2010. The first filing will include recovery of costs incurred prior to the Order, recovered over the first four quarterly SMC filings. Statutory notice for the filing of these tariff supplements is not necessary.

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

Capital structure, Return on Common Equity and Cost Rate of Debt and Preferred Stock

Capital structure for Duquesne Light will be determined as follows: If Duquesne Light has a capital structure from a litigated base rate case that is less than three years old, the capital structure ratios used for the purposes of the base rate case shall be used for Duquesne's Smart Meter Charge cost recovery (including a hypothetical capital structure). If Duquesne's last litigated base rate case is more than three years old, the capital structure that will be used is Duquesne's actual capital structure included in the most recent Quarterly Earnings Report. If the Company's actual capital structure from the Quarterly Earnings Report is outside the zone of reasonableness for the electric utility industry, the capital structure ratio that will be used is the average of the electric utility barometer group as reflected in the then most recent Quarterly Earnings Report. The applicable capital structure ratio shall be refreshed after the results of the next base rate case for Duquesne. To the extent that Duquesne's subsequent base rate case is settled, the parties are to establish the applicable capital structure ratio to apply for the purposes of the SMP recovery mechanism in that proceeding.

The cost of common equity for Duquesne will be determined as follows: if Duquesne has a Return on Equity (ROE) from a litigated base rate case that is less than three years old, that ROE is to be used to determine the weighted average cost of capital under the Plan. If, however, the last litigated base rate case is more than three years old, the Quarterly ROE as calculated and recommended by the Bureau of Fixed Utility Services for the electric utility barometer group included in the then most recent Quarterly Earnings Report is to be utilized until an ROE is determined in a subsequent litigated base rate case, to be effective for the subsequent three year period. To the extent that the subsequent base rate case is settled, the parties are to establish the applicable ROE to apply for the purposes of the Plan recovery mechanism in that proceeding.

Regarding cost rate of debt and preferred stock, Duquesne will use the cost rates contained in its most recent quarterly financial reports submitted to the Commission at the time of each quarterly SMC filing

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for the cost rates of debt and preferred stock to be used in the rate of return calculation of the SMC. Duquesne's identified cost rate of debt and cost rate of preferred stock should be blended proportionately to determine a composite debt cost rate to be used in the calculation.

Revised Schedule

<u>Completion Date</u>	<u>Milestone, Event, or Filing</u>
8/14/2009	Smart Meter Plan Filing
1/28/2010	Initial Decision issued
5/11/2010	Plan approval Grace Period begins
6/10/2010	Filing of Comments Regarding Sub-Hourly Metering Revised Plan Filing
7/1/2010	Supplemental filing of cost/benefit analysis regarding the minimum additional requirements
8/1/2010	First quarterly surcharge effective date
10/1/2010	Quarterly surcharge effective date
12/31/2010	Assessment of needs & technological solutions & selection of technologies and vendors, including filing. Filing will also address investigation of less expensive meters during Grace Period
1/1/2011	Quarterly surcharge effective date
3/31/2011	Internal Milestone: Establishment of network designs
4/1/2011	Quarterly surcharge effective date
6/31/2011	Internal Milestone: Establishment of plans to

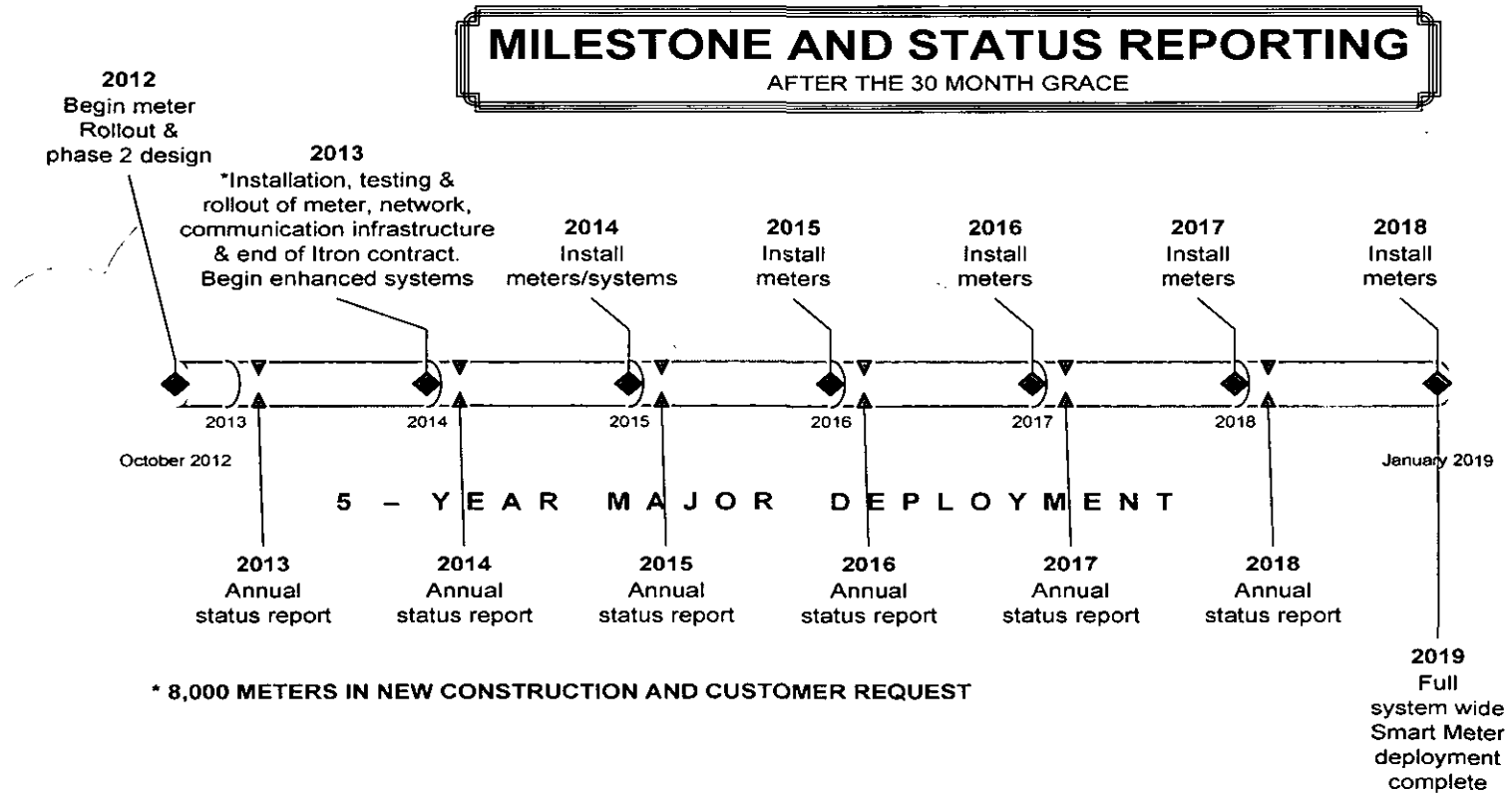
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	design, test & certify EDI transaction capability consistent with Implementation Order
7/1/2011	Quarterly surcharge effective date
8/1/2011	First annual reconciliation filing Annual Smart Meter progress report may be filed on this date (alternative date is 12/31/2011)
9/30/2011	Internal Milestone: Establishment of plans for installation, testing & rollout of support equipment & software
10/1/2011	Smart Meter Charge Reconciliation Hearing to be held no later than this date Quarterly surcharge effective date
11/1/2011	Internal Milestone: Establishment of plans for installation of meters and plans for training personnel
12/31/2011	Supplemental filing with costs document. This filing will also identify Duquesne Light customer education and outreach efforts
1/1/2012	Smart Meter Reconciliation adjustment goes into effect Quarterly surcharge effective date
4/1/2012	Quarterly surcharge effective date
7/1/2012	Anticipated Supplemental Filing Approval Quarterly surcharge effective date
8/1/2012	Annual reconciliation filing Annual Smart meter progress report may be filed

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	on this date
10/1/2012	Smart Meter Charge Hearing to be held no later than this date Quarterly surcharge effective date
11/11/2012	Internal Milestone: Installation of Network and Base Software, including CC&B. End of Grace Period Final Grace Period Status Report

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



**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

DUQUESNE LIGHT COMPANY :
Smart Meter Procurement and : Docket No. M-2009-2123948
Installation Program :

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the Smart Meter Plan Revision 1 June 10, 2010 of Duquesne Light Company in the above-referenced proceeding has been served upon the following persons, in the manner indicated, in accordance with the requirements of § 1.54 (relating to service by a participant):

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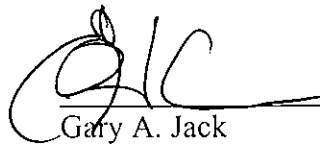
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Dated: June 10, 2010

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