

BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION

PETITION OF PECO ENERGY COMPANY  
FOR APPROVAL OF ITS  
SMART METER TECHNOLOGY PROCUREMENT AND  
INSTALLATION PLAN

DOCKET NO. M-2009-2123944

---

DIRECT TESTIMONY

---

WITNESS: GLENN A. PRITCHARD, P.E.

SUBJECT: PECO'S CURRENT DEPLOYMENT OF  
AUTOMATED METER READING  
TECHNOLOGY AND PLAN FOR  
DEPLOYMENT OF SMART METER  
TECHNOLOGY

DATED: AUGUST 14, 2009

## TABLE OF CONTENTS

	Page
<b>I. INTRODUCTION AND PURPOSE OF TESTIMONY .....</b>	<b>1</b>
<b>II. PECO'S CURRENT AUTOMATED METER READING SYSTEM.....</b>	<b>4</b>
<b>III. PECO'S SMART METER TECHNOLOGY DEPLOYMENT PLAN .....</b>	<b>8</b>
<b>A. Phase One of PECO's Plan .....</b>	<b>8</b>
<b>B. Phase Two of PECO's Plan.....</b>	<b>17</b>
<b>IV. MILESTONES AND REPORTING TARGETS FOR PECO'S PLAN .....</b>	<b>19</b>
<b>V. CONCLUSION .....</b>	<b>19</b>



1 In 1995, I was promoted to Project Engineer, Special Projects, in PECO's  
2 Engineering Services Department. There, I was responsible for developing several  
3 special projects undertaken by the Company, including a \$15 million project to  
4 automate PECO's 87 distribution substations.

5 In 1998, I returned to PECO's Engineering and Design Division as Reliability  
6 Engineer. In this position, I was responsible for managing several engineering  
7 projects to ensure the peak performance of PECO's distribution system.

8 In 2000, I was assigned to assist a former PECO affiliate, Exelon Communications, as  
9 a Project Leader and Engineer supporting the fiber optic network expansion of the  
10 PECOAdelphia telecommunications company. I returned to PECO in 2002, as  
11 Project Manager for Automated Meter Reading ("AMR") Strategies. At that time, I  
12 began working primarily on developing the Company's AMR technologies and  
13 applications.

14 In 2007, I was promoted to Principal Engineer for Meter Reading Technologies and  
15 given increased responsibility for developing PECO's AMR technology, and later its  
16 Advance Meter Infrastructure ("AMI") or "smart meter" strategies. My primary  
17 focus continues to be on metering systems and advanced applications of these  
18 systems and their data.

19 **3. Q. What is the purpose of your direct testimony?**

20 A. PECO has filed its Smart Meter Technology Procurement and Installation Plan (the  
21 "Plan") pursuant to the smart meter requirements of Pennsylvania's Act 129 of 2008

1 (“Act 129” or the “Act”) and the Commission’s Order implementing the provisions of  
2 the Act.<sup>1</sup> The purpose of my testimony is to describe PECO’s current metering  
3 infrastructure and to provide an overview of the smart meter technology and  
4 infrastructure PECO proposes to install as part of its Plan.

5 **4. Q. Please explain how your testimony is organized.**

6 A. My testimony is set forth in three sections. First, I describe PECO’s current AMR  
7 system and explain how the existing system obtains customer meter data and other  
8 information and transmits that data and information to PECO. Second, I discuss the  
9 key smart meter components of PECO’s proposed AMI system and the technologies  
10 that will be provided to PECO’s customers in accordance with the requirements of  
11 Act 129 and the Implementation Order. Third, I discuss the milestones and reporting  
12 targets we project in the Plan.

13 As I explain more fully below, PECO intends to deploy its smart meter technology in  
14 two phases. We believe this two-phase process is a prudent and reasonable approach  
15 to deploying AMI technology in a manner and within a time frame that is consistent  
16 with the Act and the Implementation Order.

---

<sup>1</sup> *Smart Meter Procurement and Installation, Implementation Order*, Docket No. M-2009-2092655, (Order entered June 24, 2009) (“Implementation Order”).

1           **II.     PECO’S CURRENT AUTOMATED METER READING SYSTEM**

2   **5.   Q.   Mr. Pritchard, please describe PECO’s current AMR system.**

3           A.   PECO began constructing its existing AMR network in 1999, and the network was  
4           completed in 2003. As a result of its AMR initiative, PECO has installed  
5           approximately 1.7 million AMR meters throughout its service territory.

6           The network enables the Company to obtain meter data remotely, thereby avoiding  
7           the need to visit and manually read individual customer meters. The network is made  
8           up of three major components: the meter, which records the customer’s electric  
9           usage; the MicroCell Controller (“MCC”), which is the initial data collection point;  
10          and the Cell Master (“CM”), which gathers the information from several MCCs and  
11          transmits it to a Network Operations Center (“NOC”) for processing.

12   **6.   Q.   How does PECO’s current system work?**

13          A.   Each electric meter transmits data packets every five minutes. The transmission  
14          contains the most recent data packet and the past nine data packets to provide 45  
15          minutes of data redundancy. The meter sends this information to an MCC, which, in  
16          simple terms, is the “local area network” that obtains meter information within a  
17          radius of a quarter-mile. The MCC facilitates the performance of advanced data  
18          functions on the information collected from the meters. This may include time-of-use  
19          consumption, interval-data aggregation, and peak-demand calculations.

20          The MCC sends the data that it has gathered from customer meters to the CM. The  
21          CM is the “wide area network” and covers a 20- to 25-square mile area.

1 The CM transmits the data it has received to the NOC for processing. The NOC then  
2 communicates this information to PECO's information technology ("IT") systems for  
3 billing and customer service purposes. A diagram illustrating how PECO's AMR  
4 system works is attached as Exhibit GAP-1 to my testimony.

5 **7. Q. Are there any other features of PECO's AMR network that you would like to**  
6 **point out?**

7 A. Yes. It should be noted that PECO's AMR network was designed to maximize  
8 functionality at minimal cost. Therefore, the intelligence resides "in the network,"  
9 and all advanced calculations are done at the network level, not at the meter level.  
10 The system combines relatively simple metering endpoints that transmit data one-way  
11 to the MCCs with more sophisticated technologies at the MCC and CM levels, which  
12 have two-way communication capability. This two-tiered network has enabled PECO  
13 to have the capability to provide several of the meter functionalities required by Act  
14 129 on a limited basis, but at a significant savings compared to the cost of "smart"  
15 meters.

16 **8. Q. Please explain the benefits that PECO's AMR system has yielded for the**  
17 **Company and its customers.**

18 A. As I mentioned earlier, one benefit of the AMR system is its *remote meter reading*  
19 *capability*. As a result of this capability, PECO has been able to transition from  
20 manual meter reading (the Company no longer has manual meter readers) to  
21 obtaining daily readings for all meters read through the AMR system. This capability

1 has also resulted in reduced estimated customer bills, and allows for Web  
2 presentment of customer interval data.

3 A second benefit is *improved outage management*. PECO uses the AMR system to  
4 identify outages, and to verify that power has been restored in the event that outages  
5 occur.

6 A third benefit is *theft protection*. Our AMR meters can inform us when they have  
7 been tampered with and help us to dispatch field personnel quickly to investigate and  
8 repair the meters. This helps us to minimize electric service theft.

9 Fourth, our AMR meters help us to perform *advanced data analysis* to support  
10 electric load and usage studies, and maintenance programs. This helps us to use our  
11 assets efficiently by providing energy when and where it is needed.

12 **9. Q. You mentioned that PECO has installed roughly 1.7 million electric meters as**  
13 **part of its existing AMR network. How many MCCs and CMs has PECO**  
14 **deployed as part of this network?**

15 A. In addition to the meters, the PECO network includes 8,316 MCCs, 91 CMs, and 612  
16 “repeaters” that are used to supplement radio communications in the network. PECO  
17 has also installed 470,000 natural gas meters that are integrated into the same  
18 network.

19 **10. Q. Did PECO construct, and do its employees operate, this AMR system?**

1 A. No. PECO entered into a 15-year agreement for construction and operation of its  
2 AMR network with Schlumberger Resource Management Services group (“RMS”)  
3 and Cellnet Data Systems (“Cellnet”) utilizing Cellnet’s proprietary AMR  
4 technology. Under this agreement, Cellnet (now known as Landis + Gyr) installs and  
5 maintains the meters and operates the NOC.

6 **11. Q. Are there any PECO customers whose meters are not currently read using the**  
7 **AMR network?**

8 A. Yes. The network does not read approximately 12,000 meters, or less than 1% of the  
9 total.

10 **12. Q. Why doesn’t the network read these meters?**

11 A. These meters are in areas of PECO’s service territory that are thinly populated. The  
12 technology available at the time PECO installed its AMR infrastructure could not cost  
13 effectively provide automated meter reading service to these areas. Accordingly,  
14 Cellnet reads these meters through a “park and read” or drive-by method. This  
15 method is also used in the event there are any temporary communications problems  
16 with any part of the network.

17 We also have approximately 3,200 “MV-90” meters serving 1,600 of PECO’s largest  
18 commercial and industrial customers. These meters communicate with PECO’s  
19 systems through dedicated telephone lines.

20 **13. Q. Is PECO’s current AMR technology sufficient to meet the smart meter**  
21 **capabilities required by Act 129 and the Commission’s Implementation Order?**

1 A. While PECO's AMR system supports many functionalities required by the Act – for  
2 example, time-of-use rates – and has generated significant savings by remotely  
3 collecting meter data, Act 129 and the Commission's Implementation Order mandate  
4 a variety of additional functions that cannot be implemented using PECO's existing  
5 AMR technology. Therefore, a new infrastructure is necessary to put an AMI  
6 network and smart meters in place to deliver these functions.

### 7 **III. PECO'S SMART METER TECHNOLOGY DEPLOYMENT PLAN**

#### 8 **A. Phase One of PECO's Plan**

9 **14. Q. Please briefly describe PECO's proposed Smart Meter Plan to meet the Act's**  
10 **and the Commission's requirements.**

11 A. I'll begin by describing the first Phase of PECO's Plan, which we are planning to  
12 implement beginning in late 2009. Phase One of the Plan centers on the development  
13 and installation of the AMI System (including the AMI Network and the AMI Host)  
14 and the associated IT Systems (including MDMS, Middleware and System  
15 Integration) as defined in Section 2.1 of the Smart Meter Plan.

16 **15. Q. Please explain the function of these systems.**

#### 17 **The AMI System**

18 A. The AMI Host is the master controller for the AMI System. It is responsible for  
19 managing all communications and meter readings. It is also responsible for ensuring  
20 that the system is secure and data is successfully transmitted to and from the Smart  
21 Meters.

1           **The AMI Network** is the communications infrastructure that transports meter  
2 readings, data, and commands between the AMI Host and the meters. The  
3 communications provided by this network will be bi-directional all the way to the  
4 meter and to the premises, which is not possible within PECO’s existing AMR  
5 system.

6           **The IT Systems**

7           **The MDMS** is responsible for processing and storing meter information, interval  
8 data, and events, and analyzing raw meter data. It provides interfaces to other  
9 applications that require meter related data. The MDMS is also responsible for a  
10 process commonly called “VEE” – Validating, Editing and Estimating – which is  
11 used to ensure that billing quality meter data is delivered to the billing system.

12           **Middleware** is a set of standard software components that manage the integration of  
13 the AMI Host with the MDMS and the integration of the MDMS with the “Back  
14 Office” Systems.

15           **System Integration** is comprised of the professional services that are engaged in the  
16 analysis, design, build, test and deployment phases of the integration of the AMI  
17 Host, MDMS, Middleware and IT Back Office Systems.

18 **16. Q. Will PECO deploy any smart meters as part of Phase One of its Plan?**

19           A. Yes. PECO will procure between 100,000 and 600,000 smart meters in Phase One,  
20 depending upon the outcome of PECO’s Federal stimulus grant application, and

1 deploy them in its service territory as part of its overall smart meter installation.<sup>2</sup>

2 These meters, when integrated with the IT Systems, will be fully capable of providing  
3 the functionalities required by Act 129 and the Implementation Order.

4 **17. Q. What systems need to be in place for PECO to begin its Phase One meter  
5 deployment?**

6 A. The MDMS, the Middleware and System Integration must be in place in order for  
7 PECO to begin its Phase One deployment.

8 **18. Q. How does PECO intend to procure the MDMS, Middleware and System  
9 Integration?**

10 A. PECO intends to leverage competitively sourced, common MDMS, Middleware, and  
11 Systems Integration providers currently supporting the development of Exelon's AMI  
12 programs. Through direct negotiations with these suppliers, PECO will seek to  
13 integrate its requirements for the support of Smart Meter deployment, while also  
14 securing volume-based cost discounts and enabling a more aggressive deployment  
15 schedule as a result of an Exelon-wide approach. PECO also intends to achieve cost  
16 savings by reusing Systems Integration components, thereby eliminating the need to  
17 purchase and develop two independent systems. Ongoing operations and  
18 maintenance expenses would be reduced through a common enterprise license, lower  
19 contracting costs for technical support, and lower internal project and general  
20 management costs. Furthermore, this IT System contracting strategy will enable an

---

<sup>2</sup> If PECO is successful in obtaining its requested Federal stimulus funding, the Company will accelerate the deployment of its smart meter system with the goal of completing it within ten years.

1 accelerated deployment schedule of Smart Meters in the event that PECO's Federal  
2 stimulus grant application is successful.

3 **19. Q. Was Exelon's MDMS procurement competitive?**

4 A. Yes. I participated in the development and management of the MDMS procurement  
5 by Exelon BSC, and the procurement was competitive for the following reasons.  
6 First, the procurement process included a structured RFP that detailed the required  
7 functionality and features. The RFP was then submitted to nationally recognized  
8 leaders in the MDMS solutions marketplace. Second, the vendor responses were  
9 evaluated and scored via a weighted evaluation process. Scoring criteria included the  
10 ability to meet functional requirements, experience providing meter data management  
11 solutions, individual customer references, and cost to deploy and operate the vendor's  
12 system. At the conclusion of this rigorous and competitive evaluation process, the  
13 provider that scored the highest was selected.

14 **20. Q. How does PECO intend to procure the smart meters for its initial deployment?**

15 A. PECO will conduct a structured competitive vendor selection and contracting process,  
16 which contemplates one or more RFPs, to choose its smart meter technology and  
17 vendor. The process will include vendor qualification criteria (*e.g.*, project and  
18 product experience, and financial health); technology performance requirements  
19 consistent with the Implementation Order; vendor interviews and demonstration  
20 sessions; and appropriate scoring criteria to select vendors for contract negotiations.

1 **21. Q. How does PECO intend to procure the AMI Host and AMI Network, and the**  
2 **related components of its AMI System?**

3 A. PECO intends to follow its rigorous procurement process to develop functional  
4 equipment requirements, request proposals from vendors, evaluate those proposals  
5 and award contracts to the successful bidder. To obtain more favorable pricing and to  
6 enhance component compatibility, a single vendor will supply the AMI Host, AMI  
7 Network and meter communication modules.

8 **22. Q. How does PECO intend to procure smart meters?**

9 A. PECO intends to evaluate the operational and cost savings opportunities available as  
10 well as the business risks from procuring smart meters from one or more meter  
11 suppliers. PECO will have some flexibility in the available choices for three reasons.  
12 First, different meters are compatible with different communications networks,  
13 roughly similar to how you can use different telephones as part of single telephone  
14 network. So, the compatibility concern I mentioned with regard to the  
15 communications network is not the same with meters. Second, as meter costs will be  
16 a significant portion of the overall AMI infrastructure project cost, PECO will seek  
17 the most competitive prices, which may be influenced by the potential mix of vendors  
18 used. Third, examining multiple vendors may help protect future competitive prices  
19 and diversity of the supply chain. This is particularly important because, given the  
20 Act's statewide requirements, growing smart meter initiatives in other states, and the  
21 impact of potential Federal stimulus funding, we expect the demand for smart meter  
22 technology may increase in the coming months and years.

1 **23. Q. Has PECO determined that it can obtain smart meters that will satisfy the**  
2 **technology requirements of the Implementation Order through an RFP?**

3 A. Yes. As explained in Mr. Buxton’s testimony, PECO conducted an extensive review  
4 of available smart meter technologies, including in-depth meetings with vendors. As  
5 part of this process, PECO identified multiple vendors that can provide meters with  
6 the functionalities required by Act 129 and the Implementation Order. Moreover, in  
7 order to participate in PECO’s smart meter RFP, vendors will be required to  
8 demonstrate that their meters can meet those technological requirements.

9 **24. Q. What type of rates does PECO anticipate offering customers who have smart**  
10 **meters installed during Phase One of its Plan?**

11 A. As part of its Act 129 Energy Efficiency and Conservation (“EE&C”) Plan, PECO  
12 has proposed two Super Peak Time-of-Use (“SPTOU”) rates. One is for residential  
13 customers; the other is for small commercial and industrial customers. SPTOU  
14 consists of an on-peak period that coincides with PECO’s peak-usage periods during  
15 the summer months of June through September. The remainder of the hours are  
16 considered off-peak.

17 These rates are an important first step in offering dynamic pricing to customers who  
18 have historically been served on a flat-rate basis. As AMI and the associated AMI  
19 network and MDMS are deployed, PECO intends to offer additional dynamic pricing  
20 programs, such as real-time and critical peak pricing, along with peak time rebates.  
21 As part of a second Plan filing in June 2010, PECO will file its proposed initial  
22 dynamic pricing programs with the Commission for approval.

1 **25. Q. Act 129 requires that customers and third parties have access to consumption**  
2 **data, price data, and other customer information collected by smart meters.**  
3 **How does PECO’s Plan enable it to provide access to these data?**

4 A. We anticipate that the selected meter technology will support the Personal Energy  
5 Profile via the ZigBee 2.0 protocol.<sup>3</sup> Customers and third parties will be able to  
6 access consumption and price data through ZigBee 2.0 compliant devices. After  
7 obtaining customer consent, PECO will also provide consumption data and other  
8 customer information to third parties via established Electronic Data Interchange  
9 (“EDI”) protocols and data transfer methods described in the Implementation Order.

10 **26. Q. Separately, the Commission’s Implementation Order requires electric**  
11 **distribution companies (“EDCs”) to provide interval data capable meters upon**  
12 **customer request and third-party access to meter data during the Order’s 30-**  
13 **month grace period. How does PECO’s Plan meet these requirements?**

14 A. During the 30-month grace period, PECO will provide hourly interval data via the  
15 Web through its existing AMR system for those customers requesting such data.  
16 Third parties will be able to receive these data through EDI transactions.

17 **27. Q. Will stakeholders have an opportunity to provide their input as part of PECO’s**  
18 **Phase One process?**

---

<sup>3</sup> ZigBee is a low-power, wireless mesh networking proprietary standard that allows, among other things, smart meters to communicate with in-home information devices.

1 A. Yes. In fact, prior to our filing, PECO conducted a series of meetings with industry  
2 stakeholders to share information and collaborate concerning the evaluation of Plan  
3 alternatives. Some of these meetings were combined with stakeholder meetings  
4 regarding PECO's EE&C Plan while others were dedicated solely to the Smart Meter  
5 Plan.

6 These meetings included stakeholder workshops as well as an AMI symposium that  
7 was hosted by PECO. The dates of the specific events were as follows:

<b>Smart Meter Stakeholder Events and Dates</b>	
<b>Event</b>	<b>Date</b>
AMI Symposium (Harrisburg)	13-May-09
Joint EE&C/AMI Stakeholder Workshops	
Workshop 1	19-Mar-09
Workshop 2	22-Apr-09
Workshop 3	20-May-09
Smart Meter Stakeholder Workshop (Harrisburg)	20-Jul-09
Press Release and Education Event for ARRA Grant Application Filing	6-Aug-09

8 In addition, and specifically as part of Phase One of our Smart Meter Plan, PECO will  
9 host a collaborative process with interested statutory advocates, government entities,  
10 meter technology providers and other stakeholders to design a dynamic pricing  
11 program testing process. This process will be used to determine customer preferences  
12 with respect to dynamic pricing.

13 **28. Q. At the beginning of your testimony, you stated that PECO was planning to begin**  
14 **implementing its Plan in late 2009. Is PECO planning to launch its Phase One**  
15 **procurement before the Commission approves its Plan?**

1 A. No, PECO expects to begin its RFP activities immediately following its Plan filing.  
2 We need to do this in order to achieve the schedule outlined in the Plan; otherwise,  
3 our efforts to promptly comply with the Act's requirements would be significantly  
4 delayed. However, only after our Plan is approved by the Commission will we  
5 actually procure equipment and begin installing our proposed AMI infrastructure.  
6 Moreover, we will file our proposed vendor contracts with the Commission for  
7 approval.

8 **29. Q. When does PECO expect Phase One to be complete?**

9 A. We expect that PECO-specific MDMS design work, along with that of the AMI Host  
10 and AMI Network, will begin in early 2010. Following Commission approval of the  
11 associated vendor agreements, we expect the installation of the initial AMI  
12 communications test network will occur in late 2010. Meanwhile, PECO will make a  
13 second Plan filing with the Commission in June 2010 to report on the results of its  
14 collaborative and seek approval of its proposed dynamic pricing programs. IT  
15 system, metering, and AMI network testing is then expected to proceed. Following  
16 this, full AMI network deployment will begin in late 2011, and we expect it to be  
17 completed – and the network to become operational across our service territory – by  
18 early 2012. I would note that this will be well within the Commission's 30-month  
19 grace period.

1 **B. Phase Two of PECO's Plan**

2 **30. Q. Please describe Phase Two of PECO's Plan.**

3 A. In a third filing, PECO will seek Commission approval of its universal smart meter  
4 deployment, which will comprise Phase Two of its Plan. We expect to make this  
5 filing in 2012 following the AMI network becoming operational.

6 **31. Q. How will PECO address requests for smart meters by customers and in new  
7 construction during Phase Two of the Plan prior to full deployment being  
8 completed?**

9 A. Since PECO will have fully deployed its AMI network prior to Phase Two of the  
10 Plan, PECO will develop a process for customers to make requests for smart meters  
11 in areas where it will not have yet deployed them. Currently, we expect that these  
12 requests will be processed through a special installation team that will be working  
13 outside of the scheduled deployment process. Smart meter deployment for new  
14 construction will follow PECO's existing new business process, with the exception  
15 that the new construction will receive a smart meter.

16 **32. Q. Does PECO's Plan include provisions for identifying new construction for  
17 incorporation into its smart meter mass deployment?**

18 A. Yes, it does. As PECO builds out the AMI network during the 30-month grace  
19 period, PECO will account for all known new construction projects. Such  
20 information is currently accumulated as part of our long range planning processes.

1 **33. Q. Does PECO have plans to train personnel with respect to the smart meter**  
2 **technology it selects?**

3 A. Yes. PECO has included a robust training effort in its Plan. Highlights include  
4 network operation and maintenance training, meter installation training, meter  
5 maintenance and diagnostic training, and meter communications troubleshooting  
6 training. Additionally, training will be implemented for related back office groups,  
7 including meter operations, billing, and the customer contact center.

8 **34. Q. When does PECO expect Phase Two to be complete?**

9 A. Our full deployment is dependent on Commission approval of our filings, Federal  
10 stimulus funding, and the possibility of meter-supply constraints. However, as I will  
11 discuss in the next section of my testimony, and as will be shown in an associated  
12 exhibit, PECO has developed several milestones and targets to ensure that we are able  
13 to deploy smart meters as needed and consistent with the Act's and Implementation  
14 Order's requirements.

15 **35. Q. Finally, does PECO intend to deploy smart meters with respect to its gas**  
16 **accounts as part of its Plan?**

17 A. We are evaluating what we will do with respect to our gas meters, as they are  
18 supported by our current AMR system. To the extent PECO deploys new gas meters,  
19 issues related to their deployment will be addressed in a separate proceeding.



1           within the Commission’s 30-month grace period. Phase Two is proposed as PECO’s  
2           universal deployment phase to provide smart meters throughout its service territory  
3           for those meters not changed out during Phase One.

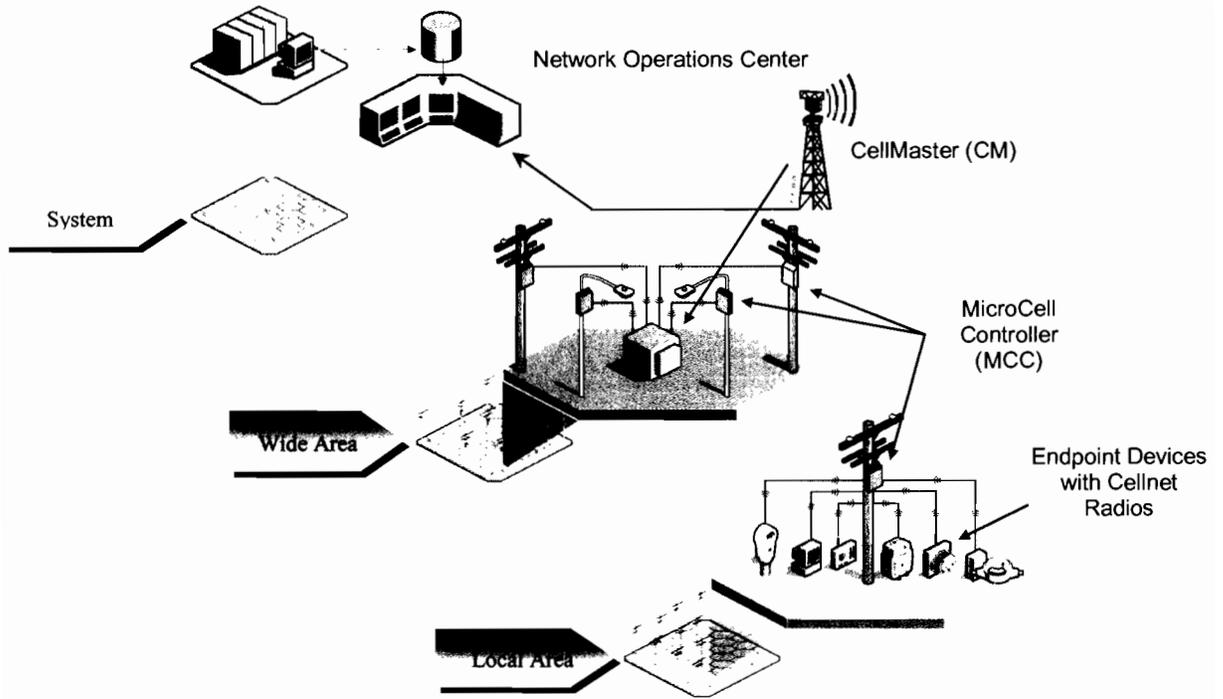
4           PECO believes this Plan is fully consistent with Act 129 and the Commission’s  
5           Implementation Order. We urge the Commission to approve it expeditiously,  
6           consistent with the procedural schedule in the Implementation Order.

7 **38. Q. Does this conclude your direct testimony?**

8           A. Yes, it does.



# Exhibit GAP-1





## Exhibit GAP-2

### Key Milestones in PECO's Smart Meter Plan

<b>Phase</b>	<b>Activity</b>	<b>Description</b>	<b>Start Date</b>	<b>End Date</b>
One	Technology Selection and Contracting	Vendor Selection, Negotiation, Contracting	Aug 2009	Apr 2010
One	IT Systems	Analyze, Design, Build, Test, Deploy 5 System Releases	Sep 2009	Jan 2012
One	Technology Acceptance Testing	Procure, Deploy, Shop Test, Field Test, Acceptance of AMI and Smart Meter Technology	Sept 2010	Sep 2011
One	Deployment of AMI Network	Procure and install the new AMI network across all PECO service territory	Oct 2011	Mar 2012
One	Initial Meter Deployment	Procure and install the initial Smart Meters	Oct 2011	Aug 2012
One	Develop and Launch Initial Dynamic Pricing and Customer Acceptance Program	Implement initial dynamic pricing options, educate customers and assess customer acceptance of dynamic pricing programs	Dec 2011	NLT Dec 2013
Two	Universal Deployment	Begin universal deployment of Smart Electric Meters	Aug 2012	TBD <sup>1</sup>

---

<sup>1</sup> The end date for universal deployment of Smart Meters is expected to be no later than 15 years from plan approval. Implementation Order, p. 15. However, if PECO receives full funding of its federal Stimulus grant application, PECO will advance the schedule of Smart Meter deployment and complete universal deployment within 10 years.