RHOADS & SINON LLP

Scott H. DeBroff, Esq.

Phone: (717) 237-6716
Fax: (717) 237-6790
sdebroff@rhoads-sinon.com

FILE NO: 11304/11

April 20, 2009

Mr. James J. McNulty
Secretary
Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, PA 17105-3265

Re: Docket No. M-2009-2092655 – Comments on Behalf of Sensus Metering Systems in Response to the Draft Staff Proposal Regarding EDC Smart Meter Procurement and Installation Plans

Dear Mr. McNulty:

Enclosed herewith please find an original copy of the "Comments on Behalf of Sensus Metering Systems". This document has been electronically filed through the PUC's e-filing system. Please enter this into the docket. An electronic copy of the Comments will be sent to the Commission's Act 129 email account at ra-Act129@state.pa.us.

Should you have any questions, please do not hesitate to contact me at (717) 233-5731.

Sincerely,

RHOADS & SINON LLP

By: _____
Scott H. DeBroff, Esq.

Enclosures

cc: Act 129 email account

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA PUBLIC UTILITY COMMISSION

SMART METER TECHNOLOGY PROCUREMENT AND INSTALLATION PLANS	DOCKET NO. M-2009-2092655

COMMENTS ON BEHALF OF SENSUS METERING SYSTEMS

SCOTT H. DEBROFF, ESQUIRE
ALICIA R. PETERSEN, ESQUIRE
RHOADS & SINON LLP
ONE SOUTH MARKET SQUARE
P.O. BOX 1146
HARRISBURG, PA 17108-1146

TEL: (717) 233-5731
FAX: (717) 231-6626
EMAIL: SDEBROFF@RHOADS-SINON.COM
APETERSEN@RHOADS-SINON.COM

DATED: APRIL 20, 2009

COUNSEL FOR SENSUS METERING SYSTEMS

COMMONWEALTH OF PENNSYLVANIA
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COMMENTS ON BEHALF OF SENSUS METERING SYSTEMS

AND NOW COMES, **Sensus Metering Systems** ("Sensus"), by and through its counsel, **Scott H. DeBroff, Esquire** and **Alicia R. Petersen, Esquire** of Rhoads & Sinon LLP, for the purpose of these "Comments" with respect to this proceeding before the Commonwealth of Pennsylvania Public Utility Commission ("PUC" or the "Commission"). In support of this docket, Sensus avers the following:

1. Sensus is a meter and communication technology provider which has participated in key initiatives to support the implementation of advanced metering throughout the United States and beyond.

2. Sensus, headquartered in Raleigh, North Carolina, is a leading global supplier provider of high-value metering, Automatic Meter Reading (AMR) and Advanced Metering Infrastructure (AMI) system solutions for gas, water, electric, and heat utilities.

3. Sensus is currently providing AMI systems and meters to more than 100 electric, gas and water utilities in North America. Sensus has participated in proceedings relating to AMI deployments in numerous states and understands the needs and interests of utilities nationwide.

4. In Pennsylvania, Sensus has participated in regulatory activities for some time, and has been a party in the Act 129 implementation rulemaking since its inception. Our interest in participating in this next phase of the proceeding is to inform and educate the Commission on the issues revolving around Advanced Metering and the creation of an Advanced Metering Infrastructure (AMI) and their value to both utilities and customers.

5. Following are Sensus' comments to the March 20, 2009 draft Staff Proposal regarding electric distribution company (EDC) smart meter procurement and installation plans.

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

1. **Overall Adaptability**:

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

   Answer: We do not believe that a common plug and play format is practical and that system or meter hardware can be economically designed to accommodate unknown future technology. Each smart metering system sold in North America uses a different and unique "physical layer" for communication, so there is no reasonable way to accommodate a plug and play format. All current smart metering system designs, however, have the ability to modify and upgrade the meter and communication system firmware so that reasonable changes to system requirements and changes to measurement parameters (for example, meter reading intervals) can be accommodated in the future.

2. **Home Area Network (HAN) Protocols**

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

   Answer: We do not believe that a particular HAN protocol or HAN system needs to be specified. There are numerous HAN protocols of various maturities available in the market (14 by our count) and this is an area where technology is evolving rapidly. Utilities have a number of options for deploying HAN systems that do not necessarily require an upfront decision. In addition to using the communication system used for the smart metering system for HAN functions, there are connection standards evolving (for example, the U-Snap connection; www.u-snap.org) that can allow utilities to connect HAN systems after smart meter deployment or to mix and match HAN technologies.

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

   Answer: Either approach is feasible and quite workable. However, while internet access is widespread, it is by no means universal and maintaining the flexibility for an option of providing information via the HAN would seem to allow utilities to deal with the uncertainty of internet availability.

   c. Should there be other interconnectivity between the meter and other equipment in the

home? If so, how much? [read capability vs. two way communication]

Answer: The answer depends on the overall design chosen by the utility. There is a broad array of architectures that can be established between a meter and in-premise devices. One design is to have the HAN "controller" serve as the focal point, receiving al the communications from the meter or the smart meter system; another design would have other in-premise devices (e.g., load controller on water heaters) controlled by the smart meters or directly by the smart metering system itself. We believe, based on pilot programs that have been fielded, that any of these options can be economically deployed and can achieve the desired impact on demand.

3. **Utility usage data and meter access:**

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

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

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

      Answer: No comment.

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

      Answer: No comment.

   e. Should this usage data be validated first?

      Answer: With respect to customers, considering that the meter is designed to stringent accuracy and reliability standards, we believe that timeliness of information is more beneficial than having the data go through a validation process.

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

      Answer: No comment.

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

      Answer: No comment.

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

Answer: See comment on 2 b above.

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

Answer: No; see response to 2 c above.

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

Answer: No comment.

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

Answer: Because of data security and system security concerns, facilitating direct access to the meter should be evaluated carefully.

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

4. **Meter to EDC Communications:**

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

Answer: It is not clear what is intended with the reference to "the grid." While, as noted in the response to 1 a , each smart meter system designer uses a unique "physical layer" for their field networks, all system designers use standard, open protocols from the collector level to the head end control system. We do not believe that any particular purpose is served by specifying protocols to the grid.

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

Answer: Protocols, per se, do not have a bearing on whether a particular smart metering system effectively covers a particular area or geography. The design of the system, particularly type of communication system (the "physical layer") determines coverage. Utilities typically choose among various system designs with coverage in their service territory as a key selection criteria.

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

Answer: Purpose designed, radio frequency, smart metering communication systems are generally more cost effective at covering the bulk of a utility's service requirements compared to other systems, including wired and wireless commercial telecoms systems and broadband systems. Nevertheless, each utility has particular needs in terms of requirements and geographical coverage that need to be evaluated from a cost effectiveness standpoint.

5. **Access to Price information**:

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

Answer: Secure website access to current billing information is commonplace in many consumer markets today and would be an effective means for electric customers to access price information. Alternatively, price information could be calculated by the utility from usage information and communicated to in-home displays or smart thermostats.

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

Answer: No, there are multiple options available to communicate price information. The Commission should allow the consumers to determine which is the most effective for them.

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

Answer: EDC's should be obligated to provide pricing information for their tariffs

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

Answer: No, the frequency should be determined by the tariff rate

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

Answer: No, there are many appropriate formats available based on the type of device being used to communicate pricing information with the customer.

6. **Automatic Control:**

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

Answer: Smart meters can communicate consumption information to the customer locally via the displays and smart thermostats connected to a home area network. Providing customers with information about their consumption and the cost of electricity will enable choices that result in increased energy conservation. Switches on individual appliances should be controlled based on customer threshold settings within an automated environment.

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

Answer: The smart meters provide the usage information on which customers base their decisions for energy conservation. Where controls are used to limit consumption using a service disconnect switch, the smart meter can provide verification and monitor the status of the switch via the AMI two way communications capability.

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

Answer: Definition of standards and protocols for the smart grid is a national initiative and work in progress that will likely evolve over time. The Commission should establish standards for minimum functionality for the smart grid.

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

Answer: Smart meters need to be an integral component of a Distributed Response / Energy Management system solution where control of switches is implemented in a coordinated and managed fashion appropriate for the specific needs of residential, commercial and industrial applications.

7. **Smart Metering Acceleration**:

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

Answer: Large scale deployment of smart meters would enable more customers the

opportunity to participate in energy efficiency and conservation programs. One consideration for giving credit could be determined based on goals of individual proposed programs and subsequent achievement of certain energy efficiency results post deployment.

8. **Cost Recovery**:

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

SENSUS COMMENTS TO THE STAFF IMPLEMENTATION ORDER WORKING GROUP DRAFT (ATTACHMENT B)

IMPLEMENTATION ORDER

Sensus has no comments on the Implementation Order at this time, but reserves the right to file reply comments regarding any initial comments that may address this Implementation Order.

A. Plan Approval Process

B Smart Meter Deployment

1 Network Development and Installation Grace Period

2 Customer Request

3 New Construction

4. System-Wide Deployment

C. Smart Meter Capabilities

- Minimum Functionality Requirements

D. Access to smart meters and data

E EDC Cost Recovery

1. Cost Recovery Mechanism
2. Allocation of Costs to Customer Classes

WHEREFORE, Sensus Metering Systems respectfully requests that the Pennsylvania Public Utility Commission consider its Comments in the above captioned response. We look forward to participating in the process going forward and contributing our experience and expertise.

Respectfully submitted,

By: 

SCOTT H. DEBROFF, ESQUIRE
ALICIA R. PETERSEN, ESQUIRE
RHOADS & SINON LLP
ONE SOUTH MARKET SQUARE
P.O. BOX 1146
HARRISBURG, PA 17108-1146

TEL: (717) 233-5731
FAX: (717) 231-6626
EMAIL: SDEBROFF@RHOADS-SINON.COM
EMAIL: APETERSEN@RHOADS-SINON.COM

DATED: APRIL 20, 2009

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SMART METER TECHNOLOGY PROCUREMENT AND INSTALLATION PLANS	DOCKET NO. M-2009-2092655

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing "**COMMENTS ON BEHALF OF SENSUS METERING SYSTEMS**" was served on the Commonwealth of Pennsylvania Public Utility Commission along with the service list on this 20th day of April, 2009.

Dated: **April 20, 2009**

By: _____

SCOTT H. DEBROFF, ESQUIRE
ALICIA R. PETERSEN, ESQUIRE
RHOADS & SINON LLP
ONE SOUTH MARKET SQUARE
P.O. BOX 1146
HARRISBURG, PA 17108-1146

TEL: (717) 233-5731
FAX: (717) 231-6626
EMAIL: SDEBROFF@RHOADS-SINON.COM
EMAIL: APETERSEN@RHOADS-SINON.COM

COUNSEL FOR SENSUS METERING SYSTEMS