COMMONWEALTH OF PENNSYLVANIA

OFFICE OF CONSUMER ADVOCATE
555 Walnut Street, 5th Floor, Forum Place
Harrisburg, Pennsylvania 17101-1923
(717) 783-5048
800-684-6560 (in PA only)

IRWIN A. POPOWSKY
Consumer Advocate

FAX (717) 783-7152
consumer@paoca.org

April 20, 2009

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

RE: Smart Meter Procurement and Installation Plans
Docket No. M-2009-2092655

Dear Secretary McNulty:

Enclosed for e-filing, are the Comments of the Office of Consumer Advocate, in the above-referenced proceeding.

Should you have any questions, please contact our office.

Respectfully Submitted,

Tanya J. McCloskey
Senior Assistant Consumer Advocate
PA Attorney I.D. # 50044

Enclosures
cc: Act 129 E-mail Group

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BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

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

COMMENTS OF THE OFFICE OF CONSUMER ADVOCATE

Tanya J. McCloskey
Senior Assistant Consumer Advocate
PA Attorney I.D. # 50044
E-Mail: TMcCloskey@paoca.org

Counsel for:
Irwin A. Popowsky
Consumer Advocate

Office of Consumer Advocate
555 Walnut Street
5th Floor, Forum Place
Harrisburg, PA 17101-1923
Phone: (717) 783-5048
Fax: (717) 783-7152

Dated: April 20, 2009

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I. INTRODUCTION

On March 30, 2009, the Commission issued a Secretarial Letter requesting comments on a draft staff proposal regarding electric distribution company (EDC) smart meter procurement and installation plans (Smart Meter Plans). The Commission requested comments by April 15, 2009 and later extended that time frame to April 20, 2009.

In the draft proposal, the Staff has addressed a number of implementation issues including a proposed plan approval process, deployment requirements, smart meter capability requirements, data requirements, and cost recovery requirements. In addition, the Staff has included a series of technical questions so that the stakeholders can provide input on a number of technical issues.

In general, the OCA submits that the staff proposal sets forth a reasonable way forward to meet the requirements of Act 129. The OCA has significant concerns with the staff proposal, however. First, the staff proposal calls for very short time frames for the review of the EDC Smart Meter Plans by the stakeholders and the Administrative Law Judges (ALJs). The time frames contemplated by the staff proposal will significantly overlap with the efforts of the stakeholders, EDCs and ALJs in reviewing the EDC Energy Efficiency and DSM (EE/DSM) Plan filings under the statutorily mandated timeframe of Act 129. In that there is no prescribed statutory time frame for the Commission's consideration of the Smart Meter Plans, the OCA proposes an approval process and schedule that will avoid unnecessary conflicts with the review of the EE/DSM Plans but still accomplishes approval of the Smart Meter Plans by early 2010.

Second, the OCA is concerned that the staff proposal sets forth an extensive list of required capabilities for smart meters that goes beyond the requirements of Act 129 and beyond the purpose of Act 129. Some of the required capabilities in the staff proposal, including service

limiter capabilities, pre-payment capabilities and remote termination capabilities, are not only beyond the intent of Act 129 but raise significant public policy issues. Other required capabilities included in the staff proposal may not be cost-effective for certain customer classes, or perhaps even for any customer class. The staff proposal for these additional capabilities has not yet adequately considered cost-effectiveness nor taken into consideration the public policy implications of such requirements. The OCA recommends that the required capabilities of the smart meter be those set forth in Act 129. Other suggested capabilities that may or may not further the purpose of Act 129 should be evaluated by the EDCs, the stakeholders, and the Commission for cost-effectiveness and public policy implications as they consider smart meter technologies.

The OCA sets forth additional comments and recommendations in these Comments. The OCA has attached an Appendix with the technical questions and has provided responses to certain of those questions.

II. COMMENTS

A. Plan Approval Process

In the Draft Implementation Order (Draft Order), the Staff proposes a procedure for the review and approval of the Smart Meter Plans that must be filed by the affected EDCs on or before August 14, 2009. The Draft Order proposes a 20-day comment period, followed by on-the-record technical conferences. The proposed procedure also allows for evidentiary hearings before an Administrative Law Judge if necessary. The Draft Order calls for an Initial Decision by the ALJ within 120 days of the filing of the Smart Meter Plan.

The OCA submits that the time frames set forth in the Draft Order do not provide adequate time for the development of comments and the review of the Smart Meter Plans. It is important to note that, unlike the Commission's review of the Energy Efficiency and Demand Side Management (EE/DSM) Plans required by Act 129 of 2008, which required a Commission decision in 120 days, there is no statutorily prescribed period of review for the Smart Meter Plans. Given that the implementation of the Smart Meter Plans will likely have a significant impact on customer rates for many years into the future, the Commission should not unduly constrain the review of the Smart Meter Plans.

The OCA would also note that during the August and September 2009 time frame when comments would be due and Technical Conferences held on the Smart Meter Plans, all of the EDCs, the OCA and other statutory advocates, many of the interested stakeholders, and the ALJs will be engaged in the review, comment, hearing and briefing process for the EE/DSM Plans. To allow these parties such a short time frame to review the Smart Meter Plans, prepare comments, and participate in technical conferences could compromise efforts in both initiatives to arrive at the most reasonable and cost-effective plans for customers. While the OCA recognizes the need to move expeditiously on the Smart Meter Plans, particularly in that some smart meter deployment will facilitate the energy efficiency and demand response measures, some additional time is needed in the Plan Approval Process to allow for adequate, focused and useful comments and participation.

The OCA recommends that the Commission establish a Plan Approval Process longer than the 120 days proposed in the Draft Order. The OCA recommends the following time line based upon the approval process set forth by the Draft Order:

EDC Smart Meter Plan Filings:	August 14, 2009
Comments of all stakeholders:	September 25, 2009 (6 weeks)
Technical Conferences:	October, 2009
Evidentiary Hearings: (if necessary)	November, 2009 (first two weeks)
Initial Decision:	December, 2009

The OCA submits that given the typical 30-day Exception/Reply Exception period established by the Commission, this would result in the Smart Meter Plans being available for Commission consideration in January or February of 2010.

The OCA would also urge the Commission to establish specific filing requirements in advance for the Smart Meter Plans. These filing requirements should ensure that all necessary studies, cost/benefit evaluations, cost information, and data are fully available to the parties to facilitate review and comment. Even under the OCA's proposed schedule, there will be little time to engage in discovery to obtain key information and data. Without the necessary information at the plan filing stage, the comments may not be able to be fully developed and the Technical Conferences may end up as only informal discovery sessions rather than as sessions to resolve issues and engage in settlement.

The OCA strongly urges the Commission to extend the time for Comments and for Initial Decisions beyond that proposed in the Draft Order. An appropriate process and adequate time for review is particularly critical given the potential for a significant impact on customer rates over an extended period of time that could result from these Smart Meter Plans.

B. Smart Meter Deployment

1. Network Development and Installation Grace Period

In the Draft Order, the Commission Staff propose to grant a network development and installation grace period of up to 18 months following plan approval. The OCA does not object to a network development and installation grace period, but the Commission should clarify the impact of this grace period on the Act 129 requirement to furnish smart meter technology in accordance with a depreciation schedule not to exceed 15 years. 66 Pa.C.S. § 2807(F)(2)(iii). The Commission should clarify whether the 15 year period commences upon Plan approval or following the 18-month grace period.

2. Customer Request

The Draft Order recognizes the requirement of Act 129 that smart meters be provided to customers upon request, but also recognizes that piecemeal deployment can involve greater cost. As the Draft Order also recognizes, Act 129 requires the requesting customer to pay for the cost of the smart meter. The Draft Order expresses concern about a customer paying for the smart meter directly and then again through a surcharge. The Draft Order proposes to limit the customer payment to the incremental costs over and above system-wide deployment of a smart meter.

The OCA will address a number of cost recovery issues later in these Comments that may have a bearing on this issue. The OCA agrees with the Draft Order that the requesting customer should only pay incremental costs. The incremental cost that should be borne by an individual customer requesting a smart meter should be the difference between the cost of the existing meter (which is reflected in the current monthly customer charge) and the cost of the smart meter (which would be reflected in a new customer charge). It is critical to note that the

costs of customer meters are generally recovered through the customer charge. Utility ratemaking already recognizes that different customers, even within the same class, have meters that may be more or less expensive. For example, most existing residential time of day programs operated by the EDCs have customer charges that are higher than regular residential service customer charges to reflect, in part, the more expensive meter needed to support the time of day service. A higher customer charge would be the logical place to reflect the cost of a smart meter that is requested by individual customers.

The OCA submits that a requesting residential customer should not be required to "write a check" to the EDC for the full cost or event the incremental cost of the meter. Meters are not owned by residential customers and are not treated in that manner fo r ratemaking purposes. The requesting residential customer should pay an increased customer charge each month, but should not be required to pay upfront for the entire cost of a meter. To the extent that residential customers requesting a smart meter participate in the EDC's time of day or real time pricing program, those tariffed programs should include customer charges that reflect the higher cost of the meter being used to provide the service. To the extent the customer simply requests the smart meter without participation in a program, each EDC should develop a tariffed customer charge that will be billed to such customers on a monthly basis.

The OCA discusses the use of a surcharge in more detail in Section II.E, below. If a surcharge is used, however, the surcharge recovery will have to account for the recovery of the incremental cost paid by the requesting customer to avoid a double recovery.

3. New Construction

Act 129 requires the EDC to furnish smart meters in new building construction. The Draft Order recognizes that to install traditional meters in new construction and then replace

them a short time later with smart meters would be wasteful and result in added expense. The Draft Order, though, states that it will not require the installation of smart meters during the 18-month grace period that it is authorizing. The Draft Order does not state a specific reason for this delay.

The OCA submits that the Commission should not delay the installation of smart meters in new construction without good cause. While the full functionality of the smart meters may not be available until the network development phase is completed, the smart meters should still be able to function and provide the necessary meter and billing data. To miss the opportunity to deploy the new smart meters, and then incur the expense of replacing the new traditional meters a short time later, seems inefficient. Unless the EDC can demonstrate that the smart meter cannot be used for any purpose, or cannot be used to support standard monthly billing, until network deployment is complete, there should be no grace period in the installation of smart meters in new construction after the Smart Meter Plan is approved.

4. System-Wide Deployment

The Draft Order requires the EDCs to detail their system-wide deployment plans and encourages expedited deployment if it will provide increased customer benefits in a cost-effective manner. The OCA agrees with the Draft Order's recommendations but again urges that any Smart Meter Plan include all necessary information, analyses, and data necessary for the stakeholders to review the proposal. In particular, all methodologies and data used by the EDC to conduct the cost/benefit analysis regarding accelerated deployment must be available to the parties and fully transparent.

C. Smart Meter Capabilities

In Section C, the Draft Order sets forth a list of 16 required capabilities for the smart meter technology that the EDC selects. The list provided by the Draft Order goes far beyond the requirements for smart meters contained in Act 129, which the Draft Order deems "minimal requirements." The OCA submits that the list of capabilities that the Commission has required exceeds the letter and intent of Act 129 and should be revised. While the OCA anticipates that smart meter technology will have many capabilities beyond those called for in Act 129, it is not appropriate for the Commission to *require* additional capabilities or functionality at this time. The OCA would also note that some of the capabilities identified by the Commission raise significant public policy concerns that should be addressed independently from the Act 129 requirement of smart meter deployment to support energy efficiency and demand response efforts.

The purpose of Act 129 is set forth as follows:

> (1) The health, safety and prosperity of all citizens of this Commonwealth are inherently dependent upon the availability of adequate, reliable, affordable, efficient and environmentally sustainable electric service at the least cost, taking into account any benefits of price stability, over time and the impact on the environment.
>
> (2) It is in the public interest to adopt energy efficiency and conservation measures and to implement energy procurement requirements designed to ensure that electricity obtained reduces the possibility of electric price instability, promotes economic growth and ensures affordable and available electric service to all residents.
>
> (3) It is in the public interest to expand the use of alternative energy and to explore the feasibility of new sources of alternative energy to provide electric generation in this Commonwealth.

Act 129 of 2008, Public Policy Findings and Declaration.

Act 129 also sets forth the definition and requirements of smart meters as follows:

> (g) Definition. As used in this section, the term "smart meter technology" means technology, including metering technology and network communications technology capable of bidirectional communication, that records electricity usage on at least an hourly basis, including related distribution system upgrades to enable the technology. The technology shall provide customers with direct access to and use of price and consumption information. The technology shall also:
>
> (1) Directly provide customers with information on their hourly consumption.
>
> (2) Enable time-of-use rates and real-time price programs.
>
> (3) Effectively support the automatic control of the customer's electricity consumption by one of more of the following as selected by the customer:
>
> (i) the customer;
>
> (ii) the customer's utility; or
>
> (iii) a third party engaged by the customer or the customer's utility.

66 Pa.C.S. § 2807(g).

A plain reading of Act 129 makes it clear that the purpose of the smart meter technology is to support energy efficiency and demand response so that customers may voluntarily reduce their consumption. Such reduced consumption achieved by the customer on a voluntary basis will assist customers in achieving affordable bills, particularly if the price of electricity increases in the future. The Draft Order, however, has gone beyond this directive and *required* capabilities that have nothing to do with the purpose of Act 129, may not be appropriate for all customer classes, and raise significant public policy concerns.

Of most concern to the OCA are the requirement to support remote disconnection and to support service limiters and prepaid service. By requiring these capabilities, there is a strong implication that the Commission intends for EDC's to pursue these capabilities. The use

of remote disconnection in any situation other than a voluntary discontinuation or transfer of service, and the development of service limiter and prepaid meter programs raise significant public policy concerns. In particular, the use of smart meter technology to terminate customers, limit service, or require prepayment of service raise significant concerns for the health and safety of the residents of the Commonwealth.[1] Additionally, the implication that smart meters are intended for these purposes, and not for the purpose of helping customers with energy efficiency and demand response, could certainly raise justifiable resistance to the deployment of such technology. The OCA would also note that there has been no demonstration as to the cost-effectiveness of including these capabilities as requirements of the smart meter technology selected by the EDC.

The Draft Order has included other required capabilities that may not be appropriate for each customer class, may not be cost-effective, and go beyond the requirements of Act 129. For example, the Draft Order requires the ability to provide 15-minute or shorter interval data. While such capability may allow for programs for large customers that are cost-effective, this level of data might not be used by the majority of residential customers and might not be cost-effective for residential customers. Yet, the Draft Order would make this a requirement for residential meters.

The OCA submits that the Commission should eliminate the list of additional required capabilities and instead, require the smart meter to meet the requirements of Act 129.

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[1] The health and safety implications of the use of service limiters was unfortunately seen this winter in Michigan where a 93-year old man froze to death inside his home just days after a service limiter was place on his home. The limiter device shut off power to the home when electric use exceeded the pre-set limit and the furnace would not run. The report of this story can be found at: www.msnbc.msn.com/id/28858971/. In the OCA's view, the use of service limiters can create serious safety concerns in low income, elderly, and payment troubled homes. The condition of the housing, age of the residents, condition/efficiency of the appliance and other demographics are key drivers of base energy usage needed for health and safety. The OCA submits that our efforts are better spent pursuing energy efficiency programs for such households such as weatherization, appliance replacement and other efficiency measures rather than relying upon or utilizing service limiters.

The Commission should then direct each EDC to evaluate the cost-effectiveness of additional capabilities for each class of customer meter by providing an analysis of the costs and benefits of additional capabilities. The OCA submits, however, that service limiter capabilities, pre-paid service capabilities, and remote termination capabilities other than at the customer's request should not be part of consideration in the Smart Meter Plan at this time.

D. Access to Smart Meters and Data

The Draft Order states that in the Commission's view, the true usefulness of smart meters is to provide information to empower customers to control their electric use. The OCA agrees that providing customers with appropriate information is a key means of assisting customers in understanding and controlling their electric use. The OCA also submits, however, that for many residential customers, there is essential, base usage necessary to protect customers' health and safety that must be recognized as we advance our efforts in energy efficiency and demand response.

In Section D of the Draft Order, the Order proposes to allow access to the smart meter and data in the following three circumstances:

1. Non-discriminatory access for retail electric suppliers and third-parties, such as EGSs, and conservation and load management service providers.

2. Open, non-proprietary two-way access for electric suppliers and third-parties, such as EGSs, and conservation and load management service providers.

3. Full electronic access to customers and their representatives to meter data upon customer consent.

Draft Order at 10. The Draft Order then sets forth several procedures for the standard formats and electronic communications regarding the data.

The Draft Order properly recognizes the need for customer consent for the direct access to the meter and data, but the Draft Order does not specify the procedures for obtaining or ensuring customer consent. The OCA submits that the Commission should clearly set forth the need for customers to provide consent for the release of any data and for any direct access to their meters. As to the release of data for residential customers, the Commission may wish to use a procedure similar to that used to create the customer lists at the inception of retail choice. See, *e.g.*, Procedures Applicable to Electric Distribution Companies and Electric Generation Suppliers During The Transition To Full Retail Choice, Docket M-00991230, *slip op.* at 21-25 (Order entered May 18, 1999) and 52 Pa. Code §54.8. Under this approach, customers would periodically be given notice of the information and data that is to be made available, and then be provided the opportunity to restrict certain data or information. The customer should be provided several means to communicate the decision to restrict information, such as through a website, telephone contact, or return postcard. The OCA would note that different procedures may be necessary for industrial and commercial customers for the release of data given the competitively sensitive nature of their usage information.

As to the actual direct access to the customer meter by a third party, the OCA submits that a procedure must be developed that secures the affirmative consent of the customer to any direct access to the meter. Direct access to a meter that may have extensive information within the meter or control of in-home appliances and household systems seems to present a different question than the release of certain specified and limited data. In this situation, the OCA submits that affirmative consent must be required.

E. EDC Cost Recovery

1. Cost Recovery Mechanism

Traditionally, the costs of residential meters are recovered from customers in base rates through the monthly customer charge. Under Act 129, the EDC can collect the reasonable and prudent costs of the smart meter technology through base rates (including a deferral with carrying charges) or an automatic adjustment clause. 66 Pa.C.S. §2807(f)(7) If the EDC elects to utilize an automatic adjustment clause, the clause must reflect not only the costs, but also the savings in operation and capital costs realized from the installation of the technology. 66 Pa.C.S. § 2807(f)(7). As the Draft Order makes clear, it is only "prudent and reasonable smart meter *net* costs" that are to be recovered. Draft Order at 13 (emphasis added).

While an automatic adjustment clause is permitted under Act 129, the OCA submits that it would be preferable if the EDCs utilized a base rate mechanism. Since costs may be deferred for future base rate recovery, this does not impose any losses on the utility. An automatic adjustment clause may be unnecessarily complicated and may result in customer charges that are disconnected from the type of metering service received. As the Draft Order properly noted at page 5, the use of a surcharge could potentially result in customers who make an early request for the meter paying for the smart meter directly and then again through the surcharge. As noted in Section II.B.2 of these Comments on this issue, treating the cost of the smart meter through the customer charge portion of the base rate process would be the more reasonable approach and would avoid the potential double recovery issue identified in the Draft Order.

Additionally, the OCA would note that the rate mechanism must simultaneously reflect offsets for capital and operating costs that are realized from the installation and use of the

meter. Such savings would be automatically captured in the base rate process. If an automatic adjustment clause is used, however, it will be necessary to review all potential offsets, including all billing, meter reading, maintenance and outage related expenses. Further, if an automatic adjustment clause is used, it will be necessary to address the roll-in of that charge to base rates on a periodic basis (such as with the STAS) or at each distribution base rate case.

The OCA submits that it will likely be more efficient and cost effective to utilize the traditional base rate process for the recovery of the smart meter technology. It will provide a matching of the costs and savings, as well as allowing for the cost of the smart meter to be reflected in the appropriate rate elements. The OCA agrees with the Commission that if an automatic adjustment clause is used, a rigorous examination must be conducted to ensure that only *net* costs are recovered and that only reasonable and prudent costs are included in the surcharge. The OCA also submits that the rate design of the surcharge will need to be closely scrutinized to avoid unfair and discriminatory treatment of customers.

2. Allocation of Costs to Customer Classes

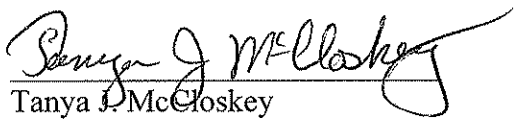
The Draft Order notes that all measures associated with an EDC's smart meter plan are to be financed by the customer class that receives the benefit of such measures. The Draft Order states that any costs that can be shown to benefit solely one class are to be assigned wholly to that class. While there may be a number of network upgrade and system upgrade costs associated with the installation of smart meters, it is important to recognize that the cost of a smart meter may not be uniform across the customer classes. As the Commission is aware, different meters are available to different customer classes today. A meter that is appropriate for a large commercial or industrial customer, for instance, would not be appropriate for installation at smaller businesses or households. Not all customer classes will have the same type of meter

and not all customer classes require the same functionalities or capabilities in their meter. Any cost allocation procedure must account for these differences as well.

III. CONCLUSION

The OCA appreciates the opportunity to provide these preliminary comments on the Draft Order. The OCA looks forward to working with the Commission Staff, the EDCs and the interested parties on the Smart Meter Deployment Plans.

Respectfully Submitted,



Tanya J. McCloskey
Senior Assistant Consumer Advocate
PA Attorney I.D. # 50044
E-Mail: TMcCloskey@paoca.org

Counsel for:
Irwin A. Popowsky
Consumer Advocate

Office of Consumer Advocate
555 Walnut Street
5th Floor, Forum Place
Harrisburg, PA 17101-1923
Phone: (717) 783-5048
Fax: (717) 783-7152

DATED: April 20, 2009
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BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Smart Meter Procurement and Installation Plans	:	Docket No. M-20092092655

APPENDIX TO THE
COMMENTS OF THE
OFFICE OF CONSUMER ADVOCATE

OCA RESPONSES TO
Additional Questions Related to the Commission's
Smart Meter Procurement and Installation Program
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.

OCA Response: The OCA expects that common "plug and play" format would be the most useful and cost-effective approach.

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?

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?

OCA Response: Initially for residential customers, smart meter information may need to come from an internet website as the deployment of technology to make information directly available from the meter may not be wide scale and may be cost prohibitive for many customers.

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]

OCA Response: For residential customers, interconnectivity between the meter and other equipment in the home may be useful as programs are developed that allow the customer greater control of their energy usage. The OCA is concerned, though, that the in-home technology may be cost-prohibitive for many residential customers.

3. Utility usage data and meter access:

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

OCA Response: The usage data that should be acquired from the smart metering system may differ by type of customer. For most residential customers, hourly information may be the most frequent information that is cost-effective to obtain and useful to the customer.

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

OCA Response: The minimum standards may be different for different customer classes. Act 129 requires at least hourly usage data which should be the standard used by the Commission.

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

OCA Response: The OCA would not recommend establishing minimum data intervals at this time.

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?

OCA Response: The OCA has no recommendation on when usage data is made available to the EDC and CSPs/EGSs at this time. For customers, if a program is in place to allow the customer to manage their usage through response to price information, the data should be available in the same time frame as the price information. For example, a real time pricing program would require real time access to usage information.

e. Should this usage data be validated first?

OCA Response: It may depend on the purpose of providing the usage data. All data used for billing purposes should be validated. Data provided to a residential customer to assist in managing usage over a specified time period may not require the same level of validation.

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

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?

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

OCA Response: Initially for residential customers, smart meter information may need to come from an internet website as the deployment of technology to make information directly available from the meter may not be wide scale and may initially be cost prohibitive for many customers. As technology and cost effectiveness of in-home displays progresses, direct access could be provided for some residential customers through these devices.

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?

OCA Response: Standard protocols and communication medium would be efficient. It is unclear to the OCA whether the Commission should establish these standards or whether they should be established by other industry participants.

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?

OCA Response: The OCA submits that there are many policy implications that should be fully evaluated regarding allowing third parties direct access to an individual customer's meter. Policies regarding the form of affirmative consent, privacy implications, proper notice and information, and the type of program allowed must all be explored. The OCA would recommend a proceeding to consider these issues and develop appropriate policies and regulations to govern third party access to meters.

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?

l. What electronic access to customer meter data do CSPs and EGSs need from EDCs, that they currently do not have? Provide specific examples where these entities do not have such access currently, and provide

examples, if available, of electronic transactions that can be adopted by this Commission to comply with this statutory requirement.

4. Meter to EDC Communications:

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

OCA Response: Public protocols from the meter to the grid should be standardized but it is not clear to the OCA that the Commission should establish these standards. These standards may need to be developed on an industry-wide basis, such as through PJM.

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?

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

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]

OCA Response: Initially for residential customers, pricing information may need to come from an internet website as the deployment of technology to make information directly available in the home may not be widely available and may be cost prohibitive for many customers at this time. As technology and cost effectiveness of in-home displays progresses, direct access could be provided for residential customers through these devices.

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

OCA Response: For residential customers, who may have limited ability to respond in real time to price information, the Commission should evaluate the cost-effectiveness of a meter that communicates price information to the customer.

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

OCA Response: For residential customers, the information should be part of a properly structured program and should be the information necessary for the customer to properly participate in the program. For a large number of residential customers, the OCA expects that day ahead pricing might be a more useful format as the customer can establish the plan for the next day's energy usage before leaving the home for the day.

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

OCA Response: No. The frequency should be coordinated with appropriate program design that allows the customer to use the price information.

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

OCA Response: For residential customers, the OCA would suggest that the presentation of price be in the same format as the billing for service. This would be in a cents/kilowatthour format for the residential class of service.

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?

OCA Response: For most residential customers, the OCA anticipates that automatic control of electricity consumption will be through direct load control programs where, for example, the utility is able to control water heating during certain hours of the day or is able to cycle air conditioning load during certain summer time periods. This form of direct load control will likely require control equipment other than the smart meter. To the extent smart appliance technology is developed or available to some customers to link in home appliance usage based on pricing information received from the meter, some automatic control of electricity consumption could result for the customer.

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

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?

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?

OCA Response: For residential customers, direct load control (as opposed to automatic control referred to here) has been used for air conditioning and water heating. The OCA is aware that thermostats and other appliances such as refrigerators, freezers, dish washers, washers and dryers are being developed with technology to interface with smart meters.

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?

OCA Response: Additional incentives are not necessary. If it is cost-effective to accelerate the smart meter deployment, the utility should pursue the deployment as a matter of sound utility practice.

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.

OCA Response: The Commission should specify the categories of costs and benefits that should be analyzed by the EDCs as part of their plans.