

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

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

**INITIAL COMMENTS OF
CONSTELLATION NEWENERGY, INC.**

In response to the Pennsylvania Public Utility Commission (“Commission”)’s March 30, 2009 Secretarial Letter (“March 2009 Letter”), as well as the Commission’s April 9, 2009 Secretarial Letter extending the comment period, Constellation NewEnergy, Inc. (“Constellation”) hereby submits its Initial Comments regarding the draft staff proposal and the questions posed in the March 2009 Letter regarding electric distribution company (“EDC”) Smart Meter procurement and installation plans.

In the event that the Commission or its Staff prepares a service list for this proceeding or otherwise requires additional information regarding the positions presented herein, Constellation identifies the following individuals:

David Fein
Vice President, Energy Policy
Constellation Energy Group, Inc.
550 West Washington Blvd., Suite 300
Chicago, IL 60661
(312) 704-8499
David.Fein@constellation.com

Divesh Gupta
Senior Counsel
Constellation Energy Resources, L.L.C.
111 Market Place, Suite 500
Baltimore, MD 21202
(410) 470-3158
Divesh.Gupta@constellation.com

Constellation wholly supports the deployment of advanced Smart Metering technologies for EDCs in Pennsylvania. If properly deployed, these technologies can provide benefits to customers, competitive electric generation suppliers (“EGSs”), EDCs, curtailment service providers (“CSPs”) and others. The key to maximizing those benefits is to provide customers, EGSs and CSPs with access to information and data regarding the manner in which a customer is using electricity as well as the impact that energy use has on the design and operations of the

grid. Furthermore, better data collection, information, communications systems and controls will support the development of new and innovative products and services to meet the specific needs of individual customers as well as enhance the distribution system's operations. This access to real-time metering and price information systems, which allow up-to-the-minute views of energy usage and costs, along with the ability to employ this information to better shape and control usage patterns, puts a business customer in the driver's seat for creating a smarter and more energy responsive building or facility.

Most importantly, Smart Metering must be deployed in a manner that will allow an EGS or a CSP to directly interface its information technology systems in order to access information and data for the EGS's or CSP's existing customers or for the EGS's or CSP's potential customers for which the EGS/CSP has proper verifiable authorizations (e.g., Account Numbers and Meter Numbers). Constellation is pleased that it appears to be Staff's intention in this draft proposal to provide equal access to Smart Grid technologies for all customers, regardless of their suppliers. Constellation recognizes that access to functionality for customers, EGSs and others may require the use of particular or compatible technology, hardware, software, etc. However, Constellation strongly recommends that all EDC deployments of Smart Metering treat customers and EGSs in an equal and nondiscriminatory manner such that EGSs (and CSPs) will have the same rights to access data and information from Smart Metering infrastructure as is given to an EDC's default service customers. In addition, Constellation strongly encourages the Commission, Staff and EDCs to keep EGSs' and other CSPs' interests in mind when choosing technology, hardware, software, etc.

Constellation applauds Commission Staff for developing a well-thought out and comprehensive set of questions as it continues to develop an appropriate platform for the EDCs

to deploy Smart Metering technologies. Constellation provides in the attached document its comments on each of the questions presented in Attachment A of the March 2009 Letter. By taking into account the positions discussed in the attachment, the Commission will encourage a wide array of stakeholders to invest resources into the Pennsylvania wholesale and retail electric markets. These Initial Comments are based upon Constellation's extensive experience in the Commonwealth and in other jurisdictions regarding the establishment of rules and policies for retail markets, and will ensure the further development of the Commonwealth's competitive electric markets, providing enhanced benefits to consumers.

Constellation appreciates this opportunity to submit its Initial Comments to the Commission and looks forward to continued discussions on these and any new issues raised in the context of Smart Metering in Pennsylvania's competitive electric markets. Constellation is confident that its recommendations will promote a more robust deployment of Smart Metering technologies as well as continued development of the Commonwealth's competitive retail markets, for the ultimate benefit of Pennsylvania's consumers.

Respectfully submitted,



Divesh Gupta
Senior Counsel
Constellation Energy Resources, L.L.C.
111 Market Place, Suite 500
Baltimore, MD 21202
410-470-3158
dives.gupta@constellation.com

On Behalf of Constellation NewEnergy, Inc.

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Attachment (1)

ATTACHMENT A

WORKING GROUP DRAFT

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Constellation NewEnergy, Inc. Responses to Commission Staff's 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.
 - *Each meter should be Internet Protocol (IP) addressable and have a web-based service for management. Users should be able to call the web service and the web service should return meter data from the meter's recorder. If that is not possible, then each meter should support a web service that can be configured to push data out to multiple parties on a periodic basis. Suggested standards for the model should be Simple Object Access Protocol (SOAP) compliant. Each meter should be configured to push to multiple web services to support Electric Distribution Companies (EDCs), Load Serving Entities (LSEs), and Curtailment Service Providers (CSPs)/Competitive Electric Generation Suppliers (EGSs).*

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?
 - *Constellation makes no comment at this time but reserves the right to respond to those comments raised by other parties.*
- 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?
 - *It would be acceptable to have smart meter information available through an internet browser, but it would be preferable and more effective to make smart meter information available through a web service. Whereas accessing data through a website will add to the application customization time necessary to acquire the data from the meter, accessing such data through a web-service will be much easier to use and support more application flexibility.*

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- 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]
- *As mentioned earlier, Constellation advises that there should be a simple web service that can be called on in order to retrieve the data on the meter. If such an arrangement is not possible, then the meter should support a web service that can be configured to push data out to multiple parties on a periodic basis.*

3. Utility usage data and meter access:

- a. What usage data should the utility acquire through the smart metering system?
- *Each meter should be programmable so that a 1-, 5-, 15-, 30- or 60-minute interval could be set, though this interval should be based upon customer/EGS requirements, as opposed to being administratively set ahead of time by the Commission.*
 - *Each meter should also provide data with respect to Voltage Events.*
- b. Should the Commission establish minimum standards on how often the utility should acquire the usage data from the meter?
- *No, the Commission should not establish such limits. Acquisition of the usage data from the meter should be left up to market participants (e.g., CSPs), as directed by individual customers. This structure will allow for the greatest flexibility for customer choice and for tailoring to individual customer requirements. For example, a customer may choose to view its data through a Google interface, while another may choose to view its data through an energy management system vendor application; still others may prefer to view data through their retailer web offers.*
- c. Should the Commission establish minimum data intervals? If so, what should that be? [Examples: 15 minute, 30 minute, 1hr]
- *Yes. While Constellation believes that data intervals of one (1) minute, if possible, for kWh and KVa data both for each previous 72 hour period and for each previous three (3) month period prove most beneficial for customers for monitoring and managing their energy usage, Constellation understands that there may be administrative or other limitations that may prevent such detailed data access. For this reason, it may be appropriate for the Commission to establish a minimum data interval of 15 minutes for all such data, while encouraging EDCs to work towards shorter intervals.*

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- 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?
- *Constellation recommends that data should be made available on a real-time basis, on-demand, and at the meter directly through a web service and a pulse output.*
- e. Should this usage data be validated first?
- *No, an EDC may provide validated usage data at the time of bill calculation.*
- f. Should the Commission establish a common Validation, Error Detection, and Editing (VEE) protocol? If so, what should that be?
- *Yes, published common rules would allow third parties to appropriately audit utility calculations, for the benefit of retail customers.*
- 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?
- *Yes, the Commission should establish a minimum period of one billing cycle.*
- h. How should customers be provided direct access to usage information? [examples, website access, HAN to an in-home display or other devices]
- *Customer access to meter data should be available through a portal provided by the EDC. In addition, real-time data on a customer's premises is necessary. Moreover, each meter should have a pulse output. The more avenues that are provided for customers to access data directly, the more informed customers will be in making their decisions on electric service.*
- 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?
- *The Commission should require standard web services to interact with each meter. There exist several groups that have started down this path that the Commission can use as examples. Constellation notes that there will only exist a few methods to request usage data or for the meter to push out usage data.*

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- 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?
- *Simply put, the meter owner (in most cases the EDC) should grant access to the LSE/CSP/EGS based upon a standardized request process (preferably at the regional transmission operator (RTO) level) in the form of a standard Letter of Agency or Authorization.*
 - *Each customer should be given a READ ONLY password and the IP address for its meter(s) by logging into its online EDC account. The customers should have to agree to the EDC's terms and conditions online prior to release of the customer's password in the first instance. The customer's password(s) would then be passed in the web service requesting usage data from the customer's meter(s).*
 - *That customers could then pass its password(s) onto any third party with which it chooses to do business, or the customer can enter its password(s) into any software tool that can poll the customer's meter(s).*
- 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?
- *As discussed above, web services can facilitate such communications.*
- 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.
- *CSPs/EGSs require direct access to the meter to poll interval data. Only a few EDCs in the Commonwealth currently allow third parties to poll the interval data with read-only passwords. In other regions, some utilities inappropriately refuse to let third parties dial into their meters even where there is no impact on their systems. In regions such as those, CSPs/EGSs face the burden of installing their own equipment at customer locations in order to collect usage data. This adds extraneous cost and complexity to the growth of competitive and valuable services for retail consumers.*

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4. Meter to EDC Communications:

- a. Should the Commission standardize public protocols from the meter to the grid?
 - *Yes, the Commission should do so. Moreover, when possible, the Commission should adopt the work of national groups that already are tackling this very same issue.*
- 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?
 - *Yes, but the Commission should limit the size of any such list of acceptable protocols. Limiting the list of any acceptable protocols, in this way, will lead to a greater amount and more varied types of competitive services for consumers benefit.*
- c. What bidirectional communication mediums [Example: broadband over powerline, cellular, phone lines, RF] are least cost? What are the pros and cons of each?
 - *Meter to premise Ethernet/HAN would be ideal mediums, but the security undertakings for such methods are immense. Moreover, meter companies have not developed such technologies to a necessary extent.*
 - *Broadband Over Power Line (BPL) is not useful for many EDCs (due to a transformer to pole ratio issue).*
 - *Public or Private Cellular, Worldwide Interoperability for Microwave Access (WiMAX), or EDC 800/900Mhz networks seem to be the only viable near-term solution until meter manufacturers start to participate on the information technology (IT) side of the industry.*

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]
 - *Energy costs (Real-time, Day-Ahead, Forward Delivery Days. Months etc.) should be provided to customers via retailer and RTO websites, and retailer and RTO web services. Once web services are published, third parties such as Google can subscribe to them in their applications.*

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- *In addition, fixed and variable distribution costs should be published by each EDC. The EDC should publish hourly distribution costs to affect hourly costs.*
- b. Should the Commission require the meter to communicate price information, or should this information be provided over another communication medium?
- *No. Prices should come from websites or web services.*
- c. What pricing information should the Commission require to be provided? [examples, RTP, Day ahead prices, default service rates]
- *The Commission should require pricing information for Energy – Real-time, day-ahead hourly costs, etc.*
 - *In addition, pricing information should be provided for Distribution costs – Real time hourly costs of distribution, time differentiated distribution rates, etc.*
- d. Should the Commission establish minimum standards on how frequently price information should be provided? If so, what should be the minimum standard?
- *The Commission should establish a minimum hourly price information standard.*
- e. Should the Commission establish standard formats for presentation of price information? If so, suggest a format.
- *No, the Commission should rely only on the format of the web services that the RTO and EDCs use to publish the prices.*

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?
- *Smart meters can provide the capability to monitor load in real time. Customers will have the immediate impact if the command signals to shut down load have worked as designed. For example, Constellation monitors its customers in real-time and communicates with them if Constellation does not see load reductions immediately following the broadcast of a curtailment event.*

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- b. How is the smart metering system engaged in the initiation, maintenance, relinquishment, and verification of the automatic control of customer consumption?
- *Smart meters should only be engaged in the verification of automated load control. The web services broadcasting those control signals or curtailment events should be subscribe- to directly by the automation system that controls the loads in a building.*
- 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?
- *Yes, the Commission should establish certain standard protocols. There should be standard web services that are broadcast by the RTO for capacity events and transmission congestion events and by an EDC for distribution related load curtailment events.*
- 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?
- *The method of control of customer assets should be up to each individual customer. The Commission should require only common web standards for the broadcast of control signals. To do otherwise would limit competition. There currently exist in the market many options for customers to choose from in order to control assets from automation systems, including through gateway products to their own PC.*

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?
- *The credit should be a combination of both the number of smart meters deployed and the number of customers who receive usage data from such meters. This will provide a measure of how easy EDCs have made it for customers and third parties to acquire the data.*

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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.
 - *Constellation makes no comment at this time but reserves the right to respond to those comments raised by other parties.*