



December 7, 2009

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

Dear Mr. McNulty:

In response to the Smart Meter Procurement and Installation Implementation Order at Docket No. M-2009-2092655, the Electronic Data Exchange Working Group (“EDEWG”) herein submits its Preliminary Proposal for the Development of Smart Meter Data Exchange Standards (“Preliminary Proposal”).

The Preliminary Proposal was developed by an EDEWG sub-team of EDCs consisting of West Penn Power Company d/b/a Allegheny Power (“Allegheny”); Duquesne Light Company (“Duquesne”); Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company (collectively “FirstEnergy”); PECO Energy Company (“PECO”); and PPL Electric Utilities Corporation (“PPL”).

Once a draft version of the Preliminary Proposal was completed, it was published to the EDEWG List Serve and subsequently reviewed and discussed at the December 3, 2009 EDEWG meeting.

EDEWG appreciates the support and commitment of its members and the Commission in developing and maintaining data exchange standards in the Commonwealth.

Sincerely,

*George M. Behr*  
George M. Behr  
EDEWG EGS Co-chair  
Energy Services Group, Inc

*Patti Weiss*  
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EDEWG EDC Co-chair  
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*Brandon Siegel*  
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EDEWG Change Control Manager  


# Preliminary Proposal for the Development of Smart Meter Data Exchange Standards

## INTRODUCTION

In its Smart Meter Procurement and Installation Implementation Order at Docket No. M-2009-2092655, the Commission directs EDCs to propose EDI capabilities required to support the implementation of smart meter technology through the EDEWG for Commission review no later than January 1, 2010.

In order to fulfill this directive, an EDEWG sub-team (“Sub-Team”) was formed. This sub-team of EDCs consisted of West Penn Power Company d/b/a Allegheny Power (“Allegheny”); Duquesne Light Company (“Duquesne”); Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company (collectively “FirstEnergy”); PECO Energy Company (“PECO”); and PPL Electric Utilities Corporation (“PPL”).

Participants in the sub-team included:

Tom Graham (Allegheny)  
Bill Bates (Duquesne)  
Patti Weiss (Duquesne)  
Lisa Herchick (FirstEnergy)  
Matt D’Ulisse (PECO)  
Glenn Pritchard (PECO)  
Bob Theiller (PECO)  
Donna Hirst (PPL)  
Kim Wall (PPL)

Upon reviewing the Implementation Order, the Sub-Team concluded that the Commission is requesting data exchange standards for two (2) distinct categories of business processes. The first group is made up of current business processes and the second group is made up of new business processes that will develop as a result of implementing smart meter technology. This Preliminary Proposal addresses these two (2) groups in detail.

The Sub-Team also concluded that while the Commission recognized the complexity of designing and installing a smart meter network by establishing “a period of up to 30 months for each EDC to assess its needs, select technology, secure vendors, train personnel, install and test support equipment and establish a detailed meter deployment schedule” (“30-Month Grace Period”), it did not include the development of smart meter data exchange standards in the 30-Month Grace Period. The Commission instead directed that the EDCs propose such data exchange standards through the EDEWG for Commission review no later than January 1, 2010.

## **GENERAL DESCRIPTION OF DATA EXCHANGE STANDARDS NECESSARY FOR SMART METERING**

It is the consensus of the Sub-Team, that the data exchange standards requested for existing business processes are already defined. In some cases, the standards will require a small adjustment, such as being changed from optional to required (in whole or in part). But in all cases, there already exists a data exchange standard to meet the EDI requirements requested by the Implementation Order.

### **Data Exchange Standards for *Current* Business Processes**

The Implementation Order states, “In order to achieve the capabilities of smart meter technology, however, EDCs are required to implement an EDI transaction relating to enrollment of customers who elect service on a real-time-price or time-of-use rate program, and a new historical interval usage transaction in order to provide customers and their designated agents with 12 months of interval usage data pursuant to Commission orders at Docket No. M-00960890F0015. Also, the historical usage data transaction must facilitate third-party exchange of historical interval usage data recorded at the meter level.”

The Sub-Team agrees that EDI transactions are not required to establish customers in new rate programs, including real-time-price or time-of-use. EDCs can continue to utilize their existing processes to move customers into new rates as such actions are separate functions from the enrollment of customers with an EGS. The Sub-Team reviewed the existing 814 Enrollment Request transaction and reached consensus that the transaction, as currently defined, is capable of supporting the enrollment of customers with an EGS who are participating in a real-time-price or time-of-use program. This requirement can be satisfied under each of the three (3) billing scenarios currently supported in the Commonwealth – EDC Consolidated Billing/Rate-Ready, EDC Consolidated Billing/Bill-Ready and DUAL Billing. Each scenario is discussed below.

#### **EDC Consolidated Billing/Rate-Ready**

Under this scenario, the EDC reads the meter, calculates both the EDC and EGS charges and provides a consolidated bill to the customer.

In the event that a customer elected service on a real-time-price or time-of-use program, the EGS would use the existing 814 Enrollment transaction and specify a Rate-Ready rate code associated with the elected real-time-price or time-of-use program. This assumes that the EDC is capable of billing real-time-price and time-of-use rates on behalf of the supplier.

As noted in the EDEWG Sub-Team Report Regarding Rate-Ready Billing filed with the Commission on November 9, 2009 at Docket No. M-2009-2104271, it was the consensus of the Rate-Ready Sub-Team that Rate-Ready billing be kept simple and not require EDCs to provide complex billing structures like real-time-price and time-of-use programs for suppliers.

For EDCs that choose to provide these complex billing options, suppliers will be able to enroll the customers utilizing the appropriate Rate-Ready rate code.

For EDCs that do not provide these complex billing options, suppliers will be able to enroll the customers and calculate their own charges.

#### EDC Consolidated Billing/Bill-Ready

Under this scenario, the EDC reads the meter, the EDC and EGS each calculate their own charges and the EDC provides a consolidated bill to the customer.

In the event that a customer elected service on a real-time-price or time-of-use program, the EGS would use the existing 814 Enrollment transaction and specify that they will calculate their own charges to be consolidated with the bill produced by the EDC. The EGS will calculate their charges based on the appropriate real-time-price or time-of-use rates and provide a Bill-Ready EDI 810 transaction to the EDC. The EDC will use the Bill-Ready EDI 810 transaction from EGS to provide a single consolidated bill to the customer.

#### DUAL Billing

Under this scenario, the EDC reads the meter, the EDC and EGS each calculate their own charges and the EDC and EGS each provide a bill to the customer with their own charges.

In the event that a customer elected service on a real-time-price or time-of-use program, the EGS would use the existing 814 Enrollment transaction and specify that they will calculate and bill their own charges. The EGS will calculate their charges based on the appropriate real-time-price or time-of-use rates and provide separate bill to the customer.

Regarding the need for a new historical interval usage transaction to provide customers and their agents with 12 months of interval usage data at the meter level, the existing 867 Historical Interval Usage (HIU) transaction is already designed to meet this need. It should be noted that this transaction is currently optional and used only by PPL. PPL's use of this transaction is intentionally limited to account level data. PPL's experience with the 867 HIU transaction has revealed that the volume of data involved can be problematic. PPL acknowledged that other states have attempted to use the 867 HIU transaction to provide meter level data and failed. In an attempt to place an order of magnitude on the potential volume, the Sub-Team calculated that for a single meter providing 15-minute interval reads, 34,560 reads would be included in a 12-month 867 HIU transaction<sup>1</sup> as compared to 12 reads for a non-AMI, manually read register meter over the same period. Therefore, the Sub-Team concluded that rather than establishing the 867 HIU transaction as the standard at this time, it would like to explore other methods for providing historical interval usage data at the meter level, including, but not limited to web presentment or other internet delivery approaches.

The Implementation Order states, "An EDI transaction will also need to be developed and implemented for the exchange of monthly, billing quality, interval usage data recorded at the meter level versus the current practice of providing usage data at the account level."

The existing 867 Interval Usage transaction is already designed to meet this need. However, as noted by the Commission, some EDCs currently use this transaction to provide interval usage data at the account level. In its current form, this transaction defines providing meter level detail as optional. EDEWG will act to make meter level detail required for this transaction. Since this change may necessitate EDC modifications to their systems to support this level of data, the requirement will take effect for each EDC at the expiration of their respective 30-Month Grace Period. EDCs would require

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<sup>1</sup> Calculated as 12 months x 30 days per month x 24 hours per day x 4 reads per hour x the number of meters.

testing this modification with EGSs and all other interested parties prior to implementation.

### **Data Exchange Standards for New Business Processes**

The Implementation Order states, “These and other developments necessary for the implementation of smart meter technology plans require EDC and third-party participation in the Commission’s Electronic Data Exchange Working Group (“EDEWG”). Therefore, EDCs are directed to propose EDI capabilities for this purpose through the EDEWG for Commission review no later than January 1, 2010. In developing these proposals, EDCs are encouraged to look at any applicable national standards, such as those developed by the North American Energy Standards Board. EDCs shall identify in their plans target dates for the testing and certification of these EDI transactions with their business partners in order to meet the smart metering implementation deadline as specified in this Order.”

The Sub-Team views these “other developments” as the new business processes such as in-home device support, billing-quality data provided to customers/designated third-parties within 48 hours of meter reading and other processes that will come to be as a result of implementing smart meter technology. The Sub-Team has concluded that these new business processes are not yet fully defined. It is not possible for this Sub-Team to develop data exchange standards for undefined business processes.

For this reason, an extension of the Commission’s January 1, 2010 deadline is requested. Once granted an extension, the Sub-Team proposes that it be expanded to include representation from all stakeholders. Specifically, the Sub-Team believes that it should be expanded to include representatives for the following groups: EGSs, CSPs, Service Providers and interested third parties.

The newly expanded EDEWG Smart Meter Sub-Team (“Expanded Sub-Team”) will have the following mission:

1. Identify the business processes that will be needed to support smart meter technology.
2. Identify the data exchange requirements that will be needed to support the business processes.

3. Develop proposed data exchange standards to meet the data exchange requirements.

In fulfilling its mission, the Expanded Sub-Team will review and consider applicable national standards, such as those developed by the North American Energy Standards Board.

Essentially, the Expanded Sub-Team will identify what data needs to be exchanged and recommend standards for exchanging the required data.

The Sub-Team posits that as the EDCs work their way through their respective 30-Month Grace Periods and conduct a thorough analysis of smart meter implementation requirements, the related business processes and data exchange requirements will be identified. As smart meter business processes and data exchange requirements are identified, they should be submitted to the Expanded Sub-Team for review and development of supporting data exchange standards.

It is also expected that since the Expanded Sub-Team will be functioning in parallel with the EDCs' grace period efforts, the Expanded Sub-Team will identify some data exchange requirements that will be taken back to the EDCs and incorporated into their plans.

This symbiotic relationship between the EDCs and the Expanded Sub-Team will result in both business processes and data exchange standards that meet the needs of all stakeholders.

## TIMELINE<sup>2</sup> FOR DEVELOPMENT OF SMART METER DATA EXCHANGE STANDARDS

Task	Completion Date
Distribute Draft Preliminary Proposal for the Development of Smart Meter Data Exchange Standards to the EDEWG List Serve for review.	11/25/2009
Discuss and finalize the Preliminary Proposal for the Development of Smart Meter Data Exchange Standards at regularly scheduled EDEWG meeting.	12/3/2009
File Transmittal Letter(s) and the Preliminary Proposal(s) for the Development of Smart Meter Data Exchange Standards with the Commission through EDEWG.	12/11/2009
Send request for volunteers to participate on the Expanded Sub-Team to the EDEWG List Serve.	12/11/2009
Make final request for volunteers to participate on the Expanded Sub-Team at regularly scheduled EDEWG meeting.	1/7/2010
Hold first of a series of Expanded Sub-Team meetings <sup>3</sup> .	1/12/2010
Obtain approval from Commission for Expanded Sub-Team and Proposed Timeline.	3/11/2010
Freeze requirements so that standards can be developed by target completion date. Changes to requirements after this date will be introduced through the EDEWG change control process.	9/1/2010 <sup>4</sup>
Publish draft version of Smart Meter Data Exchange Standards.	11/30/2010
Publish final version of Smart Meter Data Exchange Standards.	1/31/2011

<sup>2</sup> This timeline assumes Commission approval of the Preliminary Proposal and individual EDC Smart Meter Plans as filed. Modifications to the Preliminary Proposal or Smart Meter Plans may impact the proposed completion dates.

<sup>3</sup> The timeline shows the formation and commencement of the Expanded Sub-Team prior to receiving Commission approval in order to maximize the amount of time available to develop the necessary data exchange standards.

<sup>4</sup> Originally PECO proposed a Freeze Date of 6/1/2010 followed by a Draft Date of 8/31/2010 and a Final Date of 10/30/2010. Not being comfortable that the requirements would be clearly defined in time to meet a Freeze Date of 6/1/2010, Duquesne countered with a Freeze Date of 12/31/2010 followed by a Draft Date of 3/31/2011 and a Final Date of 5/31/2011. These dates were agreed to by all EDC's except PECO who recommended a compromise of the dates in the timeline. These compromise dates were agreed to by all EDC's.

## CONCLUSION

1. There is no need to modify the existing 814 Enrollment transaction. The transaction, in its current form, will support the requirements defined by the Implementation Order.
2. EDEWG will implement a change control to make meter level detail required for the 867 Interval Usage transaction. This requirement will take effect for each EDC at the expiration of their respective 30-Month Grace Period.
3. The Sub-Team requests that the Commission extend the January 1, 2010 deadline to allow for the formation of an Expanded Sub-Team that will be committed to the proposed timeline for the development of smart meter data exchange standards.
4. The Sub-Team requests that the Commission permit the Expanded Sub-Team to include in its scope of work a thorough exploration of alternatives to the 867 HIU transaction for providing historical interval usage data at the meter level so that a best practice can be determined and selected as the data exchange standard.