



ENERGY EFFICIENCY AND
CONSERVATION PROGRAM AND
EDC PLANS

Docket No. M-2008-2069887

November 25, 2008

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

Dear Mr. McNulty

Attached please find an original, 10 copies, and a CD of Elster Integrated Solutions' reply comments to the oral testimony presented on November 19, 2008.

Sincerely,

Ed Gray
Vice President of Regulatory Affairs
Elster Integrated Solutions
706 Brannock Terrace
Annapolis, MD 21401
ed.gray@us.elster.com
443-433-8080

Elster November 25, 2008 reply to oral testimony of November 19, 2008

There is a lot of confusion about the difference between smart meters and the smart grid. Statements like ‘smart metering isn’t the smart grid’ or ‘we don’t need smart meters, we need a smart grid’ abound. Actually, the reality is very simple—smart metering is a part of the smart grid and is recognized as such in the national Energy Independence and Security Act of 2007 (PL 110-140). Also, the notion that we can somehow eliminate meters if every appliance is ‘smart’ misses the obvious point that electricity use must be determined very accurately, because customers pay bills that must be accurately determined. America National Standards Institute (ANSI) C12.1 *Code for Electricity Metering*, among other things, set standards for the accuracy of meters. States adopt such standards and give them regulatory standing in Commission Orders (as in Pennsylvania) or state codes (as in the District of Columbia, for example).

CURRENT Group, in their testimony, says we don’t need smart metering for the smart grid and goes on to give an example of a distribution automation application—voltage control. Actually, voltage control is a very good example of a distribution automation application that *requires* smart metering.

Standard voltage levels for alternating current are listed in ANSI C84.1 American National Standard for Electric Power Systems and Equipment- Voltage Ratings (60 Hertz). Manufacturers of electrical equipment design their products to work within these voltage limits and operation outside these limits continuously could result in poor equipment performance or shorter product life. Smart meters, among other things, periodically measure voltage at the customer service entrance and this parameter may be controlled such that it stays within the C84.1 limits, assuring satisfactory equipment operation.

Elster agrees that the voltage control smart grid function can produce large energy (and therefore cost) savings by controlling the voltage at the premise at the minimum C84.1 level. Operation at the minimum ANSI C84.1 level would allow safe operation while producing energy savings by reducing resistive power losses which are proportional to the voltage squared.

The voltage control function is accomplished by the smart meter periodically measuring the voltage along with the other parameters it measures and reporting the voltage and other parameters back to the electric distribution company. This real-time voltage data is used by the electric distribution company to reset voltage taps on tap changing transformers and/or switching capacitor banks in and out to maintain the customer service voltage at the minimum American National Standards level. So rather than being an example of why we don’t need smart meters, this application is an example of why we do.