

STATE OF IOWA  
DEPARTMENT OF COMMERCE  
UTILITIES BOARD

IN RE:  INQUIRY INTO ADVANCED METERING AND TIME-BASED RATES	DOCKET NO. NOI-06-3
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**ORDER DECLINING TO ADOPT STANDARD, CLOSING DOCKET,  
AND COMMENCING PILOT PROJECT DISCUSSIONS**

(Issued March 6, 2007)

On August 8, 2005, the Energy Policy Act of 2005 (EPACT 2005) was signed into law. Among the many provisions of this federal legislation are five new federal standards added to the Public Utility Regulatory Policies Act of 1978 (PURPA). One of these new standards is found in Section 1252 of EPACT 2005 and is entitled "Time-Based Metering and Communications." This standard, which can also be found in Title I, section 111(d) of PURPA and is commonly referred to as Standard 14, provides that all state utility commissions and utilities must consider and make a determination whether to adopt the standard. Standard 14 lists four types of time-based rate schedules for consideration. These are time-of-use pricing, critical peak pricing, real-time pricing, and credits for consumers with large loads. Advanced metering may be necessary to offer some of these pricing programs, at least in some of their forms.

Pursuant to EPACT 2005, the Utilities Board (Board) must commence a proceeding on or before August 8, 2006, to consider adopting the standard. The

Board commenced an "Inquiry Into Advanced Metering and Time-Based Rates" by order issued June 30, 2006. The Board may decline to adopt or implement a standard, but must state in writing the reasons for its decision. If the Board fails to act within the deadline set forth in EPACT 2005 (August 8, 2007), the standard must be considered in various utilities' rate proceedings.

Title I of PURPA applies only to utilities with total annual retail sales greater than 500 million kilowatt hours. In Iowa, this encompasses the two investor-owned, rate-regulated utilities, Interstate Power and Light Company (IPL) and MidAmerican Energy Company (MidAmerican). While the Board's consideration of this PURPA standard applies only to rate-regulated utilities, three non-rate-regulated Iowa utilities, Eastern Iowa Light and Power Cooperative, Ames Municipal Utilities, and Muscatine Power and Water (Muscatine), may exceed or nearly exceed the PURPA kilowatt-hour threshold. Each of these utilities received notice of the inquiry.

In order to obtain information on whether to adopt Standard 14, the Board's order initiating the inquiry contained a list of questions for participants. IPL and MidAmerican filed comments on September 15, 2006. The Consumer Advocate Division of the Department of Justice (Consumer Advocate) and Ag Processing Inc (Ag Processing) filed comments on September 29, 2006. Muscatine filed comments on October 3, 2006.

The questions focused on five issues or areas: advanced metering and communications, current Iowa time-based rate structures, possible application of

advanced metering in Iowa, policy issues related to advanced metering and time-based rates, and additional information on customer interaction with time-based rates and energy information systems. Each issue or area will be discussed separately.

### **I. Advanced Metering and Communications**

The first three inquiry questions asked participants to describe the current state or status of advanced metering. Participants described the advanced meters as accurate and reliable, capable of measuring and recording such things as total electric consumption, peak electricity use, power factor, surges or drops in voltage, and actual outages. Advanced meters, when combined with real-time communications, can also serve as tracking devices for outages and restoration of service. Data can be retrieved from advanced meters in a variety of ways, including meter readers, drive-by collection, and complex networks dedicated to data collection and transfer. The costs of advanced metering systems are substantial (\$750 to \$4,000 per meter, not including installation and maintenance costs) and the costs escalate significantly when combined with a real-time communications system.

At this time, it is difficult to justify widespread installation of advanced meters on a cost basis. This is due in part to the high cost and in part to the difficulty in valuing any benefits. Mandatory deployment of advanced meters is not justified at this time. It is important to note that IPL and MidAmerican, based on their

comments, may require very different approaches to advanced metering and time-based rates; one size apparently does not fit all.

## **II. Current Iowa Time-based Rate Structures**

The Board has continuously examined rate-regulated utilities' rate structures in rate proceedings to be sure that the rate structures in place send the appropriate price signals. The Board expects IPL and MidAmerican to look at their current rate structures in detail to see if those structures send the appropriate signals to promote energy efficiency. The Board also indicated its concern in a recent IPL case that declining block summer rates send the wrong energy efficiency message to customers.

IPL and various intervenors have reached settlements regarding IPL's interruptible rate program. These changes have led to more rational interruptible rate designs and a significant increase in the use of IPL's interruptible capacity.

The Board intends to continue its examination of utilities' rate structures in various rate proceedings that will come before the Board. There will likely be consideration of further changes to utilities' declining block rates and time-of-use rates. Because of differences in the rate structures of IPL and MidAmerican, the Board believes rate proceedings are the appropriate forum for many of these issues, not generic adoption of the PURPA standard.

### **III. Possible Application of Advanced Metering in Iowa**

IPL and MidAmerican currently offer time-of-use pricing and credits for consumers with large loads (interruptible programs), two of the time-based electric rates or programs highlighted in PURPA Standard 14. However, the programs differ for each utility. The programs that are not currently offered by both utilities (or which have low participation) are critical peak pricing and real-time pricing.

MidAmerican suggests in its comments that critical peak pricing and real-time pricing are not equivalent and should be targeted at different customer groups. IPL notes in its comments that it does not have sufficient information to project the costs and benefits of advanced metering. Ag Processing wants to see a pilot project for critical peak pricing. MidAmerican, IPL, and Ag Processing all agree any such pricing programs should be voluntary for eligible customers, not mandatory.

Consumer Advocate also supports a pilot project. Consumer Advocate states that demand response programs and advanced metering must be shown to reduce costs and improve service and should not be implemented unless they are subject to a cost-benefit analysis.

The Board agrees that there is not sufficient information to demonstrate that the various programs are cost effective. It would be inappropriate to impose any such programs at this time. However, the Board believes that additional research is warranted and will direct its staff to begin an informal discussion with MidAmerican, IPL, Consumer Advocate, Ag Processing, and other interested parties to develop a

pilot project to test various types of advanced metering and time-based rates. While the Board does not have the authority to order a municipal or cooperative authority to take part in such a pilot project, the Board hopes these entities will participate through their respective associations so that the Board and its staff will have the benefit of any research or testing that some of the individual utilities (or the associations) may have done.

#### **IV. Additional Policy Issues**

The Board asked several questions about the specifics of advanced metering and programs needed to implement rates involving advanced metering, such as critical peak pricing. Ag Processing is concerned about the costs of a full-scale implementation of networked real-time advanced metering. MidAmerican also expressed concern about the costs of a real time network as compared to the benefits of being able to access additional information on a real-time basis. Consumer Advocate said "interval meters," which are cheaper, might be a means for implementing time-differentiated rates. Ag Processing, MidAmerican, IPL, and Consumer Advocate agreed that if the Board wants to pursue advanced metering, it should first be tested as a pilot project and not ordered on a large scale. Muscatine has implemented advanced metering for certain commercial customers. This limited project may provide valuable information for others who are considering potential advanced metering applications.

## **V. Additional Information**

The responses to the inquiry questions provided little information about technologies or programs to communicate and educate customers on the links between electricity use and price, such as the use of internet-based systems to provide real-time energy information to customers. Some utilities are in the process of developing programs that provide timely electric usage information to individual households without incurring the costs of a networked real-time communication system. It may be that some of these programs would be useful to include in any pilot program.

## **CONCLUSIONS**

The Board has considered and adopted portions of Standard 14 for each investor-owned rate-regulated electric utility under prior state actions. These determinations were made after opportunity for public comment and participation. The Board, however, declines to adopt Standard 14 in its entirety.

There is no cost-benefit analysis that supports, at least in the near-term, utility-wide deployment by the investor-owned rate-regulated utilities of real-time (minute by minute) metering and utility-wide real-time networked data collection. However, this does not mean the investigation of these alternatives should end; it merely means that the Board declines to adopt PURPA Standard 14 at this time. The Board is not precluded from making future changes to its policies on advanced metering and time-based rates in other dockets. The Board, as noted earlier, will

direct its staff to begin informal discussions with interested participants regarding additional topics and potential pilot projects. One issue for further discussion is how a demand response program or market operated by the Midwest Independent Transmission System Operator, Inc., would enable Iowa's investor-owned utilities and their customers to get value in the energy market for shaving peak demand.

The Board hopes the municipal and cooperative utilities, through their associations, will be active in the discussions. The Board also will invite various industrial groups to participate. Others are welcome. While any pilot project would be directly applicable only to IPL and MidAmerican, a well-designed pilot may provide information that could be used by other electric utilities to better serve their customers and provide for a more efficient and economic use of resources.

The Board, from its prior determinations and the determinations made in this proceeding, has fulfilled its obligations for consideration of Standard 14 and will not take further action in this docket. The Board concludes that its consideration of Standard 14 is complete and in compliance with the procedural requirements and deadlines established in EPACT 2005.

### **ORDERING CLAUSES**

#### **IT IS THEREFORE ORDERED:**

1. The Utilities Board declines to adopt PURPA Standard 14 in its entirety and declares that its consideration of PURPA Standard 14 is complete and in

compliance with the procedural requirements and deadlines established in EPACT 2005.

2. Docket No. NOI-06-3 is closed.

3. The Board's staff is directed to commence informal discussions regarding a pilot program and other issues regarding demand response programs and advanced metering, consistent with this order.

**UTILITIES BOARD**

/s/ John R. Norris

/s/ Curtis W. Stamp

ATTEST:

/s/ Judi K. Cooper  
Executive Secretary

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Dated at Des Moines, Iowa, this 6<sup>th</sup> day of March, 2007.