

STATE OF IOWA
DEPARTMENT OF COMMERCE
UTILITIES BOARD

IN RE:)
)
)
PURPA STANDARDS IN THE ENERGY) Docket NO. NOI-2008-0003
INDEPENDENCE AND SECURITY ACT)
OF 2007)

**COMMENTS OF THE
IOWA ASSOCIATION OF ELECTRIC COOPERATIVES**

By Order issued October 14, 2011 the Iowa Utilities Board (Board) issued an Order soliciting additional comments concerning smart grid developments. The Board also requested updated comments on whether it would be appropriate to continue, modify, or withdraw the temporary prohibition on ARCs (Aggregators of Retail Customers). The docket was initially opened on December 5, 2008, "concerning the four new PURPA ratemaking standards contained in the Energy Independence and Security Act of 2007." The Iowa Association of Electric Cooperatives ("IAEC") has previously participated in this docket. As stated in prior pleadings, such participation was primarily intended to facilitate its ability to monitor the Board's actions and the comments of the other participants. Given that all but one of the IAEC's members are not subject to the Board's rate regulation authority, any consideration of the PURPA ratemaking standards (including those related to the Smart Grid) by the IAEC members was being conducted by the member's local governing board. However, the IAEC recognizes that this Docket appears to have been expanded beyond the mere consideration of the PURPA ratemaking standards for which it was initiated. The IAEC's participation continues to be primarily intended to facilitate its ability to monitor the Board's actions and the comments of the other participants; however,

the Order soliciting additional comments specifically references Iowa's rural electric cooperatives (RECs) deployment of smart grid technologies and automated meter reading (AMR) of one sort or another. The IAEC will attempt to provide additional information where available concerning such efforts.

QUESTIONS REGARDING SMART GRID ISSUES:

1. What is your long-term vision for the future of the electric grid?

This inquiry question is very broad and difficult to answer with precision. The IAEC believes the grid must safe, reliable, affordable, and lastly constructed, operated and maintained in as environmentally sensitive manner as feasible. The deployment of technology needs to deliver benefits commensurate to the costs. Due to the differences in systems, terrain, local needs, utility structure and other issues throughout Iowa, a one size fits all approach does not seem feasible or prudent. In any event, the IAEC does envision an electric grid that is more automated and capable of providing both the utility and the customer with more accurate and timely information in the future.

2. What are the goals for your smart grid components and network? Will it be a flash cut approach or rolled out in phases?

As noted in prior submittals in this docket, the IAEC is not planning or implementing any smart grid related projects; however, many of the IAEC member utilities are at various stages of implementation. While the IAEC is not in a position to comment on the "goals" for the smart grid components or networks of its members, the IAEC does understand that the members' plans to replace and upgrade their meters generally provide for the replacement to occur over a number of years. The IAEC deems upgraded meters to be a necessary component of a smart grid.

A number of the IAEC members have submitted waiver requests with the Board wherein they

have identified their plans for upgrading their meters. Specifically, the IAEC would note the following filings:

- a. Humboldt County Rural Electric Cooperative (Docket WRU-2011-0022-0936, Pending).
The pleadings indicate that the Cooperative will be replacing all meters on its system over a period of 2 years. In order to accommodate the planned schedule, approximately 2300 meters will be replaced in a 2 year period.
- b. Butler County Rural Electric Cooperative (Docket WRU-2011-0019-0908, Order issued October 13, 2011). The pleadings indicate that the Cooperative will be replacing all meters on its system over a period of five (5) years. In order to accommodate the planned schedule, approximately 6,530 meters will be replaced in a five (5) year period.
- c. Clarke Electric Cooperative, Inc. (Docket WRU-2011-0916, Order issued May 16, 2011).
The pleadings indicate that the Cooperative will be replacing all meters on its system over a period of two years. In order to accommodate the planned schedule, approximately 6,100 meters will be replaced in a two year period.
- d. Calhoun County Electric Cooperative Association (Docket No. WRU-2010-0013-0910, Order issued November 8, 2010). The pleadings indicate that the Cooperative will be replacing all meters on its system over a period of three (3) years. In order to accommodate the planned schedule, approximately 2,055 meters will be replaced in a three (3) year period.
- e. Prairie Energy Cooperative (Docket WRU-2010-0012-0932, Order issued October 15, 2010). The pleadings indicate that the Cooperative will be replacing all meters on its system over a period of 1 year. In order to accommodate the planned schedule, approximately 5000 meters will be replaced in a 1 year period.

- f. Allamakee-Clayton Electric Cooperative, Inc. (Docket WRU-08-50-901, Order issued January 28, 2009). The pleadings indicate that the Cooperative will be replacing all meters on its system over a period of 6 years. In order to accommodate the planned schedule, approximately 9,550 meters will be replaced in a 6 year period.
- g. Southwest Iowa Rural Electric Cooperative (Docket WRU-08-36-900, Order issued November 4, 2008). The pleadings indicate that the Cooperative will be replacing all meters on its system over a period of two years. In order to accommodate the planned schedule, approximately 6000 meters will be replaced in a two year period.
- h. Heartland Power Cooperative (Docket WRU-08-92-912, Order issued July 1, 2008). The pleadings indicate that the Cooperative will be replacing all meters on its system over a period of three years. In order to accommodate the planned schedule, approximately 6200 meters will be replaced in a three year period.
- i. Eastern Iowa Light & Power Cooperative (Docket WRU-08-9-920, Order issued June 2, 2008). The pleadings indicate that during the next three years, the Cooperative will replace all of its electric meters (over 25,000) at a rate of approximately 8,500 meters per year.
- j. Maquoketa Valley Electric Cooperative (Docket WRU-07-41-943, Order issued February 1, 2008). The pleadings indicate that the Cooperative plans to replace all 15,698 of its meters prior to January 1, 2010.

There are undoubtedly other members of the IAEC that have plans in place for meter upgrades and the foregoing plans are not intended to reflect an exhaustive list. The foregoing Cooperatives are cited because the plans are publicly available through filings made with the Board.

3. What changes in smart grid technology has your company seen in the last two to three years?

It is not necessarily clear whether the Board is inquiring about what has actually been implemented or what is generally available in the marketplace. If it is the latter, the IAEC is not in a position to provide detailed descriptions of the many changes in technology occurring; but the IAEC looks forward to reviewing the responses of others. If it is the former, the IAEC has not implemented any smart grid technologies of its own; but has seen a number of its members invest in AMI technology over the past couple of years allowing for two-way communication with the customer's meter. The IAEC has also seen an increased investment in SCADA systems that allow for more automated outage management. Some of the IAEC members have utilized their automated systems to link to the outage map maintained by the IAEC. This allows the IAEC outage map to be automatically populated with the outage information of some of the IAEC members during storm events or other outage situations.

4. Are your customers requesting smart grid services or devices?

The IAEC does not have any retail customers and therefore has no direct information about customer requests. However, the IAEC suspects that the customers may not be asking for items identified as smart grid services or devices directly; but rather indirectly through requests for improved reliability and more affordable electric rates.

5. To the extent smart grid installations have been deferred or delayed, why has that occurred?

As stated previously, the IAEC is not planning or implementing any smart grid installations; therefore, there has been no delay by the IAEC. In addition, the IAEC would note that it is not

aware of any delays to smart grid installations for cooperatives in Iowa, other than the possible delay in prepaid meter components that may result from the lack of clarity on the ability to utilize prepay as an option for customers.

6. What have been the advances in cyber security as it relates to protection of your individual customer data?

The IAEC does not have individual customer data and has therefore not specifically studied the cyber security issues related to the same. However, the IAEC is aware of a Smart Grid Demonstration project being undertaken by the National Rural Electric Cooperative Association (NRECA) and the Cooperative Research Network (CRN) that was funded in part with a Department of Energy (DOE) grant concerning this issue. A copy of a document issued in May of 2010 as part of this project entitled "Interoperability and Cyber Security Plan, NRECA CRN Smart Grid Regional Demonstration, Grant DE-OE-0000222" is available through the following link: <http://www.nreca.coop/bestbets/cybersecurity>. The document is part of a set of tools that together comprise the "Guide to Developing a Cyber Security and Risk Mitigation Plan" developed by CRN. The document includes a discussion of cyber security risks and sets forth recommendations and a methodology for how these risks can be addressed.

7. What rights over the consumer data does the utility have?

The IAEC is not certain how to respond to this question because the term "customer data" is not defined. If by use of this term the Board is referencing the customer's electric consumption or usage data, the IAEC would take the position that the utility has as much right to this data as the customer. This data is utilized by the utility for billing purposes and is derived by metering the electricity delivered to the customer by the utility. This data is also used for forecasting load and other areas as well.

Perhaps some guidance on this issue can be taken from the decision of the U.S. Court of Appeals

for the 8th Circuit issued on July 27, 2011. United States v. McIntyre, 646 F. 3d 1107 (8th Cir. 2011). In said case, a criminal defendant was attempting to challenge the manner in which law enforcement had obtained information about the electric usage at his home. The defendant claimed that he had an expectation of privacy in those records because they contained intimate details about the interior of his home. The Court disagreed, holding that the defendant voluntarily conveyed electricity usage information to the utility, and the defendant did not have a constitutionally protected reasonable expectation of privacy in the information. The Court held that the utility's provision of this information to law enforcement pursuant to a subpoena did not violate the fourth amendment to the U.S. Constitution.

On the other hand, if by use of the term customer data the Board is not only referencing electric consumption data; but also personal identifying information, such as social security number, address, and other information, the response would differ.

8. What safeguards can be built into the system to prevent the consumer data from being stolen or corrupted as it is being sent from the premises?

As previously noted, the IAEC has not studied this issue; but there are undoubtedly a number of possible solutions to make sure this data is secure.

9. Is there any history of smart meters, advance metering infrastructure, substation automation, or distributed automation communications networks being hacked or otherwise compromised? If so, please explain.

The IAEC is not aware of any instances of such networks being compromised or hacked successfully. The IAEC understands that its member utilities have intrusion prevention systems, firewalls, and other computer security systems in place to maintain the integrity of their systems and safeguard against hackers and viruses; but the IAEC does not have details concerning these programs.

10. How will the consumer get access to the metered data and what software or other mechanisms will be made available to the consumer to understand their usage data?

The IAEC anticipates that customers will be provided access to their individual metered data through a number of mechanisms. The most common will likely be through the internet. The IAEC is aware of efforts being undertaken to make access easy through smart phones and other new technology. The IAEC understands that solutions exist that allow utilities to present usage data in graph form and other formats to make it easier for the customer to comprehend and use to influence customer behavior.

11. What do you think the impact will be of behind-the-meter web tools that allow tracking of home energy usage on energy efficiency and other utility matters? Will these types of programs take the place of some smart grid functions?

While behind the meter applications may enable customers to gain a better understanding of their electricity costs and usage patterns, the IAEC does not necessarily see these applications as a suitable replacement to utility installed smart grid infrastructure. The utility will need real-time metering information to implement time-of-use and other advanced rate structures. The advanced metering that allows remote disconnection and reconnection will not be replaced by any behind the meter applications.

12. Has your company (or an affiliate) studied the relationship between energy efficiency and smart grid? If so, what were the findings?

The IAEC has not completed any such studies; however, it is generally presumed that a customer that is better educated about his or her energy use will be better equipped to make wise choices concerning energy efficiency programs and options. There should be no question that the smart grid will provide an opportunity for customers to be better educated about their energy use. Whether the customers will take advantage of this opportunity or not is not something that has

been studied by the IAEC. Certainly even if the customers do not utilize the information that becomes available, the information should be able to be utilized by the utility to develop better energy efficiency programs.

13. Does the emergence of numerous "past-the-meter devices" (i.e., energy management devices) affect the benefits utilities expect from smart grid deployment?

The IAEC has not necessarily studied this issue. Please refer to response to question 12 above.

14. Has the technology for consumer-level energy management devices progressed to the point where homeowners or small businesses find them cost-effective or feasible?

The IAEC has no information that would allow it to speculate whether homeowners or small businesses find these devices cost-effective or feasible.

15. What studies are available on the topic of "phantom loads," that is, energy used in standby mode by various plug-in electrical devices (set-top boxes, battery chargers, and other devices that use electricity when they appear to be off)? Do any of these studies include data applicable to Iowa utilities or energy users?

IAEC is not aware of any such studies or data.

17. What is the likelihood that issues relating to phantom loads will be resolved by improvements in specific technologies or federal standards? If phantom loads are not amenable to standards or in-the-box technology solutions, how likely are individual households to undertake the behavioral changes needed to manage these devices?

IAEC is not aware of any utility programs that address phantom load issues and it appears that federal standards would likely be a reasonable approach to addressing this issue.

QUESTIONS REGARDING ARCs ISSUES

1. How might the operation of ARCs in Iowa affect the participation of utility customers in demand response tariffs or programs, such as interruptible, time-of-use, or direct load control programs?

The Board has previously questioned whether the operation of ARCs in Iowa would be inconsistent with the exclusive assigned electric service territory law. The IAEC has not studied this issue in any detail; however, it would echo the Board's prior concerns.

2. How might the operation of ARCs in Iowa affect the forecasts of Iowa utilities with respect to peak load, reserve margins, energy sales, and other parameters?

This is difficult to answer without knowing how they are structured, and how many customers opt to participate.

3. If ARCs are allowed to operate in Iowa, would utilities seek to alter the goals in their energy efficiency plans for capacity and energy savings?

The IAEC does not set energy efficiency goals for its members and therefore has no response to this question.

4. If the Board takes no action with respect to ARCs, what effect will that have on Iowa load serving entities in the short-term and long-term?

ARCs are currently precluded from operating in Iowa and the IAEC does not envision any changes resulting from the continuation of such prohibition; however, the IAEC will be interested in reviewing the comments of other parties in this regard.

