Final Recommendations for consideration by Nodak Electric Cooperative, Inc. of Standards 16, 17 and 16 of The Energy Independence Security Act (EISA) of 2007

Introduction and Background

This document represents the final recommendations of the staff of Nodak Electric Cooperative for cooperative's consideration of Standards 16, 17 and 16 of the PURPA Act of 1978 as amended by The Energy Independence Security Act (EISA) of 2007.

At a public open house on May 7, 2009 at 9:00 a.m., preliminary recommendations were made to the board of directors of Nodak Electric Cooperative by staff. At this meeting, staff was present for verbal questions or comments from members and public concerning the preliminary recommendations following a presentation to the board of directors. No members of the cooperative or the public were present. Following the posting and distribution of these final recommendations as set forth in the official notice of these proceedings, at the board meeting of June 9, 2009, the final recommendations will be considered by the board for a motion of approval.

Background:

PURPA Defined: Public Utility Regulatory Policies Act

The purpose of all PURPA Title I standards are to encourage (1) conservation of energy supplied by electric utilities, (2) optimal efficiency of electric utility facilities and resources, and (3)equitable rates for electric consumers. The initial PURPA standards were originated in 1978 and over the years, a total of 15 separate standards have been included, each subsequent standard supporting the initial intent of the regulation. The four newest standards were added in 2007 EISA 2007. These four newest standards are as follows:

Standard #16 - Integrated Resource Planning

Standard #17 - Rate Design Modifications to Promote Energy Efficiency Investments

Standard #16 - (Duplicate Label by DOE) Smart Grid Investments- Limited to G & Ts

Standard #17 – (Duplicate Label by DOE) Smart Grid Information

PURPA states that each state regulatory authority and each non-regulated electric utility shall consider each standard and then make a determination concerning whether or not it is appropriate to implement such standard. The PURPA standards are a requirement for a utility of Nodak Electric Cooperative's size (>500 MWh), and by law we must consider each PURPA standard; however, we are not required to adopt each one. We may adopt any standard, decline to implement any standard, or adopt any modified standard. If we decline to adopt a standard, it must be stated in writing the reason for this decision and make those statements available to the public. The statutory deadline for each utility to consider the four new standards is December 2010.

Questions that need to be asked prior to the implementation of each PURPA standard are:

1. Can Nodak Electric Cooperative implement the standard in its entirety, or have a partial role in its implementation?
2. Does the implementation of the standard advance the PURPA goals of promoting energy conservation? Does implementation allow the most efficient use of facilities and resources and also provide for equitable rates that do not reflect cost shifting between rate classes?
3. Would implementation of the standard be consistent with existing Nodak Electric Cooperative practices and would implementation still provide the lowest reasonable cost for energy to our members?

In this exercise, PURPA standards dealing with integrated resource planning, rate design modifications and smart grid information will be discussed. The second PURPA standard #16 dealing with smart grid investments in energy conservation technology by a generation and transmission utility was deemed not applicable to Nodak Electric Cooperative and will not be considered at this time. Our G & T, Minnkota Power Cooperative, would have a lead role in the acquisition of smart grid investments relating to energy conservation technology.

Standard #16 Integrated Resource Planning

Purpose of the Standard

The PURPA Integrated Resource Planning (IRP) Standard requires that each electric utility shall A) integrate energy efficiency as a resource into utility, state and regional plans; and B) adopt policies establishing cost-effective energy efficiency as a priority resource. Energy efficiency is defined as efforts that allow consumers to use less energy without altering their behavior.

Explanation of the Standard

An IRP is defined as a comprehensive planning process intended to consider supply and demand resources to meet current and future load requirements. Nodak Electric Cooperative does not initiate its own IRP; this is normally a generation and transmission utility requirement. In our scenario, each member cooperative of Minnkota Power Cooperative (MPC) supplies future kWh and demand growth forecasts to them which they then analyze and summarize into a Joint System Power Requirement Study (PRS) and associated IRP. This completed IRP encompasses a 15-year timeframe and includes the resource and demand side options that best fit the member cooperative's forecasted energy requirements. Major considerations of the IRP are how to maintain and improve electric service to customers, maintain low electric rates, minimize environmental impacts, and minimize the risk of adverse effects from financial, social and technological impacts.

The last completed IRP by MPC was in 2006, with supporting data for the timeframe 2006-2015. Minnkota Power and Northern Municipal Power Agency (NMPA) are in the process of developing their 2009 PRS/IRP, which will be filed in 2010. In this IRP, in conjunction with the Conservation Improvement Program (CIP), a heavily focused effort will be made to incorporate energy conservation objectives into future energy generation requirements. Among those energy conservation objectives will be the Minnesota 1.5% of Minnesota sales requirement, which mandates an annual reduction in total consumer energy usage through consumer based conservation efforts. This annual reduction in total energy usage will include ten programs tailored to both business and residential customers. Among the ten programs will include incentive payments to joint

system cooperative customers for purchase of high efficiency HVAC, lighting, hot water heating and ENERGY STAR clothes washers.

Along with these customer energy conservation techniques, the 2010 IRP will consider energy efficiency when Minnkota Power purchases transmission equipment and building facilities. Additionally, Nodak Electric Cooperative will also consider energy efficiency when purchasing future distribution equipment so as to further reduce system line loss.

Recommendation

After review of the intended purpose of Standard #16 IRP, it is our recommendation to partially implement the standard based upon our participation in the MPC joint system sponsorship of the CIP Program. Energy efficiency, as defined in the PURPA Standard #16, are efforts that allow consumers to use less energy without altering their behavior. We believe that the CIP Program follows the intent of this standard and therefore deserves recognition through partial implementation.

Supporting Data for the Recommendation of this Standard

1. Can Nodak Electric Cooperative implement the standard in its entirety, or have a partial role in its implementation?
    a. Nodak Electric Cooperative will be an integral part of the implementation of the CIP Program by MPC. The influences the member cooperatives exert upon the structure of the CIP Program reflect an advancement of Standard #16 (IRP).
    b. The CIP Program is targeted to member cooperatives served by MPC within the state of Minnesota. Through the practice of offering energy conservation rebates and incentive payments to members within the Minnesota based member cooperatives, it is anticipated the total future energy generation needs and capacity investments of MPC will be effectively reduced, benefiting Nodak Electric Cooperative members as well.
2. Does the implementation of the standard advance the PURPA goals of promoting energy conservation and make the most efficient use of facilities

and resources and also provide for equitable rates that do not reflect cost shifting between rate classes?

   a. Implementation of this standard will advance the PURPA goals for the members of Nodak Electric Cooperative. Due to the peak demand reduction capabilities inherent with energy conservation, new generation costs to meet those peak demands for all distribution co-ops served by Minnkota Power will in theory be reduced. This projected future reduction in power generation costs will be passed through to the members of Nodak Electric Cooperative through our own rates.
   b. It is anticipated that the cost of implementation of the CIP Program will be offset by the MPC system wide peak demand reduction in the future. This system wide energy efficiency goal is consistent with the intent of PURPA #16 (IRP).

3. Would the implementation of the standard be consistent with existing Nodak Electric Cooperative practices and still provide the lowest reasonable cost for energy to our members?

   a. Implementation of this standard would be consistent with existing co-op practices. In previous years, we have provided incentives to our members to encourage load growth, as well as providing the best energy value and choice for our members. It is our practice to do whatever our members expect of us to reduce their total energy costs, and the implementation of the CIP Program will advance that concept.

Standard #17 Rate Design Modifications to Promote Energy Efficiency Investments

The PURPA rate design modification standard states:

A. In general-The rates allowed to be charged by an electric utility shall-
   i. Align utility incentives with the delivery of cost-effective energy efficiency; and
   ii. Promote energy efficiency investments
B. Policy options- In complying with subparagraph (A), each utility shall consider-

i. Removing the throughput incentive and other management disincentives to energy efficiency;
ii. Provide utility incentives for the successful management of energy efficiency programs;
iii. Including the impact on adoption of energy efficiency as one of the goals of retail rate design, recognizing that energy efficiency must be balanced with other objectives;
iv. Adopting rate designs that encourage energy efficiency for each customer class;
v. Allowing timely recovery of energy efficiency related costs (removing declining block rates); and
vi. Offering home energy audits, offering demand response programs, publicizing the financial and environmental benefits associated with making home energy efficiency improvements, and educating homeowners about all existing Federal and State incentives, including the availability of low-cost loans, that make energy efficiency improvements more affordable.

Purpose of the Standard

This standard specifies that utility rates should encourage energy conservation practices.

Explanation of the Standard

With acceptance of this standard, recovery of our fixed costs and margin would need to be more concentrated on the facility charge rather than a balance between facility and energy charge. For most co-ops, facility charges are not sufficient to recover fixed costs and margin due to member dissatisfaction. From a historical perspective, co-ops have been in a load growth building mode, promoting energy usage through the use of declining block rates. This historical pattern will be difficult to overcome in the near term. Nodak Electric Cooperative has recently removed our declining rate schedule effective December 20, 2008, a precedent that partially follows the intent of Standard #17 rate design modification.

From a wholesale pricing platform, MPC offers the off-peak program in response to peak demand reduction. This Peak Demand Reduction Program was developed in the 1970s and is still the best capital investment for reducing the need for additional future energy capacity and reducing the overall energy costs of its member cooperative customers. An inclining wholesale energy charge is not a part of MPC's future wholesale rate structure. With the lack of that wholesale price signal, there is not a compelling drive to redesign retail rates to an inclined block format. Additionally, time of day retail rate pricing is not a viable option due to the lack of technology to effectively notify our members of the hourly changing price of wholesale energy, with those wholesale energy changes being reflected in retail rates. Due to continually changing market conditions within the wholesale power grid, MPC cannot accurately predict the availability of excess energy on a consistent and reliable basis, making it nearly impossible for our own members to alter their electricity usage habits. This condition makes time of day retail rate pricing an administrative impossibility.

Recommendation

After review of the intended purpose of Standard #17 Rate Design Modifications, it is our recommendation to not implement the standard based upon the PURPA Standard #17 Section B principle that energy efficiency must be balanced with other objectives. With adoption of Standard #17, we feel that a rate inequity would occur due to a "loading" of the facility charge to recapture fixed costs and margin. By removing declining block rates from our rate schedules, we have been proactive in the intent of Standard #17; however, there will be no further action in implementation of this standard.

Supporting Data for the Recommendation of this Standard

1. Can Nodak Electric Cooperative implement the standard in its entirety, or have a partial role in its implementation?
    a. Nodak Electric Cooperative's board reviews rate recommendations by the staff and therefore sets rates for its members. If the board so chooses to change the rate design, it has that authority to do so. Implementation of this standard in its entirety, or partially, is within our jurisdiction.

2. Does the implementation of the standard advance the PURPA goals of promoting energy conservation and make the most efficient use of facilities and resources and also provide for equitable rates that do not reflect cost shifting between rate classes?
    a. We believe that changing member's usage habits is difficult to achieve, regardless of the rate design. Utility incentive programs, as mentioned in Standard #16 (IRP), could be effective in reducing total energy usage by our members; however, the benefits to these programs would be outweighed by the shift in cost burdens laterally, as well as unilaterally, amongst our rate classes as a result of this standards implementation. Minnkota Power is unable to develop a wholesale power rate that reflects the intention of this standard and therefore redesign of our retail rates to an inclining block structure would therefore make implementation of Standard #17 impractical.
3. Would the implementation of the standard be consistent with existing Nodak Electric Cooperative practices and still provide the lowest reasonable cost for energy to our members?
    a. Implementation of this standard would not be consistent with previous co-op practices relating to retail price structure. The recent elimination of declining block rates has furthered the intentions of Standard #17; however, a movement to an inclining block rate would not be practical at this time and would not provide the lowest reasonable cost for energy to our members.

Standard #17 Smart Grid Information

The PURPA smart grid information standard states:

A. All electricity purchasers shall be provided direct access, in written or electronic machine readable form as appropriate, to information from their electricity provider in subparagraph (B).
B. Information provided under this section, to the extent practicable, shall include:
    i. Prices- Purchasers and other interested persons shall be provided with information on-

1. Time-based electricity prices in the wholesale electricity market; and
2. Time-based electricity retail prices, or rates that are available to the purchasers.

ii. Usage- Purchasers shall be provided with the number of electricity units, expressed in kWh, purchased by them.

iii. Interval and projections- updates of information on prices and usage shall be offered on not less than a daily basis, shall include hourly price and use information, where available, and shall include a day-ahead projection of such price information to the extent available.

iv. Sources-Purchasers and other interested persons shall be provided annually with written information on the sources of the power provided by the utility, to extent it can be determined, by type of generation, including greenhouse gas emissions associated with each type of generation, for intervals during which such information is available of a cost-effective basis.

Purpose of the Standard

Nodak Electric Cooperative members should be provided upon request kWh consumption information on at least a daily basis. In the future, if time based electricity prices develop as an accepted retail rate design, the members would also have access to electricity pricing schedules. The members should also have available information on greenhouse gas emissions associated with the generation of their electricity by MPC.

Explanation of the Standard

With acceptance of this standard, a defined information path for relaying electricity usage information to the members of Nodak Electric Cooperative would be structured. The exact template for relaying this information to the member is not yet defined, although preliminary steps have been taken. Presently, with the assistance of the Automated Meter Reading system (AMR), daily usage readings are being collected from each meter that we service. The daily usage information

that is collected from the AMR system can be translated by our own employees and described to the member, but it is not in a hard or soft copy format that the member could access directly over the internet on an at will basis. Nodak Electric Cooperative is presently awaiting our software provider to develop the necessary usage screens that would display member electricity consumption patterns in at least 60 minute intervals. The tentative schedule for deployment of this new software is March 2010.

Recommendation

After review of the intended purpose of Standard #17 Smart Grid Information, it is our recommendation to partially implement this standard to the extent that the technology becomes available from our software providers at a cost that is acceptable. Providing consumption information to our membership could lead to a conservation of energy, which is the intent of this Standard.

Supporting Data for Recommendation of this Standard

1. Can Nodak Electric Cooperative implement the standard in its entirety, or have a partial role in its implementation?
    a. Nodak Electric Cooperative can implement this standard to the extent that software technology compatible with our AMR system is developed. The section of this standard dealing with greenhouse gas emissions is presently available and can be supplied to interested persons.
2. Does the implementation of the standard advance the PURPA goals of promoting energy conservation and make the most efficient use of facilities and resources and also provide for equitable rates that do not reflect cost shifting between rate classes?
    a. Implementation of this standard in our best judgment would advance the goals of promoting energy efficiency. By having awareness and understanding of their usage, our members could adjust their electricity consumption patterns. As the software becomes available to monitor consumption levels, it will be essential to evaluate the costs associated with providing this service to prevent extreme cost burdens by all of our rate classes.

3. Would the implementation of the standard be consistent with existing Nodak Electric Cooperative practices and still provide the lowest reasonable cost for energy to our members?
    a. Implementation of this standard as technology becomes available would be consistent with our existing practices. To a limited degree, we currently provide member usage information, and as technology evolves, this will be expanded. If the implementation of this standard can ultimately save our members power costs, then it is in our best interest to provide them with the necessary tools to reach their lowest reasonable cost of energy.

Summary and Conclusion of EISA 2007 Standards as Presented

Standard #16 Integrated Resource Planning – Partial implementation of the standard based upon our participation in the MPC Conservation Improvement Program.

Standard #17 Rate Design Modifications to Promote Energy Efficiency Investments - No implementation of the standard due inequities that would occur in the rate schedules with full implementation.

Standard #16 Smart Grid Investments - No consideration of this standard due to the predominance of our power supplier to make the best choices in smart grid investments.

Standard #17 Smart Grid Information – Partial implementation of the standard as meter information technology becomes available at a reasonable cost.