CENTRAL ELECTRIC COOPERATIVE, INC.

Written Determination

2009 Compliance with

Public Utilities Regulatory Policies Act (PURPA) Standards

From the Energy Independence & Security Act *of* 2007

Written determination for implementing PURPA ratemaking standards relating to integrated resource planning, rate design modifications to promote energy efficiency investments, consideration of smart grid investments, and smart grid information.

Implementation of the PURPA Standards in Compliance with the Energy Independence & Security Act of 2007 for Central Electric Cooperative

Central Electric Cooperative is a qualifying utility, under the unregulated utilities definition, for 2009 compliance with the Public Utilities Regulatory Policies Act (PURPA)[1] of 1978 and the Energy Independence and Security Act of 2007 (EISA 2007).

PURPA requires "each nonregulated electric utility to consider each standard and then make a determination concerning whether or not it is appropriate to implement such standard." *See 16 U.S.C. §2621(a).*

Central Electric Cooperative

Central Electric Cooperative (CEC), Redmond, Oregon, is a consumer-owned distribution electric utility that provides service to 31,500 accounts in Deschutes, Crook, Jefferson, Lake, Linn, Wasco and Grant counties. CEC was formed under Oregon statute and is a preference customer of the Bonneville Power Administration (BPA) under federal statutes. The cooperative has approximately 5,300 square miles of service territory. Formed in 1940, CEC makes electric energy available to its members at the lowest cost consistent with sound economy and good management. More information about CEC can be found at www.cec.coop.

Central Electric Cooperative is a member-owner of PNGC Power. PNGC is a cooperatively owned power service cooperative providing power supply and other management services to 16 cooperative member-owned utilities serving customers in seven western states: Oregon, Washington, Idaho, Montana, Utah, Nevada and Wyoming. PNGC maximizes the competitive position of its member-owners by meeting their collective power supply and management needs. PNGC buys and manages wholesale power from the Bonneville Power Administration (BPA) on behalf of its member cooperatives, including Central Electric, to meet load requirements.

NOTE: see Integrated Resource Planning section for description of CEC's role in the PNGC power pool.

[1] The three purposes of PURPA are: i) to encourage the conservation of energy; (ii) to optimize the efficient use of energy facilities and resources; and (iii) to encourage equitable consumer rates. 16 U.S.C. §2611.

In this document, Central Electric Cooperative carefully examines the following EISA 2007 standards:

Energy Efficiency Standards

The EISA 2007 adds two new energy efficiency federal standards to PURPA Section 111(d). The first is "Integrated Resource Planning" and the second, "Rate Design Modifications to Promote Energy Efficiency Investments."[2]

Integrated Resource Planning EISA 2007 Section 16 states that each utility shall a) Integrate energy efficiency resources into utility, State, and regional plans, and b) Adopt policies establishing cost-effective energy efficiency as a priority resource. *See 16 U.S.C. §2621(d)(16).*

Rate Design Modifications to Promote Energy Efficiency Investments EISA 2007 Section 17 states that in general, the rates any electric utility is allowed to charge shall first, align utility incentives with the delivery of cost-effective energy efficiency and second, promote energy efficiency investments, recognizing that energy efficiency must be balanced with other objectives. Rate designs are encouraged for adoption that promotes energy efficiency for each customer class. *See 16 U.S.C. §2621(d)(17).*

Smart Grid Standards

The EISA 2007 adds two new standards addressing Smart Grid to PURPA section 111(d), one under Section 16 and one in Section 17. The first is "Consideration of Smart Grid Investments" and the second is "Smart Grid Information."

Consideration of Smart Grid Investments EISA 2007 Section 16 standard consists of three parts. Subsection (A) requires that the "electric utility considered an investment in a qualified smart grid system" before "undertaking investments in non-advanced grid technologies." Subsection (A) lists six "appropriate factors" to be included in the consideration: total costs, cost-effectiveness, improved reliability, security, system performance and societal benefit. Subsection (B) contains consideration requirements for rate recovery for smart grid deployment, and Subsection (C) contains consideration requirements for cost recovery for equipment rendered obsolete after smart grid deployment. *See 16 U.S.C. §2621(d)(16).*

When these standards were established in 2007, the current Stimulus Package and the resulting emphasis on the Smart Grid had not been contemplated. The American Recovery and Reinvestment Act of 2009, referred to as the "Stimulus Bill," or "Stimulus Package," provides federal funding for a wide variety of energy efficiency, renewable energy and broadband initiatives, along with resources to improve the nation's energy infrastructure. The bill includes programs for which co-ops are directly eligible and programs that allow electric utility cooperatives to partner with government and the private sector.

Smart Grid Information EISA 2007 Section 17 states that all electricity purchasers shall be provided direct access, in written or electronic machine-readable form as appropriate, to

[2] These standards are similar to PURPA 111(d) standards (7) and (8) that were added by the Energy Policy Act of 1992.

information from their electricity provider as provided in subparagraph (B). *See 16 U.S.C. §2621(d)(17).*

Information listed under subparagraph (B) is to be provided to the "extent practical" and includes: prices, usage, intervals and projections, and sources of power. And, subparagraph (C) deals with access to the information requirements by both the purchasers and "interested parties." *See 16 U.S.C. §2621(d)(17)(B)-(C).*

Public Hearing Process

Central Electric Cooperative conducted a written public hearing on these standards. Notice was posted beginning July 1, 2009 on the CEC website at www.cec.coop. Notice was also included in all 30,500 CEC accounts' July, 2009 electric bills. Members not able to access the CEC website but who desired a copy of the legislative language were directed to contact CEC. Members were invited until September 15, 2009 to submit written comments. Any member of CEC was eligible to participate in the hearing.

This Written Determination Report takes into account all comments received in the Public Hearing Process. Through the Public Hearing process, CEC received two written comments from its members.

PURPA requires "each nonregulated electric utility to consider each standard and then make a determination concerning whether or not it is appropriate to implement such standard." *See 16 U.S.C. §2621(a).* This Written Determination Report presents, to the CEC Board of Directors, a report addressing the information presented relative to the process, and the CEC Board of Directors shall determine whether to implement any of the PURPA standards.

The Integrated Resource Planning Standard

The Integrated Resource Planning Standard

The integrated resource planning standard provides:

> Each electric utility shall—
> (A) integrate energy efficiency resources into utility, State, and regional plans; and
> (B) adopt policies establishing cost-effective energy efficiency as a priority resource.

16 U.S.C. §2621(d)(16).

Outline of Rationale for CEC

The Integrated Resource Plan (IRP) process weighs numerous power supply options. In general, IRPs consider generating resources such as renewable resources, conventional resources (gas, coal, hydro) and energy efficiency, conservation and demand side management as power supply options. Central Electric Cooperative (CEC) uses the IRP process for implementing energy efficiency and small renewable projects.

CEC purchases power under an all-requirements contract with PNGC Power. CEC is obligated to that contract through September 30, 2028. In addition, Central Electric relies on PNGC Power's Integrated Resource and Energy Efficiency Plan (IREEP) for power planning as a member of the PNGC Power pool.

The key approach PNGC Power uses to plan for the future is through the IREEP process. The goal is to evaluate and compare the relative costs, risks and benefits of likely resource supply alternatives available to the membership pool in 2011 and beyond. PNGC Power works to find a balance between risk and cost in reliable electricity resources. The planning environment for the IREEP is a best estimate of what is believed to be the complete resource landscape for 2010 through 2031. The long-term plan to assess alternate power resources is also a part of the work of preparing to meet customer needs in the future.

CEC relies on the PNGC Power IREEP for its power pool commitments. In turn, PNGC Power relies on the planning information from the current Northwest Power and Conservation Council's Power Plan. The Council's plan applies to all three of the EISA standards discussions, which are detailed in the attachment following this section. *(please see Attachment A)*

As a member-owner of PNGC Power, Central Electric has draft input into PNGC's planning process. As a member (one of 16) of PNGC's Board of Directors, CEC is involved in the review and has a policy decision-making role in PNGC's IREEP plans and in the result.

For its member-owners, PNGC Power develops and updates an IREEP annually or on occasion more frequently if external factors require additional information. PNGC Power's unique and federally legislated Joint Operating Entity (JOE) status provides the statutory ability to combine all loads and resources of individual members into a single entity, which is referred to as the PNGC Power pool. The IREEP combines each member's load and resource into a single pool that is used to forecast the future electric power requirements (surplus or deficit) for the pool.

The IREEP creates diverse portfolios of resources in order to meet any deficit. From these portfolios a "Preferred Portfolio" is developed that calculates a cost for all the resources in that portfolio to serve as a benchmark cost. This benchmark cost is also used to assess the "cost-effectiveness" of any energy efficiency programs that are potentially identified in the member's service territory as well as providing a direct comparison for any generating resources.

The current PNGC Power IREEP, dated March 3, 2009, confirms the Power Pool's commitment to achieve all "cost-effective" energy efficiency available in the member service areas, which includes Central Electric Cooperative. The IREEP uses the assumption that the pool will fund and implement all "cost-effective" energy efficiency in member service territories prior to obtaining generation from a physical resource or market purchase.

The over-all power pool's estimated available "cost-effective" energy efficiency amounts range from 35,040,000 kilowatt hours (kWhs) to 87,600,000 kWhs on an annual forecast basis in the recent IREEP. Using the Northwest Power and Conservation Council's Power Plan, PNGC extrapolates individual members' energy efficiency potential. The IREEP then breaks down the energy efficiency into sector potential for the pool: residential – 47 percent, commercial – 20 percent, industrial – 19 percent and irrigation – 14 percent.

PNGC's IREEP recognizes that implementation of energy efficiency activities take place in the member service areas. The following is an overview of the conservation potential and those areas believed to have the greatest potential for CEC. There are four drivers to CEC's conservation planning for the member-owners:

- the need to minimize higher cost resources, from the market or a physical resource;
- a regional commitment to achieve all cost-effective conservation, if not a state mandate;
- the requirement in the member service area; and
- the increasing emphasis on energy efficiency as an important member service.

All of these drivers necessitate a diligent assessment of the energy efficiency resource potential with special consideration given to those measures exhibiting the highest probability of assured energy savings.

Residential

Residential energy efficiency comprises the largest piece of CEC's conservation potential, at approximately 6,307,000 kilowatt hours or 74 percent of the total conservation annually through 2031.

Major components of the conservation potential in the residential sector are: lighting, heating and cooling equipment conversions and upgrades and weatherization. Further details on the residential sector will be contained in future IREEPs as the necessary tools are developed.

Commercial

The commercial sector is next in terms of CEC's conservation potential at approximately 911,000 kilowatt hours or 11 percent of the total conservation annually through 2031.

Most of the conservation potential in this sector is in lighting; however that is expected to change over time as new measures, such as refrigeration, are brought to the market.

Industrial

The conservation potential of CEC's industrial sector is slightly greater to that of the commercial sector at approximately 1,261,000 kilowatt hours or 15 percent of the total conservation annually through 2031.

Given the nature of the industrial sector, energy efficiency improvements are specific to the industrial process of each business. The energy efficiency measures include lighting and motors, refrigeration, pumping load and process heating. Estimated savings are dependent on each individual facility.

Agricultural

The conservation potential of CEC's agricultural sector is 87,600 kilowatt hours annually or 1 percent of the total conservation annually through 2031.

Currently the categories of energy efficiency measures in this sector are for pump upgrades and irrigation equipment.

Demand Response

Demand Response (DR) can be defined as actions taken by members to curtail electricity use during certain hours when demand could outstrip supply, system emergency, or times when wholesale prices in electricity markets are high. DR should not be confused with conservation or energy efficiency even though it is possible to have users save energy and be more efficient through participation in DR programs. Since DR is focused primarily on capacity it is not explicitly included in the PNGC Power IREEP.

Outline of Rationale for CEC

CEC works directly with PNGC Power to locate and implement conservation and energy programs that are "cost-effective." PNGC Power's IREEP identifies each utility cooperative member's achievable energy efficiency. In addition to the work with PNGC Power, CEC independently communicates and works with its members to encourage and implement energy efficiency measures within its own service area. These simultaneous parallel efforts underscore the importance CEC and PNGC place on capturing all "cost-effective" energy efficiency.

CEC recognizes that achieving all "cost-effective" energy efficiency is an important goal of the region. CEC is committed to encouraging both PNGC Power and other regional utilities to be diligent and thorough in their planning processes to establish "cost-effective" energy efficiency as a priority resource.

In conclusion, the information concerning conservation and energy efficiency in the IREEP is valuable to CEC. The cooperative recognizes all cost effective conservation is important and of value to capture.

Determination

PURPA requires "each nonregulated electric utility to consider each standard and then make a determination concerning whether or not it is appropriate to implement such standard." *See 16 U.S.C. §2621(a).*

After consideration of the information that has been provided here and consideration of other information as appropriate, the Board of Directors of Central Electric Cooperative adopts the Integrated Resource Planning as set forth in EISA 2007 Section 16. CEC is already meeting this requirement, conservation is included in CEC's IREEP through PNGC Power and adopting this standard will not require a change to CEC's planning.

Attachment A

In considering the EISA 2007 requirements for CEC's future conservation and energy efficiency plans, and the fact that CEC relies on PNGC Power's Integrated Resource and Energy Efficiency Plan (IREEP), which in turn relies upon the Northwest Power and Conservation Council's current power plan (including a region-wide Integrated Resource Plan), the information described, below, in the Council's draft Sixth Power Plan which was released in early September, is valuable for this discussion.

Northwest Power and Conservation Council

Northwest Power and Conservation Council's Draft Sixth Plan Five-Year Action Plan Regional Conservation Targets

Northwest Power and Conservation Council staff estimates that the total cost (consumer and utility bill payer) of acquiring 1200 average megawatts (aMW) (105,120,000,000 kWhs) of conservation savings over the 2010 to 2014 period is between $4.8 and $5.0 billion. If historical cost-sharing arrangements between utilities and participants in conservation programs continue, it is anticipated that utility (i.e., "bill payer") cost of meeting these five-year targets would range from $3.5 to $3.8 billion. The current level of utility conservation investment in the region is around $300 million per year or $1.5 billion over the next five years if expenditures are held constant. Therefore, the incremental cost of meeting the Draft Sixth Plan's conservation targets is between $2.0 and $2.3 billion over the next five years. To place this in perspective, current (2008) regional retail revenues from the sale of electricity totaled around $11.4 billion, including the approximately $300 million being used to pay for current conservation programs. In order to meet a regional target of 1200 aMW, regional revenue requirements (not rates) would be increased by roughly 3 to 5 percent over the period from 2010 through 2014.

These investments in conservation would create skilled jobs throughout the region as well as reduce the energy bills of those consumers, businesses and industries participating in regional conservation programs.

Background

The Power Act requires that the plan "set forth a general scheme for implementing conservation measures including an "energy conservation program." The Council has historically interpreted this directive to mean that its plan should set forth regional conservation goals/targets along with

recommendations for other actions the region should pursue to assure the region of an adequate, efficient, economical and reliable power supply. These targets usually cover the five-year period encompassed by the action plan. They serve several important functions in the region. First, they focus the region's resource acquisition activities on the least cost, lowest risk resources. Second, serve as a metric that can be used to gauge progress towards a least-cost/least-risk future. Third, utilities, system benefits charge administrators and regulatory commissions use the Council's targets to assess their own goals.

It is also important to note what the Plan's conservation targets are not. They are not year-by-year and measure-by-measure prescriptions for programs. They are not a prescription for who is responsible for accomplishing which measures or savings. Most importantly, they are not a substitute for what utilities or other program administrators are required to do under state law or utility commission rules.

Analysis

The recommended five-year regional conservation target is based on the findings from staff assessments of regional conservation potential, a review of the results of the portfolio model and the region's historic capability to ramp up conservation acquisitions. There is a significant quantity of low-cost conservation available. Over 5800 aMW of conservation are available at an average cost around $35 MWh. Findings from the portfolio model sensitivity studies indicate that, if it were not for the annual conservation development constraints placed upon the portfolio model, the least-cost path would be to develop all of the conservation costing less than current market prices as early as possible. Therefore, the primary question in setting the near-term targets is not whether accelerating conservation acquisition is the least-cost, least-risk strategy, it is whether a more rapid pace of development is realistically achievable.

The proposed 1200 aMW target for 2010 to 2014 assumes that the region can sustain and build on the pace of conservation acquisitions it achieved in 2007 and 2008. Preliminary estimates indicate that 2008 savings are likely to be in the range of 220 to 230 aMW, which is the target for 2011.

Achieving 1200 aMW of savings during the next five years will require a significant acceleration over current activity levels, adoption of new initiatives for measures not currently in programs and continued diligence to adapt conservation efforts to changing circumstances. The rate of acceleration from 200 to 280 aMW per year over five years, about ten percent per year, is well within the region's past capability to ramp up conservation acquisitions and in line with planned year-to-year increases at many of the region's utilities and system benefit charge administrators.

In the view of staff, the region is better positioned to achieve the recommended regional conservation targets than in any of the Council's prior plans. Across the region, utilities have increased their conservation acquisition activities for five years running. This is the only time over the past 30 years that this sustained increased level of activity has occurred. At both the state and federal levels, there are policies in place and initiatives underway that will enhance the region's ability to achieve these goals. Bonneville is preparing to implement tiered rates so that the value of energy savings will be more transparent to its customers. The region's utilities face

significantly increased cost of new generating resources and higher fuel price volatility, both of which are avoidable with more investments in energy efficiency. The Energy Trust of Oregon now has the ability to secure increased funding for conservation should the investor owned utilities in the state find, through their Integrated Resource Planning processes, that additional savings are cost effective.

The new federal administration has placed a high priority on energy efficiency, is directing stimulus funding towards efficiency and is using the federal appliance standards and processes to pursue aggressively higher efficiency. State energy code improvements are underway or scheduled to take place within the near future in all four Northwest states. Finally, federal climate change legislation, which appears to be likely in the near future, would confer added value to energy efficiency.

Alternatives

Staff considered two alternatives to the proposed 1200 aMW conservation target. Alternative 1 sets the five-year regional conservation target at 1000 aMW or about 20 percent below staff recommended level. Alternative 2 sets the five-year regional conservation target at 1400 aMW or about 20 percent above the staff's recommended level.

While staff believes that its recommended 1200 aMW target is realistic and achievable, others, especially public utilities in Washington, have expressed concern regarding these goals. Initiative 937 is the state law directing Washington utilities to procure all cost effective conservation and to meet an increasing fraction of their loads with renewable resources. Under Initiative 937, if a utility sets aggressive efficiency goals and fails to meet them, the utility is subject to significant fines. On the other hand, if a utility sets conservative goals, and exceeds them it can avoid the risk of being fined and still secure the least-cost, least-risk resources The lower targets are an attempt to reflect the concerns expressed by utilities that might face fines for failing to meet higher targets.

Staff rejected the lower targets for two reasons. First, the Council's targets are viewed as both a "floor" and as a "ceiling." Lower targets do not encourage utilities to be vigorous in their pursuit of conservation. Consequently, adopting targets lower than what is achievable subjects the region to a higher cost and higher risk future. Second, while staff is sensitive to problems faced by Washington utilities, it does not believe that the penalty provisions in Washington's law should influence the Council's assessment of the amount of conservation that is realistically achievable, particularly at the expense of the Council's obligation to produce a least-cost plan.

The option 3 targets are more aggressive than recommended by the staff. While achieving these higher targets would reduce both cost and risk, staff does not believe that they are dependably attainable in the near-term. That said, given the potential impact of federal stimulus funds and the increasing national support for energy efficiency, these levels of savings might be feasible in the near-term. However, since impact of the federal stimulus, funding for energy efficiency is highly uncertain at this time and these funds will have a limited window of availability, staff rejected these higher targets.

Conclusion

Accomplishing any of the least-cost/least-risk resource plans under consideration requires the accelerated development of significant amounts of conservation. If these savings are not accomplished, decisions on the need to construct other resources will move forward in time and both costs and risk will increase.

The Rate Design Modifications for

Energy Efficiency Standard

The Rate Design Modifications for Energy Efficiency Standard

The rate design modifications to promote energy efficiency investments standard provides:

> (A) IN GENERAL — The rates allowed to be charged by any 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 State regulatory authority and each nonregulated utility shall consider:
> (i) removing the throughput incentive and other regulatory and management disincentives to energy efficiency;
> (ii) providing utility incentives for the successful management of energy efficiency programs;
> (iii) including the 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; 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.

16 U.S.C. §2621(d)(17).

Outline of Rationale for CEC

Rate Design as a tool for the promotion of energy efficiency investments has recently seen an upsurge of interest; investor-owned utilities, publicly-owned utilities, municipals, associations and public utility districts are all looking at their rate structures. Utilities and utility regulators believe that rate design can have a comprehensive impact on energy use. Consequently the economic signals embedded in each rate design can affect the total use, the timing of use and consumer willingness to participate in energy conservation.

Rate Design Impacts

From the utility and consumer perspectives, electric usage, conservation and energy efficiency must provide benefits for both. Many of the previous, perfectly acceptable rate designs such as declining block or flat rates are not as responsive to the present and future electric usage circumstances. With the increasing desire to have environmentally acceptable resources and to limit the use of environmentally poor resources, conservation of electricity and more efficient use of the existing electrical generation resources are now a national, regional and local goal.

Rate Design and Impact on Use

Rate designs should reflect that the more energy you use, the more you pay; the less energy you use, the less you pay. Most rate designs combine fixed and variable (commodity) costs. A utility's fixed costs are those related to employee costs, debt service along with the wires, poles, and associated equipment; and the trucks and building owned by the utility. A utility's variable (kWh or commodity) costs are those related to the electric power purchased for resale. The utility loses money if less energy is used whether by direct conservation or by the purchase and use of more efficient equipment and there is not a commensurate reduction in power supply costs. Customers prefer low fixed customer charges. This results in the remaining fixed cost to be collected in the commodity or variable cost. This traditional type of rate design 'requires' that a consumer use some minimal level of electricity in order for a utility to collect the customer fixed cost or non-power costs. The level of usage needed is often several hundreds of kWhs. Customers whose usage level is low or below 'normal' usage are probably not making much of a contribution to the margins needed by the utility.

Decoupling Rate Designs

A rate making technique currently in vogue is 'de-coupling.' Commodity and variable costs are a separate charge from all fixed costs which is in a customer charge. The most common way of accomplishing this is to have an appropriate customer charge: a demand charge and an energy charge. The customer charge includes all fixed costs including margins. The demand charge includes only those costs associated with power costs that are classified as power-demand related. Finally, the energy charge includes only those costs that are classified as power-energy related. Both the demand and energy charges may have further components such as diurnal, seasonal, real-time or a power supply or fuel cost adjustment factor applied monthly or seasonally.

Decoupling removes the need for a consumer to use a specific amount of power in order to keep the utility whole, financially. Even if a consumer uses no power, the customer charge would collect all of the basic costs simply to keep the delivery system in excellent working order. Since CEC is self-regulated as to rate making and owned by its members, effects of de-coupling are less evident because energy rates can be raised as needed to cover power and non-power costs.

Time-Sensitive Rate Designs

Another rate design to carefully consider is time-sensitive rates. All power production, even hydro-electric generation, has aspects that are time-sensitive. Different types of time of use rates range from seasonal (summer, winter), time of use on a daily basis (diurnal rates or more subdivisions), peak/off-peak, and similar rate structures. Most of these types of rate designs require new, innovative metering that can be an additional expense for both the utility and the consumer.

The time periods for these rates should match the power costing periods in order to reflect the cost of power. If the diurnal (night/day, peak/off peak) power costs vary significantly, consumer rates need to reflect those same periods and costs. Short of full real-time rates, some

compromises will be necessary. If the differentiation between the summer and winter months is significant but is not between the months within those periods, then a summer/winter rate may be more appropriate than a monthly rate. The cost of power over an entire year (period) will help determine which type of rate is best suited.

Benefits of Disengaging Sales from Fixed Costs

One question to consider for encouraging conservation and efficient use of electric power is whether the decoupling of energy (kWhs) used from revenue needs actually helps energy efficiency. CEC will consider whether there is a need for revenue to be disengaged from sales.

Determination

PURPA requires "each nonregulated electric utility to consider each standard and then make a determination concerning whether or not it is appropriate to implement such standard." *See 16 U.S.C. §2621(a).*

After consideration of the information that has been provided here and consideration of other information as appropriate, the Board of Directors of Central Electric Cooperative adopts, in part, rate design for the Energy Efficiency standard. CEC is already moving along a path towards decoupling, which is an implementation of this standard. CEC provides a host of incentives to pursue cost-effective energy efficiency for all rate classes. However, a slow, healthy process is preferable so as to not unsettle members. In addition, it is important that there be a careful balance maintained between any increase in the customer charge and any increase in the energy charge. See Attachment B for details about CEC's conservation and energy efficiency programs.

Attachment B

Energy Star® New Homes (Site built and manufactured homes.)

A cash rebate ($800 - $1,000) is available to builders of new, certified, electrically heated homes. The local Energy Star Specialist helps get homes verified and certified. Heating contractors must be approved by CEC. Call a CEC Energy Specialist for more information.

An $800 cash rebate is available to buyers of new, certified, electrically heated manufactured homes located within CEC service territory. Full instructions and an application form are available on our website.

Heat Pump Program (Available to owners of new or existing homes.)

A cash discount ($200.00 - $1.200.00) is available to help install heat pumps properly. Pre-approval required. Call the CEC office to sign up or get instructions and an application on our website.

Energy Star® Appliance Rebates (Available to owners of homes served by CEC.)

Cash rebates ($60.00 for clothes washers, $25.00 for dishwashers) are available for Energy Star™ rated appliances, if the water heater is electric. There is a rebate of $25.00 for Energy Star™ rated refrigerators and freezers. A rebate coupon is available at our offices or on-line.

Water Heater Rebate Program (Available to owners of new or existing homes.)

A $25.00 cash rebate is available for new, qualifying electric water heaters in CEC territory. A self explanatory rebate coupon is available at our offices or on-line.

Bright Way™ Solar Water Heater Program (Available to homeowners with an electric water heater.)

A cash discount (typically $500.00) is available to help install approved solar water heating systems. Pre-approval required. Contact the CEC office (or go on-line) for more information.

Solar Photovoltaic Program (Available to any CEC account.)

Solar photovoltaic systems with an approved net metering agreement with CEC are eligible for a rebate of $0.50 per watt of capacity.

The Smart Grid Investment Standards

The Smart Grid Investment Standards

The smart grid investment standard is a three-part standard. It contains consideration requirements for smart grid investments in general, consideration of rate recovery for smart grid deployment, and consideration of cost recovery for equipment rendered obsolete after smart grid deployment.

A. General Smart Grid Investments

The general smart grid investment part of the standard provides:

> Each State [or nonregulated utility] shall consider requiring that, prior to undertaking investments in nonadvanced grid technologies, an electric utility of the State demonstrate to the State that the electric utility considered an investment in a qualified smart grid system based on appropriate factors, including
>
> (i) total costs;
> (ii) cost-effectiveness;
> (iii) improved reliability;
> (iv) security;
> (v) system performance; and
> (vi) societal benefit.

16 U.S.C. §2621(d)(16)(A).

Outline of Rationale for CEC

Smart grid generally defines how the current electricity grid will operate in the coming years. Just as the other industries have been evolving in the "digital age" those same forces are now at work on the electricity industry. Smart grid can be viewed as an electricity system in which suppliers and users are in constant communication through the use of smart devices. These smart devices allow the user to better control their home or business electrical consumption. At the same time they can also give the supplier control over electrical appliances and equipment to better manage resources with the users' permission. For an electrical cooperative, smart grid is a collection of technologies integrated through an effective communications infrastructure and software tools to provide enhanced value and services to members.

The Energy Independence and Security Act of 2007 (EISA 2007) contained a statement of support for a national policy for the development of a smart grid:

> It is the policy of the United States to support the modernization of the Nation's electricity transmission and distribution system to maintain a reliable and secure electricity infrastructure that can meet future demand growth.

P.L. 110-140, Section 1301. The statue's same section then lays out ten items that together characterize a smart grid. Those items include:

1) Increased use of digital information and controls.
2) Dynamic optimization of grid operations and resources with full cyber-security.
3) Deployment and integration of distributed resources and generation, including renewable resources.
4) Development and incorporation of demand response, demand-side resources, and energy efficiency resources.
5) Deployment of "smart" technologies for metering, communications concerning grid operations and status and distribution automation.
6) Integration of "smart" appliances and consumer devices.
7) Deployment and integration of advanced electricity storage and peak-shaving technologies.
8) Provisions to consumers of timely information and control options.
9) Development of standards for communication and interoperability of appliances and equipment.
10) Identification and lowering of unreasonable or unnecessary barriers to adoption of smart grid technologies, practices and services.

16 U.S.C. §2621(d)(16)(A).

CEC, through PNGC Power, has been involved in different aspects of smart grid over the last several years. For instance, PNGC has been an active participant on the Pacific Northwest Demand Response Project Cost-Effectiveness Working Group (DR Working Group), which is sponsored by the regions' Public Utility Commissions and the Northwest Power and Conservation Council (NWPCC); several PNGC members have already installed (AMRs) throughout their service areas, and have done an initial evaluation of demand response programs *(Please see Attachment C)*.

On behalf of its member cooperatives PNGC Power has formulated a plan for a more complete implementation of smart grid along the lines of those outlined by the Energy Independence and Security Act of 2007 (EISA 2007 Section 1301). That plan calls for the full deployment of Advanced Metering Infrastructure (AMI), the development of Demand Response (DR) programs, deployment of customer information technology such as In-Home-Display (IHD), and the integration of distributed resources. However, implementation will depend on several factors such as: how well does a particular device/program work; is it cost effective; will the devices be accepted by members, etc. With this in mind PNGC has laid out a series of pilot programs *(Please see Attachment C)* that it believes is the prudent course of action necessary before any implementation. PNGC Power is currently participating in the Bonneville Power Administration's Demand Response Pilot.

The timing of deployment of "smart meter" technology depends on an investment evaluation. CEC through PNGC Power is applying for Stimulus funding in order to potentially expedite the deployment of AMI.

Smart grid depends on numerous devices and entities and CEC has adopted a phased approach that will provide for flexibility and assure that today's investments will work with future implementation phases.

Based on the above, CEC has considered and adopted a long-range technology plan that will:

a. phase in technology that meets the cooperative's business goals;
b. deploy new technology "at the pace of value;"
c. recover costs in a manner that works for the cooperative and the consumers; and
d. use the same due diligence to evaluate costs and benefits of "smart grid" technology as any other system investment.

B. Rate Recovery

The rate recovery for the smart grid deployment part of the smart grid investment standard provides:

> Each State [or nonregulated utility] shall consider authorizing each electric utility of the State to recover from ratepayers any capital, operating expenditure, or other costs of the electric utility relating to the deployment of a qualified smart grid system, including a reasonable rate of return on the capital expenditures of the electric utility for the deployment of the qualified smart grid system.

16 U.S.C. §2621(d)(16)(B).

Outline of Rationale for CEC

Central Electric Cooperative, by its nature as a cooperative utility, generally adheres with this part of the smart grid investment standard.

Central Electric Cooperative is a not-for-profit electricity cooperative that provides electricity to its member consumers at the cost of providing such electricity. As such, the cooperative recovers all of its costs from its members through its ratepayers, that is, from its member consumers. Therefore, it would necessarily recover from ratepayers any and all capital, operating, or other costs of deploying any smart grid system.

C. Cost Recovery for Obsolete Equipment

The standard for cost recovery for equipment rendered obsolete by smart grid deployment provides:

> Each State [or nonregulated utility] shall consider authorizing any electric utility or other party of the State to deploy a qualified smart grid system to recover in a timely manner the remaining book-value costs of any equipment rendered obsolete by the deployment of the qualified smart grid system, based on the remaining depreciable life of the obsolete equipment.

16 U.S.C. §2621(d)(16)(C).

Outline of Rationale for CEC

Central Electric Cooperative, by its nature as a cooperative utility, generally adheres to this part of the smart grid investment standard.

Central Electric Cooperative is a not-for-profit electricity cooperative that provides electricity to its member consumers at the cost of providing such electricity. As such, the cooperative recovers all of its costs from its members through its ratepayers, that is, from its member consumers. Therefore, it would necessarily recover from ratepayers, in a timely manner or otherwise, any remaining book value of any equipment rendered obsolete by the deployment of a qualified smart grid system. This recovery would be based on overall rate and financial considerations of the cooperative, and might or might not be based on the remaining depreciable life of the obsolete equipment.

Determination

PURPA requires "each nonregulated electric utility to consider each standard and then make a determination concerning whether or not it is appropriate to implement such standard." *See 16 U.S.C. §2621(a).*

After consideration of the information and of other information as appropriate, the Board of Directors of Central Electric Cooperative rejects this standard at this time. CEC is participating in a plan with PNGC Power for a complete implementation of smart grid system based on appropriate factors, including:

(i) total costs;
(ii) cost-effectiveness;
(iii) improved reliability;
(iv) security;
(v) system performance; and
(vi) societal benefit

Attachment C

The following is a general discussion of future possibilities for direct load control, included as part of the PNGC Power smart grid Stimulus grant application and included here simply to inform the CEC Board of Directors of all potential aspects of what is technically feasible.

Description: Direct Load Control

Residential Space and Water Heating Direct Load Control

A Space and Water Heating program would concentrate its efforts on the residential sector. The goal of a potential program would be to develop a firm amount of capacity that can be relied on at critical times of peak demand, mainly during winter months when it is most likely to be cost effective. The time frame calls for a two year pilot program and if successful, full implementation might potentially begin in year three. Specifically, the program would:

- Install Programmable Communicating Thermostats (PCTs) and Hot Water Heater controls on 200 homes.
- Call a minimum of 4 events each year to address winter peaks.
- Analyze year one data and adjust the program based on lessons learned for year two.
- Analyze year two data and create an appropriate program based on lessons learned.
- If a cooperative chose to do this, begin implementation of full program in year three.

Air Conditioning Cycling

The purpose of an Air Conditioning Cycling program would be to test the viability of a summer-orientated demand response load control program. Efforts would be concentrated in cooperative service areas with a high portion of air conditioning demand. A pilot program would last two years at which time a decision on what course to follow based on the lessons learned. Specifically, the program would:

- Install Programmable Communicating Thermostats (PCTs) controls on 200 homes.
- Call a minimum of 4 events each year to address summer peaks.
- Analyze year one data and adjust the program based on lessons learned for year two.
- Analyze year two data and decide on program direction based on lessons learned.

Irrigation

Crop irrigation is a significant summer month load for PNGC and its members, including CEC. This load offers CEC, PNGC and the region a prime opportunity for capacity savings during summer critical peak events. However given the diversity of irrigation methods in PNGC members service area it will be necessary

to determine a number of factors. These factors include: control method, appropriate rate structure, interaction with different irrigation such as scientific irrigation scheduling. Because of the impact of weather conditions on this sector it would be necessary to have a pilot program for at least three years before proceeding with a full program. A proposed program will:

- Potentially, install control devices on 20 irrigation pumps on 30 different farms in each specific irrigation method area.
- Call a minimum of 4 events between the months of May and September to address summer peaks.
- Analyze year one data and adjust the program based on lessons learned for year two.
- Analyze year two data and again make any necessary adjustments
- Analyze year three data and decide on program direction based on lesions learned.

Commercial and Industrial (C&I)

The C&I potential program will focus on the larger users in these two customer groups. The program could target uses that cause the least impact to the customers' operations; for instance lighting in both commercial and industrial operations, and variable speed motors in industrial operations. As with the residential, the main focus of the C&I program would be on the winter peak, however the viability of using the program for summer peaks could be examined as well. This program unlike the residential and irrigation programs will also be combined with one or more of the pricing programs.

Pricing

Time of Use (TOU)

Moving to the use of AMI and the smart grid it is believed that TOU pricing (rates) will be easier for a utility to implement and more acceptable to consumers, especially residential. The PNGC TOU pilot will test these two assumptions: how much load can be shifted from the heavy load hours to the light load hours on a sustained basis; and whether or not that load shifting can be sustained through peak demand events. It is anticipated that the TOU pilot will need at least two years of operations before any assessment. The goal will be to get some percent of PNGC's members' consumers (not just CEC) to volunteer to be on the TOU rate. The rate will be open to residential consumers only.

Critical Peak Pricing (CPP)

CPP is now being tested and implemented by several utilities. Whether or not such a rate is a viable option in a winter peaking region like the Pacific Northwest is unknown. The CPP program will mainly be residential:

- One design will be with the use of in-home displays and smart thermostats controllable over the Internet.
- Call a minimum of 4 events between the months of November and February.
- Analyze year one data and adjust the program based on lessons learned for year two.
- Analyze year two data and again make any necessary adjustments.
- Analyze year three data and decide on program direction based on lesions learned.
- The test is structured in the following manner: one group of consumer participants will receive CIDs. Another group will not have CIDs. And a third control group will not receive the TOU rates. The three groups will be matched demographically and all will have smart meters.

Real Time Pricing (RTP)

RTP, because it will potentially be based on hourly pricing, will be focused on the commercial and industrial sectors. Each potential participant will be equipped with real time monitoring of their operations as well as advanced notice of the hourly prices.

Information

In-Home Display

One method for informing electric energy users is through the use of an in-home display (IHD). The IHD, in conjunction with an AMI device will allow consumers to view their energy use on a real time basis. It will also be possible to connect space and water heating units to the IHD as well, again giving the consumer real time information on their energy use. The IHD potential program will examine consumer behavior and the effects on energy use. The results will be compared with other programs.

Internet-based

An alternative to IHD as a source of information is the Internet. Under this program the customer will have access to information – but not on a real time basis. Potentially, participants will be given a smart thermostat that they will be able to operate over the Internet.

Customer Awareness

A control group for the potential information programs could simply receive mailed requests for conservation during peak load periods. Such a group would also have smart meters and to the extent possible, they would be matched demographically with other information program groups.

The Smart Grid Information Standard

The Smart Grid Information Standard

The smart grid Information Standard provides:

> All electricity purchasers shall be provided direct access, in written or electronic machine-readable form as appropriate, to information from their electricity provider as provided in subparagraph (B).
> (B) INFORMATION - Information provided under this section, to the extent practicable, shall include:
> (i) PRICES - Purchasers and other interested persons shall be provided with information on—
> (I) time-based electricity prices in the wholesale electricity market; and
> (II) 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 kWhs, purchased by them.
> (iii) INTERVALS 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 the 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 on a cost-effective basis.
> (C) ACCESS - Purchasers shall be able to access their own information at any time through the Internet and on other means of communication elected by that utility for Smart Grid applications. Other interested persons shall be able to access information not specific to any purchaser through the Internet. Information specific to any purchaser shall be provided solely to that purchaser.

16 U.S.C. §2621(d)(17).

Outline of Rationale for CEC

INFORMATION
The Smart Grid Information Standard requires utilities to consider the information available to customers and access to the information. CEC currently provides information to its members through a variety of printed and electronic forms.

Pricing

The pricing component of this standard calls for purchasers and other interested persons to be provided with information on time-based rates at wholesale and retail, or, on rates available for purchase. PNGC Power's wholesale pricing structure, for its 16 member utilities, is based on

BPA's most current preference rate and contains diurnal and seasonal pricing, variations for energy and seasonal pricing variations for demand. Wholesale pricing information related to its preference rates are available on the Bonneville Power Administration (BPA) website (www.bpa.gov) and can be used to refer to time-based wholesale electric pricing. PNGC Power bills wholesale power to member cooperatives on the same basis.

CEC establishes its own retail rates for all its member rate sectors. CEC's rate information is available on the website (www.cec.coop) and relays retail price information and any time-based component to the extent it exists.

Usage

CEC provides online billing information and electric (kWh) usage information to all customers. CEC plans to continue to provide this type of information on an ongoing basis. There are a number of information sources available on CEC's website related to rates by member sector including an e-bill log-in that allows members to see their monthly usage online, as well as many other ways to learn about electricity use, including an energy calculator.

Intervals and Projections

PNGC Power provides monthly wholesale pricing information, available to its members. Information is updated daily on the PNGC information website. At this time PNGC does not provide CEC with hourly price information. To implement an hourly pricing information capability, both CEC and PNGC Power would require an investment in software and hardware as well as personnel costs. Implementation would require additional work and added expense to CEC.

Sources

PNGC Power purchases the wholesale power that it transmits to CEC from the Bonneville Power Administration (BPA) and the market. BPA markets power from federally owned hydroelectric projects, Energy Northwest's Columbia Generating Station and various energy transfers, imports and market activities. BPA's fuel sources are approximately 89.7 percent hydro, 8.1 percent nuclear and 2.2 percent other contracts and resources, including renewable resources. Information regarding these fuel sources is available on an on-going basis from BPA or PNGC Power. CEC and the 15 other electric distribution cooperatives that are members of PNGC do not have any ability to individually direct or control the operations of, or fuel supply decisions associated with, BPA's resource mix.

CEC is a member of Power Resources Cooperative (PRC), which owns an undivided 10 percent interest in the Number One Boardman Project (Boardman), a 585 MW coal-fired generation plant, along with Portland General Electric (PGE) (65 percent), Idaho Power (10 percent), and GE Capital (15 percent). PGE operates and maintains the project. PRC is entitled to receive 10 percent of the actual project output (0 MW to 58.5 MW). CEC and 11 other electric distribution cooperatives that are PRC members each contracted with PRC for shares of capacity available after PRC's sales (if any) of Boardman's output to third parties. CEC's share of that capacity available is 10.2 percent. PRC's entire 10 percent share of Boardman's output has been sold to

the Turlock Irrigation District through December 31, 2018. CEC does not have any ability to direct or control the operations or fuel supply decisions associated with the Number One Boardman Project.

Also, as a member of PRC, CEC has a 12 percent ownership in the Coffin Butte Resource Project, a landfill gas-to-electricity renewable energy plant. PRC has sold the output of the Coffin Butte Resource Project Phase I to Consumers Power Inc. under a long-term power sale arrangement. PRC has sold the output of the Coffin Butte Resource Project II to PNGC Power under a short-term power sale arrangement. CEC and the 11 other electric distribution cooperatives that are members of PRC do not have the ability to individually direct or control the operations of fuel supply decisions associated with the Coffin Butte Resource Project.

ACCESS
Currently, CEC members with Internet access have the capability to access their own information concerning their rates and usage on CEC's website.

On behalf of its member cooperatives PNGC Power has formulated a plan for a more complete implementation of smart grid similar to those outlined by the Energy Independence and Security Act of 2007 (EISA 2007 Section 1301). That plan calls for the members of PNGC Power to consider the full deployment of AMIs, the development of Demand Response (DR) programs, deployment of customer information technology such as In-Home-Display (IHD), and the integration of distributed resources. However, implementation will depend on several factors such as: how well does a particular device/program work; is it cost effective; will the devices be accepted by members; etc.? With this in mind PNGC Power has laid out a series of pilot programs *(Please see Attachmen b, located at the back of the previous section, "The Smart Grid Investment Standards," starting on page 24)* that it believes is the prudent course of action necessary before any implementation. PNGC is currently participating in the Bonneville Power Administration's Demand Response Pilot.

The Stimulus grant application may help fund potential smart grid applications. In the future, it may be possible to expand access to information regarding member rates and usage through smart grid.

Determination

PURPA requires "each nonregulated electric utility to consider each standard and then make a determination concerning whether or not it is appropriate to implement such standard." *See 16 U.S.C. §2621(a).*

After consideration of the information that has been provided here and consideration of other information as appropriate, the Board of Directors of Central Electric Cooperative rejects adoption of this standard at this time. It is not practical at this time to provide time-based rate information due to current power supply arrangements with PNGC Power. At this time, PNGC Power does not provide CEC with hourly price information. To implement an hourly pricing information capability, both CEC and PNGC Power would require an investment in software and hardware as well as personnel costs. Implementation would require additional work and added expense to CEC. Interval information requires that updates on prices and usage be "offered on

not less than a daily basis." This requirement is not practical at this time as the technology is not in place and consumer acceptance has not been determined. CEC and the 15 other electric distribution cooperatives that are members of PNGC Power do not have the ability to individually direct or control the operations of, or fuel supply decisions associated with BPA's resource mix. Similarly, CEC and the 11 other electric distribution cooperatives that are members of PRC do not have the ability to individually direct or control the operations of fuel supply decisions associated with the Coffin Butte Resource Project. Access requires that a purchaser have access to their own information at any time through the Internet or other smart grid communications. The technology is not in place for this type of access at this time.

The Central Electric Cooperative, Inc. Board of Directors, having considered the written testimony and recommendations of CEC and PNGC Power staff, the purposes of PURPA, and both Federal and State law, adopted the determinations in this document by unanimous vote of the Board on December 17, 2009.

Central Electric Cooperative, Inc.

David C. Clemens

David C. Clemens, Chairman