

**Comments on Pedernales Electric Cooperative's
project to consider and determine whether to implement federal
ratemaking standards implementing the Public Utility Regulatory
Policies Act of 1978 (PURPA),
as amended by the Energy Independence and Security Act of 2007
(EISA), Public Law No. 110-140, 121 Stat. 1492 (2007)
Project No. 2008-TX076-0001**

Submitted by Thomas E (Smitty) Smith,
as a coop member and
as director of Public Citizen's Texas office
and on behalf its members within the PEC service area
and on behalf of PEC4U, a group of citizens interested in PEC effectiveness
**And by Karen Hadden on behalf of the Sustainable Energy and Economic
Development (SEED) Coalition and its members**

Introduction

Pedernales Electric Coop is uniquely positioned to adopt new programs, rates and rules to implement the EISA because of the forward thinking actions of its board in setting a goal of meeting 20% of growth in demand with efficiency, its approval of a precedent setting progressive power package as a part of its contract with LCRA, and because of helpful current state statutes. We appreciate the opportunity to comment. We formally request a public hearing on these issues and ask for assistance in preparing for the hearings and in developing ratemaking proposals as provided for in section 2632(b) of PURPA.

In its notice to members, PEC asked for input in four areas. Whether to:

- 1) integrate energy efficiency into PEC's integrated resource plans and establish cost-effective energy efficiency as a priority resource;
- 2) establish electric rates to align utility incentives with the delivery of cost effective energy efficiency and to promote energy efficiency investments;
- 3) consider smart grid investments; and
- 4) give PEC members direct written or electronic access and other interested persons limited access to information on time-based electricity prices at wholesale and retail, prices and usage on at least a daily basis, and sources of power provided by PEC

In the paragraphs that follow we'll address each of these items.

I

Integrate energy efficiency into PEC's integrated resource plans and establish cost-effective energy efficiency as a priority resource.

We believe it is the right decision for PEC to adopt this rule. The PEC board has already taken action to establish cost effective energy efficiency as a priority resource by its adoption of its energy efficiency goal and by its agreement with the LCRA to develop progressive power. These were great first steps, but now the challenge is how to implement these goals.

As a first step, the coop should do a voluntary survey of coop members immediately, to determine the age and size of housing stock, new homes and buildings built each year, the number and age of appliances, electric agricultural equipment, and pumps and other energy consuming devices. This will enable the coop to estimate the total number of energy using devices and equipment, the relative age of the equipment, and the energy being consumed by the various types of energy using devices. As time goes on, the coop should commission a more formal survey and repeat the process every four years to keep the data current.

Once these estimates are complete, the coop will have the knowledge needed to design programs to reduce electricity consumption either through member incentive programs, demand side management, or a combination of the two.

The coop can design special incentive programs to reduce energy use in new and existing commercial buildings, such as Energy Star "Cool" roofing, high performance glazing, roof and wall insulation, lighting upgrades, and HVAC efficiencies. The coop can also design special incentive programs for new and existing homes through a series of incentive packages that would upgrade the efficiency of appliances, promote purchases of more efficient air conditioning, better insulation, and efficient building materials, solar and geothermal heat pumps.

After these estimates are complete, and estimated costs of efficiency programs spread over the life of the measure can be determined, then the cost of efficiency programs can be accurately compared to the costs of purchasing energy from LCRA or other providers.

We suggest that the coop institute a coop-wide biannual planning process to get member input and feedback on challenges facing the coop, the options for meeting and reducing demand, options for providing customer sided generation, and contrast those options with direct and indirect, or hidden costs, such as pollution, of meeting electric demand through electrical energy purchased from LCRA or other providers.

Members should be given a series of materials to help educate themselves about the advantages of using energy more efficiently, personal benefits as well as societal and environmental benefits. Each consumer should be offered a home energy audit that would demonstrate potential savings. Home weatherization and appliance upgrades should be offered and building owners should be informed of incentives offered by the coop.

II

Establish electric rates to align utility incentives with the delivery of cost effective energy efficiency and to promote energy efficiency investments.

We support PEC adoption of this rule. We believe that in order to offer substantial and far-reaching energy efficiency and demand-side management programs, electric cooperatives need to establish rates that reflect a diminished financial reliance on

electricity consumption, favoring instead, electric rates that empower members to make their homes and businesses as energy efficient as possible yet keep their utility financially solvent.

EISA and Texas statutes give the PEC board permission to develop special services, rates, loan programs, and equipment for delivery of cost effective energy efficiency and for distributed generation programs for customers. Under Texas law, coops may “acquire, lease, sell, distribute, install, and repair electrical and plumbing fixtures, machinery, supplies, apparatus, and equipment of any kind” necessary to help the customers meet or reduce their energy use. In addition, the coop may “receive, acquire, endorse, pledge, and dispose of notes, bonds, and other evidences of indebtedness” necessary to accomplish these tasks.

From the Public Utility Regulatory Act:

JURISDICTION OF BOARD OF DIRECTORS. A board of directors (of an electric coop) has exclusive jurisdiction to:

- (1) set all terms of access, conditions, and rates applicable to services provided by the electric cooperative....
- (2) determine whether to unbundle any energy-related activities and, if the board of directors chooses to unbundle, whether to do so structurally or functionally;
- (5) determine the extent to which the electric cooperative will provide various customer services, including non-electric services, or accept the services from other providers;
- (6) manage and operate the electric cooperative's utility systems, including exercise of control over resource acquisition and any related expansion programs;

From the Electric Cooperative Corporations Act

Sec. 161.122. PROVISION OF RURAL ELECTRIFICATION. An electric cooperative may engage in rural electrification by:

- (1) furnishing electric energy to any person for delivery to a dwelling, structure, apparatus, or point of delivery that is:
 - (A) located in a rural area; and
 - (B) not receiving central station service, even if the person is receiving central station service at other points of delivery;
- (3) assisting in the wiring of the premises of persons in rural areas or the acquisition, supply, or installation of electrical or plumbing equipment in those premises; or
- (4) furnishing electric energy, wiring facilities, or electrical or plumbing equipment or service to another electric cooperative or to the members of another electric cooperative.

Acts 1997, 75th Legislature, chapter 166, Section. 1, effective Sept. 1, 1997.

Sec. 161.123. POWERS RELATING TO PROVISION OF ELECTRIC ENERG An electric cooperative may:

- (1) generate, acquire, and accumulate electric energy and transmit, distribute, sell, furnish, and dispose of that electric energy to its members only;
- (2) assist its members only to wire their premises and install in those premises electrical and plumbing fixtures, machinery, supplies, apparatus, and equipment of any kind, and in connection with those activities:
 - (A) acquire, lease, sell, distribute, install, and repair electrical and plumbing fixtures, machinery, supplies, apparatus, and equipment of any kind; and
 - (B) receive, acquire, endorse, pledge, and dispose of notes, bonds, and other evidences of indebtedness;
- (3) furnish to other electric cooperatives or their members electric energy, wiring facilities, electrical and plumbing equipment, and services that are convenient or useful; and
- (4) establish, regulate, and collect rates, fees, rents, or other charges for electric energy or other facilities, supplies, equipment, or services furnished by the electric cooperative.

This statute gives the coop board and its management broad discretion to provide a wide range of energy related services and financing options, far beyond the direct provision of electricity. It allows for home weatherization and retrofits, lease or sale of efficient appliances, solar or other customer side generation equipment or even the utilization of plug-in hybrid vehicles. This wide range of potential program options could be useful in meeting the board's goals.

Participation in these programs could be increased dramatically through a series of special rates, combined with loans for efficiency improvements or building integrated renewables. Loans could be repaid from saved energy costs over the lifetime of the measure through a charge carried on the meter or a through a mechanic and materials lien on the property.

We recommend that the coop develop loan and rate packages that would give customers incentives to:

- reduce overall energy use
- reduce peak energy use
- reward users who respond to signals to curtail energy use during periods of peak energy use
- borrow money to retrofit their homes for efficiency and recover the loan from energy savings
- borrow money to add solar or other customer sided renewable energy at their home or place of business, and recover the loan from energy savings
- borrow money to pay for energy storage devices
- charge energy storage devices and for energy repurchased from those devices that reflects the value of energy at the time of resale

We further recommend the development of rates that pay customers a price for excess energy generated by the customer that accurately reflects the full value of energy displaced at the time the energy is generated.

Finally, we recommend the development of loan programs for plug-in hybrid electric cars, special late-night charging rates for plug-in hybrid vehicles, and a fair buyback rate for energy resold from these vehicles at peak.

III

Consider smart grid investments

We support PEC adopting this rule to consider smart grid investments. The coop should take advantage of a number of new state and federal programs to help develop a smart grid. We believe that this will result in lower overall costs to consumers, allow the integration of new appliances that can reduce energy use at peak times and allow the integration of new lower cost and lesser-polluting plug-in hybrid vehicles.

Energy storage technology can be deployed on a smart grid at various points, eliminating or delaying the need for transmission upgrades. Thermal energy storage can be deployed at homes, businesses, and institutional buildings. Battery storage can be used to meet needle peaks, maintain grid stability, and offset needs to upgrade local distribution systems.

Electronic controls, whether deployed in advanced appliances, through “add on controls” on individual appliances such as water heaters, programmable thermostats or building control units can improve reliability, reduce peak demand and thus reduce costs. Customers won’t participate in these efforts unless they are educated and see a measurable reduction in costs, so it is important to keep them informed and help them understand the personal, societal, and environmental value of electronic controls.

Rate packages should be offered that utilize time of use structures, reflecting the coop’s actual costs of buying energy from LCRA in real time, or at least in blocks for peak time, shoulder hours, and at base. Fixed price rate packages should also be offered to customers who choose not to participate, are at home 24 hours a day, or who are disabled and need electronic life support equipment. Customers who choose not to participate should be given a series of materials to educate them on the advantages to them, to the coop and to the environment. In addition, they should be prioritized in being offered a home energy audit that would demonstrate potential the savings on utility bills from home weatherization, from appliance upgrades and through using time of use controls on various appliances and energy consuming devices.

As the use of plug-in hybrids (PHEV’s) increases, new grid interfaces will have to be developed in various locations. These can be: outdoor plugs, interfaces tied to timers to take advantage of off-peak rates, solar covered parking areas to recharge cars during the day or parking lot plugs that allow car batteries to be used as reserves to avoid micro-peaks and increase grid stability. By 2020 it is estimated that one-fifth to one quarter of all new cars will be plug-in hybrids. These vehicles will consume between 1.4-6 kW for 2 to 6 hours of use, depending on whether they are compact

cars or SUVs. Estimated energy use for 1 million vehicles ranges from 1,400 to 1,600 mW. This load could match perfectly with nighttime wind generation if vehicle charging is timed to take advantage of excess wind power. Most of these interfaces will require grid expansion and may require smart grid applications to maximize the off-peak benefits and minimize the on-peak loads.

IV

Give members direct written or electronic access and other interested persons limited access to information on time-based electricity prices at wholesale and retail, prices and usage on at least a daily basis, and sources of power provided by PEC.

In order to communicate the value of these technologies, customers should be given access to real time energy use and market clearing price or actual LCRA energy cost data on the internet, and have the ability to use the internet to reduce energy use by presetting and controlling energy consuming devices such as air conditioners, dryers and water heaters. For those households that do not have internet access, a programmable “kitchen counter” display and control unit should be offered. In each case, billing should reflect the cost and pollution reduction impact of the consumer’s smart energy choices compared to their energy use in previous years.

Customers’ individual usage patterns should be protected and considered absolutely private, unless privacy is explicitly waived by the customer and the waiver is confirmed through a phone call by the coop. Aggregated customer usage patterns by user class, community, and types of business or residence information should be available on the internet so that parties and service providers may advise the coop and its members of new technologies and packages that could help reduce energy use.

Testimony by behavioral scientists at the state legislature pointed out that the most effective way to reduce energy use is to compare a family’s energy use with that of their neighbors. We urge the coop to develop a method to compare the energy use in the consumer’s home compared to unidentified neighbors’ homes, both with and without electronic energy use controls and efficiency measures.

Many coop members are becoming increasingly concerned about the environmental impacts of power production, such as global warming, smog, acid rain, mercury, and fine particle pollution. The coop should disclose the pollution resulting from the use of electricity each month on consumers’ electric bills in three different ways.

- the overall number of pounds of each pollutant - carbon, nitrogen oxides, sulfur, mercury and fine particles - per month based on the amount of energy consumed (e.g. 1,680 lbs of CO₂)
- the gross emissions from LCRA, broken out by generating plant type
- with a rate per month per mWh compared to other utilities in Texas

This data is submitted to the EPA’s Clean Air Markets database and is imperfectly reported on the PUCT’s Power to Choose website. This data will allow consumers to

see both individually and on a utility scale how their energy consumption choices impact air pollution.

Conclusion

The PEC board has taken the first steps to allow customers to reduce their energy use through efficiency, demand side management and installation of customer sided renewable energy by setting aggressive goals for 2020. In order to take the next steps, we urge the coop to:

- adopt the ratemaking principles within EISA
- set a baseline year for measuring reductions in energy consumption
- survey coop members to determine what the age and usage is for their varied types of appliances and other energy consuming devices
- review best practices in other coops
- develop programs appropriate to Central Texas of sufficient size to allow the coop to meet the board's goals
- compare the costs of these programs to power purchased from LCRA and other suppliers
- hold a series of member meetings to ask for input
- develop a series of proposed rate structures, incentives and loan programs to achieve the energy goals
- analyze opportunities to use the grid in smarter ways and to store energy
- apply for federal and state incentive programs as soon as possible
- develop the technology to give members time of use pricing signals
- develop technologies to utilize smart appliances, home controllers and other demand side management technologies
- develop communications and billing software that would allow instantaneous and monthly summary of energy use, time of use, and related emissions information
- review the plan, programs, progress and make adjustments each two years

We think if PEC were to adopt these policies they would not only be the most progressive coop in the state, but potentially in the nation. We would welcome and applaud such leadership and offer to help to develop programs to implement this vision.

Respectfully Submitted

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