

PURPA Standard: Rate Design for Energy Efficiency

Columbia Water & Light position paper

2007 PURPA STANDARD

Section 532 of the Energy Independence and Security Act of 2007 amends PURPA 111(d)(17) by adding a new standard that requires consideration of “Rate Design Modifications to Promote Energy Efficiency Investments.” The statute states:

(17) RATE DESIGN MODIFICATIONS TO PROMOTE ENERGY EFFICIENCY INVESTMENTS.—

(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 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; 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.

(A) RATE DESIGN TO PROMOTE ENERGY EFFICIENCY

Columbia Water & Light has changed their rate structure over the years to encourage energy efficiency. The declining block rate structure was changed to a flat rate structure in the nineties. In 2004, an inverted block rate structure was adopted. During the non-summer months of October through May, residential customers pay a lower price for the first 750 kilowatt hours of usage in a month. Customers pay 36% more for electric consumption over 750 kilowatt hours. During the summer months of June through September, there are three tiers of rates according to usage. The first 750 kilowatt hours are the cheapest, a higher rate is paid for the next 1,250 kilowatt hours and another 8% increase is charged for electric usage above 2,000 kilowatt hours. A similar rate structure is in place for the Small General rate classification. The Large General and Industrial rate classes are charged for energy and demand. The demand charge is based off

the highest monthly demand in a thirty minute period. Therefore, customers pay a lower rate if they maintain a higher load factor.

(B) POLICY OPTIONS

(i & ii) Removing Disincentives & Providing Incentives for Energy

Efficiency: At the end of 2008, Burns and McDonnell completed an Integrated Resource Plan for the City of Columbia. It included data on the benefit cost ratio of various demand side management programs. In many cases the cost of 'buying' energy efficiency from the customers was less expensive than producing or buying the energy in the future. The Integrated Resource Plan was accepted by the Power Supply Task Force on August 27, 2008 and the City Council approved the plan on September 8, 2009. The Columbia City Council implemented the first round of suggested demand side management measures in the summer of 2009. If the Columbia City Council approves additional funding for the remaining Demand Side Management measures, the utility could save approximately 33 megawatts over the next 20 years. Annually, this would save the electric utility \$7 million in today's energy market.

(iii) Rate Goal: Balancing Energy Efficiency with Other Objectives: The staff of the Rates and Fiscal Planning Division reviews the cost of service and the electric rates at least once a year. The last rate case study performed by a consulting firm, Virchow Krause Company, was completed in September 2007. Both internal and external reviews of rates have included the goal of sending the correct price signal to customers to ensure that electricity is used efficiently.

(iv) Energy Efficiency Rate Designs for Each Customer Class:

The inverted block rate structure for residential and small commercial customers encourages energy efficiency. For Large General and Industrial customer classifications, there are separate charges for demand and energy. Customers in this class are encouraged to keep their summer demand low since the minimum demand rate for the year is based of 75% the highest summer peak demand, even if the demand goes below this level.

(v) Timely Recovery of Energy Efficiency-Related Costs:

Columbia Water & Light collects data from customers on energy savings when they participate in most of the utility's energy efficiency programs. In the summer of 2009, the Columbia City Council approved additional demand side management programming. Included in this package was a Rate Analyst position charged with collecting data and verifying the benefit of the efficiency programs. The utility will alter energy efficiency incentives as needed to insure the benefit cost ratio is favorable to both the utility and the customers.

(vi) Offering Energy Efficiency Programs: Columbia Water & Light currently offers the following energy efficiency programs:

- Free energy audits
- Energy efficiency rebates

- Low interest loans for energy efficiency upgrades
- Home Performance with Energy Star
- New Home Energy Star Rebates
- Discounted high efficiency heat pump electric rate
- Tree Power (free shade tree for electric customers)
- Load Management
- Online energy audits
- Compact fluorescent light bulb rebate
- Conservation Tips video series
- lighting rebates (commercial only)
- Infrared inspections (commercial only)
- Compressed air leak detection program (commercial only)
- Load Shedding program (commercial only)
- Building Operators Certification program (commercial only)

In the advertisements for the energy efficiency programs in 2009, the theme of “I am a resource” and the tagline, “I save energy, I save money, I save the environment” conveyed the environmental benefits of saving energy.

Customers are notified about state and federal incentives for energy efficiency through electronic and printed material, interaction with staff and through vendors in Columbia.