

# **Time Based Metering and Communications Columbia Water and Light**

## **BACKGROUND**

Columbia Water and Light is required by the Energy Policy Act of 2005 to address Standard 14 in regard to time based metering and communication. The utility is to consider time based metering and communication.

## **COLUMBIA WATER AND LIGHT CURRENT ACTIVITIES**

Columbia Water and Light works to encourage conservation of energy supplied by the utility and to optimize the efficiency of the electric utility's facilities and resources. While some programs target specific groups of customers, there are programs that can assist all customer classes in achieving efficiency improvements. For years, Columbia Water and Light has utilized rates to help communicate to customers varying costs of energy. Two examples of how existing rates are related to Standard 14:

1.) Time-of-use pricing is set for a specific time period and typically does not change more than twice a year. All customers of Columbia Water and Light are covered by time-of-use pricing structures. Energy and demand pricing for Industrial and Large General Service customers are higher during the summer season than the non-summer season. Residential and Small Commercial Customers are subject to higher summer rates when usage exceeds an established level – 750 Kilowatt Hours (kWh) for Residential customers and 1,500 kWh for Small Commercial customers. Columbia Water and Light offers many programs, such as low-interest loans, that can assist customers in reducing their usage, particularly during the summer months.

2.) Credits for consumers who participate in pre-established peak load reduction agreements can reduce the utility's planned capacity obligations. Columbia Water and Light has been utilizing credit programs for over twenty years. The three credit programs run by Columbia Water and Light are:

A.) Load Management Discount – This program provides a three percent discount on summer bills for customers that allow the installation of a load control switch on their air conditioner. Over 13,000 customers participate in this program. It is estimated that six to nine megawatts (MW) of peak load was avoided in 2006 through this program.

B.) Load Shedding Program – Larger customers (those using over 250 kW) can receive a credit of \$48 per kW (applied over a 12 month period) for each kW shed at the request of the utility. Twenty-two customers participate in this program. All customers have recording meters that can calculate the reduction in load. During the summer of 2006 peak period, 7.6 MW of load was avoided through the Load Shedding program.

C.) Interruptible Rate – Columbia Water and Light provides an interruptible rate. The rate provides a discount to the customer for interrupting usage when called on by the utility. There are currently two customers that participate in this rate. These customers

also have recording meters that can measure the reduction in load. During the summer of 2006 peak period, 1.3 MW of load was avoided through the Interruptible Rate program.

As stated previously, Columbia Water and Light has numerous conservation, efficiency and educational programs that work in tandem with the existing rate structures.

Customers are able to see that energy costs change during different seasons and have an economic incentive to participate in energy and demand reduction.

### **FUTURE CONSIDERATIONS**

Columbia Water and Light will continue to examine programs, services, or rate structures that provide value to the utility and the customer. Current considerations are increasing the discount for participating in the Load Management Program, pay-as-you-go metering and a fixed network Radio Frequency (RF) for gathering metering information. These initiatives would require a cost benefit analysis to determine if they are a viable option. The Columbia City Council would make the final decision on any new programs or services.

Pay as you go meters allow the customers to purchase smart cards or tokens that would represent a monetary value of energy. The customer is provided an interface that is capable of uploading energy credits to the meter through a smart card. The meter shuts off after the credits (supplied through the smart card) are used. The customer pays for the electricity prior to using it and is much more aware of their daily usage and cost.

Almost every new electric meter that is installed by the City of Columbia is equipped with the RF technology. This enables a vehicle to drive by and download the usage. This technology could be modified to provide time of use information either by modifying the existing system or adding a fixed network through out the city. Drive-by systems can only collect data as often as the vehicle is sent out which currently is once a month. A fixed network would be able to download the time of use information daily. It would require an extensive network of collection nodes costing between \$2,200 and \$3,000 each. The range of the collection nodes is only a couple of blocks.

It should be noted that real-time pricing, where rates can change hourly, has been examined and has been determined not to be of interest to the utility at this time. Because the utility provides approximately 90% of energy requirements through established contracts and local resources, there is not a significant variability in pricing. For the times where variability does occur, hourly costs are not available until well beyond a time that would be meaningful to the customer.