



## TIP 294: Membership in EPRI Program 182 Understanding Electric Utility Customers

### Context

The electricity industry faces growing demand for power and the imperative to maintain reliable, affordable service while reducing carbon emissions. Utilities and policy makers in the United States and abroad are turning to energy efficiency and demand response resources meet these needs. BPA works collaboratively with others to “fill the pipeline” of energy efficiency opportunities for utilities to offer their customers.

The Electric Power Research Institute (EPRI) is an independent, non-profit company performing research in coordination with its members, which represent approximately 90% of the electricity generated and delivered in the U.S. In September 2012, BPA and EPRI co-sponsored the National Energy Efficiency Roadmapping Summit to create a shared research agenda, identifying technologies and research efforts that would accelerate the energy efficiency resource nationwide.

EPRI has created a research framework to evaluate the readiness of emerging end-use technologies for utility programs, along a continuum spanning technology scouting, assessment and lab testing, research and development (R&D) field testing and demonstration, coordinated early deployment, and full program rollout.

Participation in EPRI projects includes “membership” in their base program for a particular topic, plus additional opportunities to join “supplemental projects” defined to meet the needs of a subset of utilities and other partners, and funded separately.

### Description

This TIP project 294 covers the base membership in Program 182, called “Understanding Electric Utility Customers” which is focused on three categories of behavioral inducements: pricing structures, information provision (or feedback), and control technologies. The base program elements include the following types of components:

- Behavioral Program Readiness Assessment
- Technologies to Support Behavioral Programs
- Systems to Support Intelligent Building Management and Behavioral Programs: The State of the Market
- Putting the Customer in "Customer Interface": An Assessment of The Design and Usability of Behavioral Product Design Approaches

- Characterizing and Measuring How Price and Demand Response Influence Wholesale Price Formation
- A Framework for Effectively Integrating Demand Response into Wholesale and Retail Market Operations

### Why It Matters

Other industries have developed detailed knowledge of their customers’ preferences and behaviors for decades, driven to do so by competition. Obtaining customer intelligence has been an important element of single-provider utility operations as well, but the focus has been more directed to measuring customer satisfaction rather than on developing an in-depth understanding of when and how they use electricity. Utilities are grappling with the knowledge that customers will play a pivotal role in seeing that technology deployments and investment benefits are fully realized, but their level of understanding of these needs and wants is insufficient to meet the task at hand.

With new technologies being added to the grid to enable greater consumer participation in how they manage their electricity usage, there is an opportunity for the electric utility industry to get customers actively and sustainably involved in electricity usage decisions. However, fundamental research is required first to identify the root drivers of utility customer behavior. Examples are the effects of rate structure, feedback, and control technologies on customer response, and response variation by the customer segment. Subsequent field tests are necessary to verify behavioral models and quantify their impact over a range of customer and market circumstances.

This project is related to BPA’s commitment to acquire cost effective energy efficiency. BPA has determined that in order to meet its energy efficiency goals cost effectively over the long term, it is necessary to conduct ongoing R&D and emerging technology research. This includes development and adoption of energy-efficient and demand response technologies to accelerate their adoption into utility programs, influencing the progress of codes and standards, and ultimately creating market transformation – achieving the savings at little or no cost to the utility.

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## Goals and Objectives

Objectives for this project include:

- Understanding of best practices and evaluated results from behavior related energy efficiency programs to contribute to sustainable savings from broad program offerings
- Insights from demand response program offers and associated financial arrangements

**Project Start Date:** January 1, 2013

**Project End Date:** December 31, 2013

## Reports & References (Optional)

## Links (Optional)

## Participating Organizations

EPRI

## Funding

Total Project Cost:	\$1,053,086
BPA Share:	\$127,239
External Share:	\$925,847
BPA FY2013 Budget:	\$127,239

## For More Information Contact:

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