

Gulf Power

Raising the bar for automated residential price-based demand response programs

BACKGROUND

Gulf Power Company, a subsidiary of Southern Company, is located in northwest Florida and serves more than 455,000 residential customers. Long recognized as a leader in demand-side management (DSM) at the residential level, Gulf Power continues to drive innovation in the area of automated price-based demand response. The Gulf Power Energy Select program was initiated in 2000 and has the distinction of having been the first fully-automated critical peak pricing (CPP) program in the country.

Many electric utilities now find themselves compelled by local, state and federal regulators to increase efficiency and sustainability measures while continuing to meet an ever-growing demand for electricity.

“The Energy Select program results in significant improvements in customer satisfaction and proven reductions in peak demand. Itron has been a valued partner in helping us bring this innovative program to the marketplace. It was only natural that we would extend our work with them to enhance the Energy Select program by adopting the IntelliSOURCE platform.

By leveraging Itron’s comprehensive suite of hardware, software and services, we expect to further meet our program goals of continued improvement in customer satisfaction, reduced generation needs and more effective use of existing capacity.”

–David Eggart
Energy Efficiency Supervisor, Gulf Power



CUSTOMER

Gulf Power

SERVICE TERRITORY

Located in Northwest Florida, Gulf Power serves more than 455,000 residential customers.

GOALS

- » Reduce generation needs
- » Better use existing capacity
- » Enhance customer satisfaction and value

SOLUTION

Itron-hosted demand management software platform IntelliSOURCE® Enterprise™ equipped with IntelliTEMP® smart thermostats and IntelliPEAK® digital control units

BENEFITS

- » Lower customer energy prices 87 percent of the time
- » Up to 15 percent annual savings on electricity bills
- » Customer satisfaction rates as high as 95 percent
- » Peak load reduction per household (at critical peak) is 1.1 kW in the winter and 1.7 kW in the summer

Demand management, in the form of a reliably-controlled demand reduction during critical-peak periods, has become a popular tool to meet these demands. However, the challenge for utilities with this type of program is to obtain the amount of load control and verification they require while sufficiently incentivizing customers to participate. The type of price-based demand response program supported by Energy Select is time-of-use/ critical peak pricing (TOU/CPP), wherein a critical-peak component is added to a time-of-use rate. Other types throughout the country include real-time pricing (RTP) and peak-time rebate (PTR). Currently, there is no predominant price-based demand response program within the industry, although CPP has been seeing more widespread interest and use.

Since its inception in 2000, Energy Select has been recognized by Newsweek magazine, the Wall Street Journal and the National Society of Professional Engineers. Besides being the first program of its type anywhere in the United States, it is seen as a state-of-the-art technology that is re-inventing the concept of energy efficiency.

SOLUTION

When Gulf Power launched the innovative Energy Select IntelliSOURCE Enterprise program in 2000, they did so with the help of the leader in the demand management industry—Itron. The relationship between Gulf Power and Itron produced what continues to be one of the country's largest and most successful critical-peak pricing programs. Energy Select attracts voluntary program participants through cost savings and satisfaction.

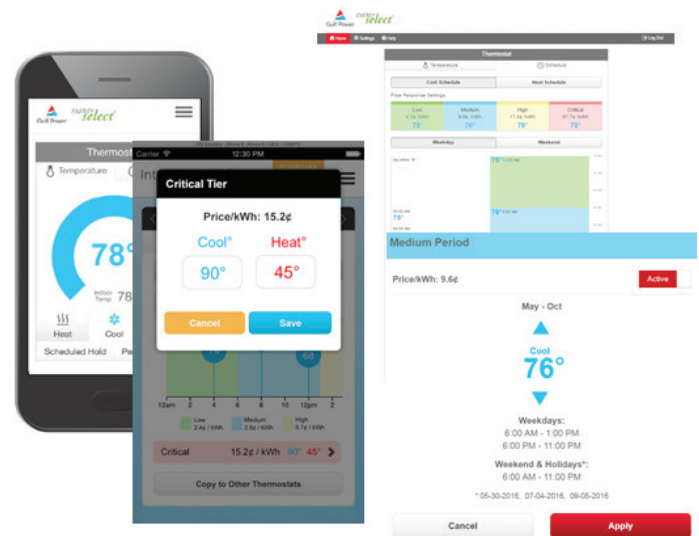
In December 2011, Gulf Power extended its relationship with Itron to advance its industry-leading CPP program. Executed as part of a Master Services contract between Southern Company and Itron, the agreement enables Itron to provide technology and services to all Southern Company operating companies. This partnership with Gulf Power includes the deployment of the Itron IntelliSOURCE Enterprise software platform and Itron devices such as IntelliTEMP smart thermostats and IntelliPEAK digital control units.

RESULTS

Following the switch to broadband communications and more user-friendly technologies, Energy Select has experienced substantial increases in participation, improved cost-effectiveness and higher customer satisfaction rates. Gulf Power is also now using Energy Select to provide additional benefits to the utility outside of its original scope.

In the six years following the technology upgrade, Energy Select added more participants than enrolled in the first ten years. The program now has more than 19,000 participants, who enjoy greater control over their energy usage and lower energy prices. Despite the increase in active customers, Gulf Power also saw a steep decline in customer service calls – from an average of 6,000 a year to about 2,000 a year. Customer attrition with the program also declined from 20 percent annually to less than two percent. The savings associated with a decline in customer

As a sophisticated system that puts total control at the customer's fingertips and offers the potential for significant bill savings, Energy Select is deserving of its national recognition as one of the most advanced systems of its kind.



With IntelliSOURCE Enterprise, the capabilities of the Energy Select IntelliSOURCE Enterprise program were upgraded to manage devices through a two-way IP network using customers' broadband Internet connections. The program utilizes a variable pricing rate that features four different prices based on the time of day, the day of week and the season that reflect the actual cost of producing electricity during those periods.

Energy Select participants can automate their home energy usage by programming their energy management devices through an easy-to-use Web portal created by Itron. Accessing the portal at home or on the go from their smartphone, tablet or computer, customers pre-program their central cooling and heating systems, electric water heaters and pool pumps to respond automatically to specific pricing tiers and dynamic price signals from Gulf Power enabling participants to "set it and forget it."

service calls as well as equipment removals helps contribute to the program's cost effectiveness as well as increases customer satisfaction. The Energy Select program now has an incredibly high customer satisfaction rate of 95 percent, and nearly 90 percent of participants say programs such as Energy Select improve their overall satisfaction with Gulf Power.

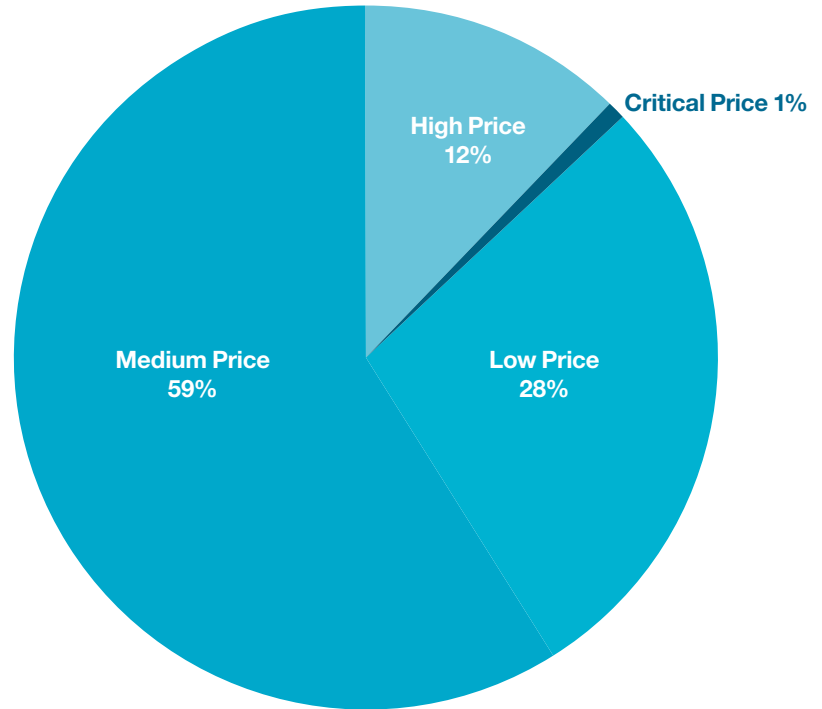
The program also delivers a high amount of load per household and cumulative megawatt total that makes the program a meaningful load resource for Gulf Power. In the winter, peak load reduction per household is 1.2 kilowatts, providing approximately 23 MW of load. In the summer, each household provides 1.7 kilowatts, giving the utility capacity of 32 MW. This substantial amount of load has enabled Gulf Power to defer building additional generating facilities. Learn more about the program at www.gulfpower.com/energysselect.

One powerful example of the value of Energy Select happened during a recent summer when a tripped breaker at a Gulf Power substation nearly caused a widespread power outage in the utility's crowded Destin, Florida service area. For the first time, Energy Select was used as a targeted solution to provide relief, averting costly equipment damage and impact to customers. When a breaker at the Destin substation tripped, power was forced to be re-routed, resulting in a doubled load on one of the substation's feeders. The following day, as temperatures rose, and load climbed rapidly on this feeder, it became clear that decisive and fast-responding measures would have to be taken to preserve the equipment and keep customers' lights on. The decision was made to call a critical-peak pricing event that afternoon. The 139 Energy Select customers, in the area of the affected

feeders, supplied the trouble spot with the targeted load reduction needed. This enabled Gulf Power to positively impact thousands of customers' satisfaction by utilizing load from just 139 households.

The effectiveness of the solution in this emergency case, demonstrates the rising operational value of the program and the greater role it may play in Gulf Power's supply stack.

Residential Service Variable Pricing Rate



Percent of Annual Hours in Effect

Gulf Power's Energy *Select* participants see lower energy prices 87% of the time.



Join us in creating a more **resourceful world**.
To learn more visit itron.com

CORPORATE HQ

2111 North Molter Road
Liberty Lake, WA 99019 USA

Phone: 1.800.635.5461

Fax: 1.509.891.3355

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