

WATER & WASTES DIGEST

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PROBLEMSOLVER

By Randolph Palombi

Save Power, Earn Cash

California water agency
generates new revenue stream
through demand response



DWA has rolled out several sustainability initiatives recently, including the installation of hundreds of solar panels to provide its facilities with renewable energy.

Demand Response

Demand response is an energy management program through which energy users can earn revenue by agreeing to curtail their electricity consumption during periods of peak demand or real-time system emergencies. These programs can be a powerful tool in an organization's overall energy management strategy and can help to support environmental sustainability. Some of the many benefits are as follows:

Financial. Organizations earn revenue for their participation—for their commitment to curtail, as well as actual electricity curtailed—during demand response events.

Market. Participation in demand response programs contributes to grid stability, lower market prices for energy and less risk of blackouts and brownouts.

Environmental. By reducing the peak electric load on the grid, demand response participants help reduce the need for more power plants, lowering carbon dioxide and other emissions. Individual companies that reduce their consumption of electricity also reduce their carbon emissions.

In 2008, Desert Water Agency (DWA), a regional pure water supplier, partnered with CPower to enroll its Palm Springs, Calif.-based facilities in demand response programs through Southern California Edison (SCE). For more than 40 years, DWA has been committed to delivering pure water to the residents of Palm Springs. The group continues to improve and update its 25 pumping sites throughout the city in order to make sure it maximizes quality and efficiency. DWA supplies water to more than 47,000 residents and takes pride in delivering high-quality water to its large customer base.

In recent years, DWA has rolled out a series of initiatives demonstrating its dedication to conservation and sustainability. One of these initiatives is the rollout of the "Smart Irrigation Controller" that helps manage water used for irrigation to make sure it is used more efficiently. DWA has also invested in hundreds of solar panels that supply its facilities with renewable energy.

Finding a Demand Response Program

DWA's sustainability efforts have not only been deployed in the name of environmental conservation, but also in an effort to reduce costs and save customers money. Among its sustainability projects, the agency's most significant revenue was generated through DWA's participation in demand response.

Demand response programs call on electricity users like DWA to reduce consumption during critical times, such as periods of peak demand, reducing the likelihood of brownouts and blackouts. Electricity users receive payments for their participation, including such as periods of peak demand, reducing the likelihood of brownouts and blackouts. Electricity users receive payments for their participation, including commitment to reduce consumption and actual reduction during an event.

Prior to enrolling with CPower, DWA participated in a demand response program directly through its utility, SCE. The program offered through SCE was a demand bidding program, which was an Internet-based bidding program that offered DWA the opportunity to receive bill credits for voluntarily reducing its load when instructed to do so during an event. In 2008, DWA participated in 13 events and earned nearly \$43,000 in payments as a result. While DWA liked the flexibility and payments of the demand bidding program, the water agency was interested in finding a program that could offer a larger payoff for its participation.

After evaluating several demand response providers, DWA found that CPower would be the best fit. Based on CPower's level of experience with SCE and the demand response provider's ability to offer flexible solutions, DWA was confident that the partnership would be successful.

"Our primary reason for participating in demand response was to reduce our power costs, which are the greatest costs we face," said Steve Johnson, operations engineer for DWA. "SCE's demand bidding program was a no-risk program, which worked well for our agency, but we were looking to increase our cost-reduction benefits. After speaking with CPower, we learned that their program was also a no-risk program but would be much more lucrative for us to participate in."

Program Details & Advantages

Once CPower and DWA began working together, the two collaborated to evaluate which CPower demand response program would work best with the

agency's operational requirements. They determined that the CPower SCE Annual Demand Response Program would best meet the water agency's needs. This program allows DWA to participate and earn revenue year-round.

"In Palm Springs, winters are very mild and summers are extremely hot. For us to be able to participate in a program that can go annually and reap the benefits throughout the year is a great opportunity that other providers weren't offering," said Johnson.

During the initial phase of the program, CPower worked with DWA to identify a curtailable energy load of 3.7 MW, which would not have an adverse effect on the water agency's daily operations. Under the terms of the agreement, DWA is required to curtail energy after receiving notification of an event and accomplishes this by temporarily shutting off pumps and wells for the duration of the demand response event.

By participating in CPower's SCE Annual Demand Response Program, DWA is expected to earn approximately \$115,000 in capacity and energy

By participating in CPower's SCE Annual Demand Response Program, DWA is expected to earn approximately \$115,000 in capacity and energy payments each year—more than double its earnings from the previous program. Thus far, DWA has not experienced any adverse effects resulting from its participation in the demand response program. Instead, the agency has realized significant benefits such as being able to lower its costs and pass savings on to its customers, while contributing to the reliability and stability of its regional electrical grid.

"The extra revenue that we will earn as a result of our participation in CPower's demand response program will definitely help alleviate some of the economic pressures we've felt as a result of the recession," said Johnson. "We hope to leverage this additional earned revenue to not only reduce costs for our customers but to invest in other future sustainability investments as well." ■

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