



Taking Full Advantage of Demand Response Programs in Texas

There is a “perfect storm” brewing in the state of Texas—both literally and figuratively. The literal aspect involves the hurricanes, tornados and ice storms that cause frequent and often extended power outages throughout the state. The figurative aspect is the relative isolation of the electric grid in Texas, which comes under considerable stress during periods of peak demand.

The Electric Reliability Council of Texas (ERCOT) is responsible for managing the supply of electricity for 23 million Texas customers representing 85 percent of the state’s electrical load. With no ability to tap into the national grid, Texas is on its own to provide adequate power during periods of peak demand. And when that peak demand exceeds total available supply, ERCOT has no other choice but to subject customers to rolling brownouts and blackouts.

To avoid subjecting its customers to these disruptions, ERCOT has implemented an aggressive demand response program. This Solution Brief describes how organizations can receive considerable financial benefit from participating in ERCOT’s Emergency Response Service program.

ERCOT’s Emergency Response Service

Demand response programs like ERCOT’s Emergency Response Service (ERS) operate on the simple principle that there are only two ways to respond during a period of peak demand: increase supply or reduce demand.

Increasing supply is very expensive. The reason is the high cost to operate “peaker” power plants that must have “spinning reserve” capacity available at the ready when needed, making the price for this power on the wholesale market considerably more expensive than the power provided by baseload plants.

Because peaker power is so expensive, ERCOT is willing to pay a comparable amount for organizations participating in its ERS program. While rates change constantly, ERCOT is currently offering over \$80,000 for every Megawatt reduction in demand. The demand response aggregators receiving this payment from ERCOT normally pay participating organizations about 80 percent of that amount, which translates into \$64 per kilowatt.

Demand Response

The U.S. Federal Energy Regulatory Commission defines demand response (DR) as “changes in electric use by demand-side resources from their normal consumption patterns in response to changes in the price of electricity, or to incentive payments designed to induce lower electricity use at times of high wholesale market prices or when system reliability is jeopardized.”

Digital Energy Network

dig•i•tal en•er•gy net•work \ di-jə-tl e-nər-jē net-wərk \ n (2012) **1** : a turnkey system that consolidates and centralizes the monitoring and management of an organization's disparate energy assets **2** : a means for improving operational readiness while dramatically reducing operational expenditures **3** : a way to simplify participation in the cost-saving and revenue-generating opportunities enabled by the smart grid



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Organizations participate by committing to reduce demand during peak events through a number of means, such as temporarily shutting off large loads (e.g. motors, pumps or compressors) or firing up backup generators.

There is good news and bad news for organizations choosing to participate. The good news is that recurring payments, based on the committed response, are received whether or not there is a demand response event. And in some years there are none.

The bad news is that when there is an event, organizations must respond with 10 or 30 minutes, depending on program chosen. For organizations that manage their energy assets manually, this makes it difficult or impossible to participate.

Enabling DR—and More—with a Digital Energy Network

Blue Pillar's Digital Energy Network makes it both simple and safe to participate in demand response programs, like the one from ERCOT, as well to improve business continuity, and regulatory and environmental compliance by enhancing the readiness, reliability and security of mission-critical power systems.

The Digital Energy Network provides a way to monitor and manage all of an organization's distributed and disparate energy assets from a single, centralized console. The assets can include any that either generate or consume electrical energy, and the network can optionally interface with other energy management systems, including those for buildings, campuses and/or microgrids, thereby providing a holistic view with real-time situational awareness of and total control over the organization's entire energy infrastructure.

When notice comes that a demand response event is occurring in 10 or 30 minutes, a facility manager can use the console to immediately take the actions necessary to reduce less-critical loads and/or fire up the backup generators, making adjustments as required to satisfy the commitment.

One reason organizations include generators when participating in demand response programs is that these must be tested under full load periodically anyway. The use satisfies the test requirement, and the income received helps to cover the cost of the replacement fuel.

In the future, when the Open Automated Demand Response (OpenADR) standard is implemented by the DR aggregators, Blue Pillar's Digital Energy Network will be able to respond automatically according to the facility manager's instructions.

Conclusion

In addition to enabling organizations to participate in lucrative demand response programs like ERCOT's Emergency Response Service, Blue Pillar's Digital Energy Network helps reduce overall operational expenditures and affords many other cost-saving advantages that combine to yield a rapid payback and high ROI.

To learn more about how your organization can benefit from a Digital Energy Network, please visit Blue Pillar on the Web at www.bluepillar.com or call (888)234-3212.