

MHT

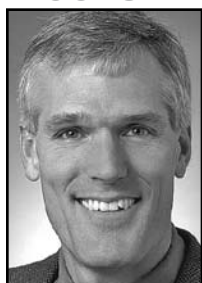
MASS HIGH TECH

THE JOURNAL OF NEW ENGLAND TECHNOLOGY

Demand-response systems help firms save energy, money

The mercury is rising in New England and if this summer is anything like the last, then with it comes the possibility of ISO-directed brownouts to help manage peak

GUEST COLUMN



Peter Kelly-Detwiler

demand of the region's electrical grid. For facility managers and CEOs alike, this presents the dual challenge of finding efficient and reliable ways not only to keep the lights on for business offices and facilities across the region, but to do it in a fashion that helps to alleviate its impact

on the grid.

Strategically managing energy needs during summer's peak demand season requires taking a holistic look at overall business operations — from evaluating shift management and production processes to fully integrating HVAC systems and introducing standard energy efficiency practices such as demand-response programs. Demand response is a comprehensive program designed to allow companies to review operations and energy consumption and identify overall management practices, which will be of value when the heat is on outside and throughout the winter heating season as well.

How does demand response work? Most facilities already have a management system in place that integrates lighting, heating, ventilation, air conditioning, and miles of electrical outlets and plugs onto one platform. Enhancing this platform to integrate load response metering and real-time

market pricing enables a business to elevate its energy management and conservation efforts well beyond dimming the lights or lowering the thermostat. This broader understanding of energy-consumption needs better equips a company to evaluate and curtail demand or limit usage at certain peak times during the year. Those who can capitalize on this knowledge and ability through a demand-response partnership with an energy supplier have the potential to reap significant savings and reimbursements worth thousands of dollars.

Commercial and industrial customers, such as office buildings, hotels and universities, that demonstrate an ability and commitment to curtailing at least 100 kilowatts of electricity, can sign up to participate in an ISO Demand Response program through a competitive energy supplier. In essence, demand response creates a “virtual” peaking plant where instead of the ISO resorting to firing up older gas, oil or coal plants to meet the demand during peak periods, it harnesses the energy conservation efforts of the customers themselves. In exchange, participants receive substantial monthly payments throughout the year, and as further incentive, earn the market price or a minimum of \$350 per megawatt-hour of the electricity curtailed during the actual event.

While one response to an ISO's directive to curtail the energy load on the grid is to fire up the backup generators, there are increasingly more sophisticated and environmentally sound ways to limit energy consumption during peak times and all year round. Today, companies can also invest in building on-site solar or wind for power generation. On-site solar or wind genera-

tion can be part of a more comprehensive approach to evaluate the energy needs of every component of a facility. This comprehensive approach puts companies in a position to contribute to the larger effort of preventing regional blackouts, without resorting to antiquated on-site generators and the issues of run-time and air emissions that accompany them.

It is also worth noting that every time a business can cut energy usage during periods of peak demand, it reduces the need to build more power plants. During last summer's ISO Emergency Event, called on Aug 2, 2006 by ISO New England Inc., a curtailment in energy use by participating facilities resulted in a reduced load on the grid by 512 megawatts. According to a subsequent report from the ISO, this was the equivalent of an entire natural gas power plant that did not have to come on line during a period of peak prices.

In today's energy markets, companies need to be thinking about energy as a strategic asset that impacts every aspect of a business. Demand response, coupled with other energy efficiency programs, has proven to be an effective way to leverage a company's energy investments for the maximum benefit. But, more importantly, a business can gain the ability to limit its energy needs, thereby turning what could have been an expensive drain on the bottom line into a profitable commodity.

PETER KELLY-DETWILER is senior director of energy technology services for Constellation NewEnergy, a national, competitive supplier for commercial and industrial customers with offices in Boston. He can be reached at peter.detwiler@constellation.com.