

POWER PROFILE

Customer: Heber Light & Power

Location:

Heber City, Utah, USA

Customer Business Issue:

Balancing electrical demand and energy costs through peak load shaving

Solution:

Two Cat® G3516A gas generator sets
Two Cat G3516C gas generator sets
Three Cat G3520C gas generator sets
One Cat G3516H gas generator set
One Cat G3520H gas generator set

Cat® Dealer:

Wheeler Machinery



Heber Light & Power employs a peak load shaving strategy to offer a reliable source of power as well as steady utility prices for 11,000 customers in Northern Utah.

POWER NEED

Heber Light & Power delivers 37 MW of power to about 11,000 customers in the northern Utah municipalities of Heber City, Midway City and Charleston Town –the co-owners of the utility – as well as customers in Daniel, Independence and Wasatch counties served through franchise agreements. Located 45 minutes from downtown Salt Lake City at an elevation of 5,600 feet (1,707 meters), these communities face the challenge of meeting the power demands of a growing, increasingly affluent population base in an area where the energy sources are limited.

“The population in the Heber Valley grew 5 percent between 2010 and 2015. This growth has significantly increased the demand for electricity in the valley from new homes and commercial properties,” said Alan McDonald, chairman of the board for Heber Light & Power. “With so many of our new residents coming from nearby metropolitan areas, they expect the power to be on no matter what.”

SOLUTION

Heber Light & Power keeps the electricity flowing through a peak load shaving effort that includes nine gas generator sets from Caterpillar. Around the clock, analysts at Heber Light & Power examine hour-by-hour wholesale energy prices to determine the most cost-effective combination of potential power sources to meet demand at any given time. When it costs less for the utility to address a portion of the demand by generating its own electricity, technicians fire up a carefully selected array of Cat generator sets to fill the need.

“These generator sets help us manage our resources and keep the cost of power down,” McDonald stated. “With this option, we don’t find ourselves in a position where we have to buy electricity at top dollar during the high peak demand time.”

Heber Light & Power’s first Cat generator sets were four refurbished units purchased from an Arizona mine, and the utility has returned to the local Cat dealer, Wheeler Machinery, on numerous occasions for additional generator sets to meet the ever-growing need for power in the valley. Today, the utility operates nine units, each ranging from 750kW to 2.0 MW of electrical output. In early May of 2015, the utility added the first ever Cat G3512H generator set delivering a world-class electrical efficiency of 42.8 percent as part of Caterpillar’s pre-production engineering validation testing.

RESULTS

On afternoons and early evenings in the summer when local demand peaks at 37 MW and the cost of purchasing energy on the energy markets is expensive, Heber Light & Power may strike all nine generator sets. During the spring and fall when demand is lower, days can go by when all the generator sets are quiet.

“Our Cat generator sets work well for our needs because they start fast and operate at high speed,” said Jason Norlen, general manager for Heber Light & Power. “You don’t sustain anywhere near the penalties you would see with larger turbines. It’s nice to be able to strike a 2MW unit when all you need is 2 MW of power.”

The payoff for Heber Light & Power’s shrewd management of energy sources is seen in customers’ utility bills every month. While a large investor-owned utility nearby has raised rates numerous times in the past decade, Heber Light & Power has kept rates steady. Remarkably, Heber Light & Power has only raised rates five times since 1982.

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"When we go off our base load projections and into peak load requirements, Caterpillar gives us the opportunity to utilize onsite generation instead of market-priced power," explained Norlen. "This capability has allowed us to manage peak load usage, keeping rates stable over the past 10 years and allowing us to anticipate and manage our resource requirements."

Norlen cited the quick response from Wheeler Machinery as a key element in Heber Light & Power keeping their electricity costs low. "Wheeler is so reliable with manpower and tooling, I only require one generator technician on staff. Without their timely response, I might need five technicians."

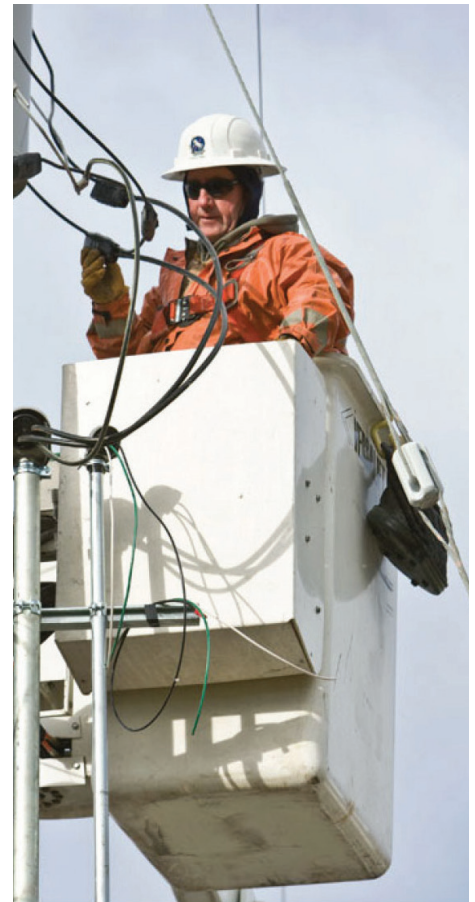
"We are proud of our track record in working directly with Heber Light & Power to show

them how they can effectively maintain their equipment and keep their customers' rates down," added Josh Kinsey, product support representative for Wheeler Machinery.

The reliability and ready availability of the Cat generator sets will enable Heber Light & Power to add sustainable sources of energy, including renewables, to the utility's mix of power sources on an accelerated timetable.

"As we diversify our power portfolio with more renewable, green resources like wind, our Cat generator sets will become even more important, as they provide firming power at those times when the wind doesn't blow," Stewart said.

For more information, please visit cat.com/powergeneration



Heber Light & Power uses the most cost-effective combination of potential power sources to meet demand at any given time, which includes an array of nine Cat® gas generator sets ranging from 750 kW to 2.0 MW.