Reliance Metalcenter lowers energy bills by 15 percent with Stem

Reliance Steel & Aluminum Co., a Fortune 500 company and the largest metals service supplier in North America, has a network of more than 300 locations in 39 states and 12 countries. The company’s 75,000-square-foot metalcenter near San Diego, CA uses large industrial machinery for cutting, burning, splitting and straightening of sheet metal and plates for the maritime, construction and capital goods industries.

The high costs of maintaining state-of-the-art processing and distribution equipment require the company to operate with maximum efficiency and cost-effectiveness. In response to rising demand charges and increasing complexity of energy rates, Reliance turned to Stem for a flexible solution that can quickly adapt to changing loads and rates.

Reducing demand without increasing labor costs

The metalcenter’s second-biggest expense is the cost of equipment operation, including maintenance, repair and energy. Its heavy machinery consumes large amounts of electricity for short durations, resulting in a spiky load profile and sky-high demand charges.

Demand charges are based on the brief intervals of highest usage during each month. This means that just 15 minutes out of an entire month can have disproportionate influence on electricity costs. Not surprisingly given its rollercoaster load profile, Reliance’s demand charges run three times as high as its kWh energy charges, comprising about 75 percent of the monthly electric bill. With local utility demand rates increasing by a whopping 50 percent over the past three years, and with no way of planning for or controlling such changes, management searched for an easy way to lower costs.

Job one for Reliance management was lowering energy bills and protecting their business from the financial risk of changing rates. But the catch was how to do this without increasing labor costs. Absent a team dedicated to energy management, the solution had to be self-driving.

Stem has proven to be a reliable source for cost savings, with little to no human involvement needed on our side.

Sunshine Villagomez
Office Manager
Reliance Metalcenter

Location
National City, California

Building Type
Metal processing

Demand Charge Reduction
20%

Activation Date
July 2015

System Size
36 kW

Annual net savings
$5,200

10-Year Estimated Savings
$52,000
Selecting an experienced and knowledgeable partner

Sunshine Villagomez, the Reliance Metalcenter office manager, said the decision to subscribe to Stem’s storage service was easy. Stem’s offering provided an immediate payback with no capital outlay. It was easier to implement compared with other energy technologies. And Stem demonstrated superior experience deploying and operating energy storage. They found that Stem had more on-the-ground experience than all other providers combined.

Villagomez credited Stem with being a knowledgeable and valued partner throughout the assessment and implementation. “The Stem team has been very helpful,” Villagomez said, noting that Stem manages the entire process, from incentive documentation to installation, and is responsive and accessible. “Stem has proven to be a reliable source for cost savings, with little to no human involvement needed onsite.”

Responding in real time to operations and rate fluctuations

Stem’s turnkey service stores power when energy use is low, and releases that power when use is high. Stem’s machine learning platform constantly monitors real-time energy data, utility rates, and demand response opportunities to maximize bill savings, pivoting automatically to respond to changes in load or rates. Meanwhile, the team at Reliance can focus on their core business.

I love the idea of it all. There is very low maintenance required, and it’s been super helpful with our energy bills.

Sunshine Villagomez
Office Manager at Reliance Metalcenter

While Stem’s intelligence platform automatically optimizes the timing of energy use, it simultaneously warns staff of upcoming demand spikes or changes to electricity rates so they can take additional action if they choose. It visualizes historical, real-time and predicted energy consumption and costs, making energy reporting a breeze.

To provide an optimal system sizing recommendation and accurate savings estimate, Stem employed its advanced analytics tool, which assesses electricity tariffs, load patterns and the availability of grid programs, then simulates the impact of various system sizes. Stem selected the configuration that would maximize the net value for Reliance.

Getting paid to support a sustainable grid

Reliance earns valuable grid rewards by being part of Stem’s storage network and providing on-demand power during peak times. Reliance not only offsets its costs by earning revenues for supplying these services, but also contributes to a smarter, more sustainable grid. By digitally linking the energy storage system at Reliance with the rest of its distributed storage network, Stem minimizes the need for the utility to fire up more polluting natural gas peaker plants.

Capturing financial and operational benefits

Since the system was activated in July 2015, Reliance has reduced its demand charges by 20 percent, translating to 15 percent bill savings. Stem’s service allows Reliance to achieve its goal of reducing energy costs without adding to labor costs.

Stem is working with Reliance to expand its deployment of intelligent storage throughout more facilities as new markets and grid programs become available in other states.

About Stem

Headquartered in Millbrae, CA, Stem creates innovative technology services that transform the way energy is distributed and consumed. Our mission is to build and operate the largest digitally connected energy storage network for our customers. Our world class analytics optimize the value of customers’ energy assets and facilitate their participation in energy markets, delivering economic and societal benefits while decarbonizing the grid. Learn more at stem.com.