

U.S. Silica Uses Energy Flexibility to Earn Demand Response Payments



Industry

Mining/manufacturing



Location

Jackson, TN



Program

TVA-Enel X
Demand Response



Annual Payments

\$30,000+

U.S. Silica is a major supplier of silica, a key industrial mineral used in a wide range of products, from roofing materials to ceramic plumbing fixtures to floor tiles. The company mines silica at multiple locations in the U.S., then processes the raw material to meet exacting customer specifications.

U.S. Silica has been enrolled in demand response (DR) programs since 2008, starting with a facility in Jackson, Tennessee. U.S. Silica enrolled the plant in the TVA-Enel X Demand Response program offered in partnership with its local energy provider, Jackson Energy Authority. The plant views DR as integral to reducing energy costs, demonstrating the company's commitment to the environment, and supporting the local community.

Annual DR payments of more than \$30,000 to a single facility provide a strong bottom-line benefit to the company, helping it lower high energy costs that are one of the facility's largest operating expenses.



Taking Advantage of Excess Capacity

The process for mining and processing silica is energy-intensive and involves high-horsepower equipment such as dryers, fans, and mills.

Enel X worked closely with managers at the Jackson facility to integrate demand response into its operation. “Enel X set up the hardware and made it easy to get connected,” says Larry McKibbin, Plant Manager. “Now we can really see our energy usage, and it’s definitely improved our efficiency.”

When a demand response dispatch begins, the Jackson facility temporarily shuts down its silica processing operation and reschedules production. This temporary shutdown, which can last between two and eight hours, reduces U.S. Silica’s electricity usage during periods of peak demand. Mining continues, unaffected.

“We continue processing whatever material we have running at the time,” says Dan Sim, Production Manager at the facility. “Then we empty out processing equipment, shut it down, and step down our entire operation.”

Flexibility in the process enables U.S. Silica to suspend processing temporarily without affecting its overall business—or its customers. The site has stockpiles of processed silica, and there are other U.S. Silica locations that can fill any short-term needs. The company simply reschedules production to another time.

Protecting the Community from Grid Interruptions

Enel X helps ensure the reliability of the energy grid during peak periods by reducing demand. By being part of the TVA-Enel X Demand Response program, U.S. Silica protects the other businesses (including key customers) as well as the residents of the region.

“Being part of demand response is tangible proof of our company’s commitment to sustainability and giving back to our community,” says Sim. “What sparked our interest was that it was a chance to give back to the community by protecting it from blackouts. We have major industrial customers near us that are also key employers in our community. If we can help avoid bigger problems by shutting down temporarily, then it’s simply doing the right thing.”

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