

Customer Success Story: Jemez Mountains Electric Cooperative

Market segment
Utility



Eaton's innovative modular substation helps Jemez Mountains Electric Cooperative quickly add capacity to meet customer demand

Location:

Blanco, New Mexico

Challenge:

Complete a major substation upgrade within an aggressive project timeline to meet significantly expanding customer demand

Solution:

Eaton's modular integrated transportable substation (MITS) and turnkey engineering support from substation design to assembly and delivery

Results:

A portable, expandable design in a compact footprint engineered to accommodate current and future power needs—designed, built, commissioned and ready to energize two months after breaking ground

"Eaton's modular substation design enabled us to meet our members' evolving power requirements much faster than a traditional solution."

Joseph Sanchez, general manager at Jemez Mountains Electric Cooperative

Background

Jemez Mountains Electric Cooperative (JMEC) was founded in 1947. The member-owned cooperative began as a small hydropower generating station in Jemez Springs, New Mexico, serving three families. Today, JMEC is the largest electric cooperative in the state, serving consumers in the counties of Rio Arriba, Santa Fe, San Juan, McKinley and Sandoval.

Recognizing its roots as a member-owned cooperative, JMEC strives to provide reliable and affordable power throughout diverse service areas. Additionally, as part of its customer commitment, the cooperative aims to provide innovative solutions that satisfy the evolving electric energy needs of its members.

Challenge

In 2014, JMEC was faced with the challenge of quickly adding transmission capacity and a dedicated electrical feed to meet the needs of an expanding industrial customer. The utility quickly realized it would need to expedite the construction of a new substation to serve the significantly expanding load.

However, adding complexity to the project, the customer asked JMEC to complete the project as soon as possible so it could quickly energize its new systems.

As an electrical cooperative, JMEC has limited resources available for project management and engineering support. The utility also resides in an extremely remote location, which can translate into much higher delivery, labor and support costs.



Powering Business Worldwide

In February 2015, Eaton met with JMEC and pitched the capabilities of its Electrical Engineering Services & Systems team, one of the largest and most experienced teams of power system engineers in the industry. During the meeting, Eaton presented the modular integrated transportable substation (MITS) solution, an innovative electrical power distribution substation platform assembled on a self-supporting structural base or trailer, and wired together at the factory to minimize complexity and costs.

Eaton believed the integrated power assembly would be the best solution to reduce the engineering time required for the project. Plus, factory assembly would eliminate construction and weather-related delays to help maintain the customer's desired timeline.

Eaton also had the advantage of being able to include its industry-leading Cooper Power™ series pad-mounted voltage regulators. The integrated solution provides state-of-the-art voltage regulation while reducing installation costs and preserving a more aesthetically pleasing environment.

After consulting with other vendors, no one else was able to match Eaton's proposal, lead-time, scope or technology. As a result, Eaton was awarded the project.

Solution

The factory-assembled MITS incorporates a portable, expandable design in a compact footprint engineered to accommodate current and future power needs. To maximize available footprint, JMEC's configuration included pad-mounted switches and integrated switchboards. Cooper Power series reclosers and voltage regulators were also included within the skid to improve reliability and power quality.

For enhanced safety and security, the MITS platform was engineered with tamper-proof, locked enclosures in a completely self-contained design. In addition, Eaton used totally enclosed shield-grounded medium voltage cable to prevent the environmental and wildlife damage prevalent with open-air systems.

The modular substation was completely factory-assembled, wired and tested to JMEC's requirements prior to delivery to help minimize on-site labor and reduce project costs. This allowed the on-site team to seamlessly install the unit within days instead of weeks.

For reliable startup, Eaton engineers provided turnkey installation and commissioning services to improve safety and increase load-serving capacity. The turnkey offering also included continued field support and rapid response in the event of unexpected issues.



Results

Working with Eaton, JMEC was able to easily create a replicable model for rapidly meeting growing customer demand with safe, reliable, high-quality service. The flexible, expandable design of the substation will also provide the scalability to form larger, more complex substations to easily accommodate future capacity.

Thanks to Eaton's factory wiring, testing and assembly, the project was completed ahead of schedule. The modular solution and other substation equipment were designed, built, commissioned and ready to energize two months after breaking ground.

"Eaton's unique approach to

substation design enabled us to meet our members' evolving power requirements much faster than a traditional solution," said Joseph Sanchez, general manager at JMEC. "The factory-designed and tested substation also helped decrease overall project costs to support our goal of providing our customers with high-quality, affordable electricity."

To learn more, visit
Eaton.com/MITS.

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