Utility bolsters reliability, communication with Eaton RTU upgrade

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Utility representative

Location:
Northeastern U.S.

Challenge:
Aging substation RTUs were instigating numerous service problems for the utility company, coupled with a lack of available parts to service the units.

Solution:
The utility deployed customized, cutting-edge RTUs with Eaton, ensuring seamless configuration, commissioning and deployment.

Results:
Eaton’s RTU upgrade has not only increased reliability but also significantly improved device communication, facility telemetry and security.

Background
Serving approximately 265,000 residential and business customers, this Northeastern utility company strives to meet the needs of consumers through integrated energy services. Driven by its mission of using energy as a force that improves lives and transforms communities, the organization helps customers use less and save more by generating clean, cost-effective and reliable power.

Challenge
While the utility is committed to leading-edge approaches, its antiquated remote terminal units (RTUs) were not contributing to those strategies. Installed in the ‘80s, the vintage equipment posed a number of issues, including frequent failures, spotty communication and limited maintenance opportunities due to obsolete hardware in a rural utility setting. In addition, the RTUs provided no cybersecurity and didn’t operate on multiple platforms.

Solution
Initially commissioning the replacement of three RTUs in the summer of 2019, the utility gained a powerful package in the new Eaton units. Eaton provides a completely equipment agnostic and customized solution, including Eaton and hardware from a variety of different manufacturers, as specified by the utility.

Because Eaton assembles the entire RTU, utilities gain peace of mind by ensuring consistency, significant time savings and a hassle-free solution. “We provide everything,” Quirion explains, “from engineering to integration, as well as construction, project management and commissioning.”

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Indeed, Eaton designs each RTU, specifies and assembles all the components, within a custom-fabricated control cabinet, then pre-commissions the entire integrated assembly. “When it’s time to deploy, the utility has a single, completely integrated and tested unit versus individual component replacement,” Quirion notes. Deployed seamlessly, the new Eaton RTUs have resulted in a dramatic boost in reliability. “We have significantly improved communication,” confirms the company’s representative. “Our previous RTUs had a fixed number of inputs, so we could only receive a limited amount of data. With the new system, we’ve not only gained highly reliable communication but also additional telemetry and the ability to communicate to other devices and poll information from sites as needed.”

Even more, the upgrade has eliminated the utility’s need to constantly dispatch technicians to troubleshoot problems. “Not only is the equipment reliable, we can also access everything remotely,” the spokesperson shares. “And because we now have a digital system, we are able to configure everything and, if needed, make changes on the fly.” As part of the engineering package, Eaton also updated the utility’s site drawings, assuring accuracy and integration during future system upgrades. The representative emphasizes that the task underscores an unparalleled level of attention to detail that was apparent throughout the entire project. “We chose Eaton over others for their proven engineering excellence,” he says. “Anybody can build or install a cabinet. But having Eaton compile the complete solution from start to finish gave us a lot more bang for our buck.”

In addition, the organization values the expertise that Eaton brings to the table. “What differentiates Eaton as a partner is that they understand all of the facets,” the representative explains. “They recognize the customer’s needs and requirements, the contractor’s expectations and installation constraints, as well as the programming, fabrication, project management and safety aspects.”

Due to the positive experience, utility plans are already underway to replace the company’s remaining 20 RTUs with a similar Eaton customized and integrated solution.

Results

Upon commissioning, the utility continues moving forward with its modernization goals. With the new models, the company is now able to:

**Enhanced speed of deployment**

- Enjoy dramatically improved communication with equipment in the field
- Save time and gain consistency through consolidated units
- Preserve manpower and bolster productivity with remote access capabilities
- Ensure seamless deployment and compatibility thanks to the completely integrated solution