



Central Hudson Expands Distributed Energy Resource Capabilities with Sensus

NEW YORK UTILITY ADVANCES RENEWABLE ENERGY TRANSFORMATION



CHALLENGE

Modernize and adapt in the midst of Distributed Energy Resources expansion

SOLUTION

Remote Telemetry Module™ (RTM II) for remote monitoring and control

REACH FARTHER

Optimize assets for ongoing smart grid advancement

Alternative energy powers innovation at [Central Hudson Gas & Electric Corporation](#). Homes with rooftop solar panels and expansive, commercial solar farms are part of the utility's 2,600 square-mile service area between the northern New York City suburbs and the state capital of Albany.

"We have a long-term vision that aligns with the state's commitment to sustainability," said Central Hudson's Smart Grid Team Leader, Kevin Post. "The growing push for renewable energy creates new opportunities for our customers."

Transitioning away from a traditional distribution model in a territory covering nearly 400,000 electric and natural gas customers isn't as simple as flipping a switch. Technology has helped the utility seize the opportunity for new grid controls while ensuring quality and reliability as demand evolves.



"I want other utilities to be aware of this product and how simple it makes things. Instead of a frustrating experience trying to figure out how to accomplish your challenges, you can use this technology. It just works."

KEVIN POST, *Team Leader, Smart Grid, Central Hudson Gas and Electric Corporation*

A new generation

Central Hudson established its [distributed generation program](#) within the broader context of New York State's [energy plan](#) to foster an innovative, clean energy economy. The program brought new possibilities and incentives to customers but also introduced a few challenges.

"You can't advance sustainability at the expense of efficiency or reliability," said Post. "We needed to make sure we had the right level of visibility and control over our grid."

The utility found their solution in a wireless communication processing tool they had begun to implement with longtime partner [Sensus](#), a Xylem brand. Post and his team deployed the Sensus [Remote Telemetry Module™](#) (RTM II) initially to monitor grid conditions and protect against outages. The Distribution Automation (DA) system uses Intelligent Electronic Devices placed strategically across their network to help them monitor and control distribution assets.

"Our automatic load transfer (ALT) systems have reduced the duration of electric service interruptions by 10 percent," said Post. "Sensus technology helps us ensure these units are online and operational."

Central Hudson has expanded the DA solution to include monitoring and control of Distributed Energy Resources (DERs), which encompass small-sized power generation units that attach to the grid and enable the utility to introduce renewable energy sources, such as solar power.

Solar on the grid

As solar farms grew in their rural northeast territory, Central Hudson recognized the potential for excessive grid backflow and overvoltage that could cause system damage. The utility wanted to protect infrastructure and mitigate potential issues in a simple and cost-effective way as more solar farms came online.

"We didn't want to start from scratch," said Central Hudson Engineer Ryan Yakush. "We knew our available connectivity and recognized the potential to build something with our current resources."

The utility's engineering team came up with a design for a direct transfer trip, or (DTT) system that would communicate from the interoperable RTM II with circuit breakers and reclosers. The system can automatically isolate a DER when a condition exists that can lead to excessive reverse power flow or overvoltage is detected and help ensure grid stability.



"It's a simple design that required little hardware or investment for set up," said Yakush. "So we recognized the potential to launch the solution on a large scale."

Acing the test

Central Hudson put its automated DTT system through two months of testing during which the Remote Telemetry Module's interoperability proved quick and conclusive.

"We extensively tested the setup and dedicated eight hours to add each solar farm to the system, but it took less than 20 minutes to get it done," said Post. "The module performed exactly as we envisioned."

The simulations confirmed energy efficiency and improved asset management as well as an opportunity to further enhance cybersecurity. The power provider used Sensus DA hardware products to easily integrate with their solution in a plug-and-play fashion.

"The system's one-way flow of communications helps protect against data breaches," said Yakush. "That's important in a smart grid framework where applications will only grow more interconnected."

Sensible solution

After successful testing, Central Hudson moved forward with a rollout of the DTT system in their northeast region. The solution has now been installed across five solar



The team at Central Hudson Gas & Electric optimized existing assets to safely and reliably connect solar farms to their smart grid.

farms with sizes ranging from two to five megawatts. The team anticipates that the ease of configuring the system will make it easy to add more installations in the future.

"We love the Sensus system and know it like the back of our hand, so to add new capabilities is not a problem," said Yakush. "Hardwiring a DTT used to take weeks to add a commercial solar farm to our system, now the automation work is completed in the time it takes to get a cup of coffee—15 minutes or less."

Post also weighed in, "I want other utilities to be aware of this product and how simple it makes things. Instead of a frustrating experience trying to figure out how to accomplish your challenges, you can use this technology. It just works."