

# Dakota Valley Electric Cooperative combines traditional service values with a modern grid.

Verizon Grid Wide Utility Solutions

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**Utilities all across America's heartland are at a crossroads. For decades, they've worked hard to bring critical water, power and gas services to rural populations. They've driven miles and miles across highways and byways to take meter readings, service equipment, make upgrades and more. They've built relationships with the people they serve. But an aging infrastructure and dated equipment is quickly becoming too costly to sustain, and customers increasingly want more control over the services they use. Utilities must now find a way to continue to meet the needs of their customers while finding ways to operate more efficiently.**

Bringing a utility grid into the future is not a simple task. It requires making fundamental changes to operations and infrastructure—a daunting task for an industry that has typically been more conservative when it comes to implementing new technologies. The key is finding a solution that allows a utility to modernize without sacrificing traditional service values. That allows for innovative disruption without being disruptive to service delivery. For Dakota Valley Electric Cooperative, the answer was Verizon Grid Wide Utility Solutions.

## Facing an uncertain future

As one of 17 distribution cooperatives in North Dakota, Dakota Valley Electric Cooperative provides dependable electric power and energy to nearly 4,200 rural members in the southeastern area of the state. With more than 4,700 miles of line and only 32 full-time employees and three shared employees, efficiency is key to meeting the needs of its members. Most of the company's existing advanced metering infrastructure (AMI) system had been in place for nearly 20 years, and no longer supported evolving business needs.

Dakota Valley knew that it was time to make a big change, but it didn't want to invest in a solution that wouldn't meet all its needs now, or that wasn't agile enough to grow in the future. It needed a solution that would provide more reliable meter reads, reduce the need for truck rolls, and decrease maintenance issues and outage times to improve the customer experience. So the utility began researching modernization options.

After evaluating both power-line carrier systems and radio frequency (RF) offerings, Dakota Valley came to the conclusion that neither option made sense for the

**Customer profile:**  
Dakota Valley Electric Cooperative

**Location:** Southeastern North Dakota

**Company size:** 32 full-time employees

**Service area:** 4,200 members spanning eight rural counties

**Line length:** 4,700 miles

**Number of meters:** 9,300

**Previous metering infrastructure:** 20-year-old power-line carrier systems and radio frequency (RF) offerings

current needs or future plans. “The RF networks and power-line carrier technology have a lot of extra components that could potentially fail. And we know that because we’d seen them fail with our existing system,” said Nick Bollinger, meter technician for Dakota Valley Electric Cooperative.

That’s when Dakota Valley turned to Verizon Grid Wide Utility Solutions.

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### Modernizing an aging grid

Verizon Grid Wide is an Internet of Things (IoT) platform that offers electric, water and gas utilities complete, fully integrated grid modernization solutions for smart metering, demand response, meter data management (MDM) and distribution monitoring and control (DM&C). This single end-to-end platform integrates all of the technologies needed for successful grid modernization to save utilities the complexities and cost of building out their own solution.

And it’s implemented on Verizon’s reliable 4G LTE network and private IP network communications, so there’s no need for new wiring and no large capital investments in head-end platforms, management software, networks or communications equipment like collectors, repeaters, routers, firewalls and servers. No time spent staffing and training an IT/OT team. No communications management. Verizon takes care of it all.

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### Testing the limits of Grid Wide

The simplicity of Verizon Grid Wide was immediately appealing, but because so many of Dakota Valley’s members are in extremely rural areas, the utility wanted to test the solution first to make sure it would

work in even the most remote locations. “Initially, there were concerns just with our members being so rural, we didn’t know if we could get coverage for all our meters. We wanted a pilot process just to verify that we could,” said Seth Syverson, manager of engineering for Dakota Valley Electric Cooperative.

To alleviate those concerns, the company partnered with Verizon to implement a pilot program with 200 smart meters in areas that were typically plagued with poor cell service or unreadable power-line communication (PLC) meters. Verizon recognizes that making the decision to modernize a grid system is a significant one, and is committed to taking a customer-centric approach to help facilitate a successful implementation. So Verizon worked closely with Dakota Valley throughout the pilot process, first making sure that the utility’s existing services integrated into the platform, and then gathering feedback and implementing suggestions to customize the platform and help make sure it was meeting all the utility’s needs. The results were impressive.

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### Exceeding expectations

During this pilot period, Dakota Valley was able to achieve 99.99% reliability on meter reads, which was one of its primary goals for the test. On top of that, Verizon Grid Wide exceeded expectations in other ways as well. Suddenly, Dakota Valley had more information at its fingertips than ever before. Instead of having to send out a truck to patrol miles of line trying to manually troubleshoot a problem, the Verizon Grid Wide platform automatically sent alerts with the information needed to quickly pinpoint and assess issues, vastly improving the efficiency of truck rolls. “In the pilots, we were able to get more accurate billing reads so we could reduce the number of truck rolls and having to go out and solve those issues manually. So we’re saving money with that,” added Syverson.

**“The best part is I can bring up any meter that’s installed at a member’s site and instantaneously get all the power quality data I need. In the past, I would say we were blind because we just didn’t have that kind of information.”**

– Seth Syverson, Manager of Engineering, Dakota Valley Electric Cooperative

The platform also provided actionable intelligence on usage, demand and power quality, so Dakota Valley could make better decisions more quickly. And the utility was still able to use its existing business applications, so operations were able to smoothly transition without a hitch.

Just as important as all the things Verizon Grid Wide did do for Dakota Valley were the things it didn't do. Dakota Valley didn't experience any unexpected or additional infrastructure costs, which for the non-profit organization was critical to keeping the solution a truly cost-effective option. The utility company also didn't have to deal with the complexities inherent with building and managing a reliable network. "Managing the server was almost a full-time job for our past equipment," Bollinger added. "Having somebody to deal with updates and loading and security is about as trouble free as having a cell phone. And if we do have trouble, Verizon always provides a quick response."

**Moving toward a more connected future**

During the pilot program, Verizon Grid Wide showed Dakota Valley how it could more easily and affordably deploy, integrate, provision, configure, monitor and manage its smart grid devices, and feel more in control of its future during a time of real uncertainty.

Armed with that peace of mind, the utility decided to do a full deployment of 9,300 meters, a move that will help improve services both now and in the future. "Other systems that are out there rely too much on metering infrastructure with power lines, and it's getting harder and harder to maintain that. In the long run, Verizon Grid Wide is the best solution going forward," said Syverson.



**Why Verizon**

What sets Verizon Grid Wide Utility Solutions apart from other offerings and makes it the right choice for so many rural utilities is that it is powered by the nation's largest and most reliable 4G LTE network. We've taken the complexity out of building your own smart grid solution by bringing together essential smart-metering technologies, world-class Verizon cloud management services, support services and IoT-based applications into a single, integrated platform.

**Learn more.**

To learn more about how Verizon Grid Wide Utility Solutions can help modernize your grid, contact your Verizon Wireless business representative.