CASE STUDY: BrightRidge Electric

Through Water and Darkness:
Maintaining Grid Visibility During Hurricane Helene

When Hurricane Helene brought unprecedented flooding to Johnson City, TN, BrightRidge Electric ("BrightRidge") saw approximately one-half of its 85,000 customers lose power over the course of just a few hours. In working to be responsive and limit the impact of widespread outages, the team at BrightRidge relied on its Tantalus TRUConnect™ AMI and its TRUView™ outage monitoring capabilities to maintain critical visibility. By leveraging its Tantalus grid modernization deployment, the utility responded quickly and restored power to over 40,000 customers in just nine days, thereby keeping its community safe and connected.

A Historic Storm

Hurricane Helene struck the Southeastern United States in late September of 2024. It made landfall in Florida as a Category 4 hurricane and proved to be one of the most destructive storms on record, notably causing extreme flood damage in areas well inland from the coasts. Helene caused an estimated $78 billion in damage, as well as economic losses of up to $250 billion. That's in addition to the more than 250 people who lost their lives over the course of the storm's devastating impact.

For Johnson City, Tennessee, Helene was initially a wind-and-rain event. The storm then intensified into what the Tennessee Valley Authority described as a "5,000-year rain event." Nearby Mount Mitchell in North Carolina received nearly 30 inches of rain in 24 hours, and the Nolichucky River flooded catastrophically. BrightRidge witnessed 51% of its customers lose power as the storm intensified. All five distribution circuits crossing the Nolichucky River were washed away by the intense floods.

The widespread damage across the community's infrastructure went beyond anything experienced before. As Matt Heath, BrightRidge's AMI Manager, put it: "It's a very emotional thing. I've seen more grown men cry over this flood than anything I've ever dealt with."

Winds and Flooding: A Dual Threat

BrightRidge faced a dual crisis: massive wind damage across its northern territory and catastrophic flooding across the southern territory. The unprecedented scale of concurrent outages overwhelmed BrightRidge's day-to-day systems, leaving the dispatch team searching for alternate means to deal with the chaos. As the storm unfolded, the utility fought to maintain visibility across the distribution grid in order to prioritize repairs, restore power efficiently, and coordinate with regional partners—such as Erwin Utilities—as circuits were washed away.

Light Through Darkness: How Tantalus Provided Critical Visibility

As the utility sought to gain visibility into what was unfolding, BrightRidge leveraged its grid modernization platform from Tantalus, relying on two key solutions: the connected smart meters of TRUConnect AMI and the TRUView smart grid geographic system for critical visibility. According to Matt Heath, "Tantalus was the only real visibility we had."

Unlike legacy AMI systems—often designed for IOUs that rely heavily on OMS predictions—TRUConnect is designed for harsh service territories often served by public power and cooperatives. Its hierarchical design, with fewer communication hops and greater bandwidth per endpoint, allows it to continue delivering nearly 100% of outage and restoral messages during system-wide stress. This makes the OMS itself more effective and reliable when it is operational. In extreme situations where an OMS is no longer viable, TRUConnect, together with TRUView, provide real-time graphical visibility into outages and restorations, ensuring situational awareness for safe and efficient operations.

During the main impact of the storm, TRUConnect continued to transmit outage messages from meters across the service territory as the power outage swept through the distribution grid. TRUView became the central platform for outage visibility for BrightRidge's dispatch team to coordinate their crews. Dispatchers used TRUView to identify outage clusters, differentiate between single outages and mass events, and assign crews appropriately. In short, TRUConnect ensured outage data kept flowing from the grid edge, and TRUView turned that data into actionable situational awareness. This efficiency allowed BrightRidge to avoid duplication of effort and restore power faster and safer, as linemen could focus on clusters of outages to determine the source of an outage.

"I wouldn't change a single thing about how the Tantalus system operated," said Matt Heath. "It did exactly what it was supposed to do when we needed it most."

Recovering from Disaster

In Helene's wake, Johnson City and Washington County surveyed their losses. With extensive damage to roads and infrastructure—including bridges, water treatment facilities, electricity, and internet—a state of emergency was declared. Tragically, lives were lost due to the storm, and dozens of homes were destroyed completely. Along with the rest of Northeast Tennessee, Washington County faced hundreds of millions of dollars' worth of damage repair, and residents became eligible for FEMA Individual Assistance. In the face of all this, BrightRidge restored service with remarkable speed. At the peak, over 40,000 customers were without power. In a little more than a week every customer who could safely receive service was restored—including customers who, without BrightRidge's ingenuity, might have been out for 8 months. In partnership with Erwin Utilities and Tennessee Valley Authority, BrightRidge constructed a three-phase tie line and used Tantalus-enabled metering to feed electricity to an isolated section of Erwin's system until permanent infrastructure could be rebuilt.

Tantalus TRUView gave BrightRidge actionable data to direct crews efficiently, shorten outage durations, and optimize restoration. The utility has achieved world-class system optimization, with 99.99% reporting uptime across 85,000 meters.

"Every customer on the BrightRidge system that could have power had power in nine days," said Heath. "That's the highest compliment I could pay to the hard work of our people and the functionally of the Tantalus system."

TRUConnect + TRUView

Data Flow: TRUConnect AMI kept meter communications alive during the height of the storm, sending outage and restoration messages from the field.

Outage Map: TRUView visualized those messages as red outage markers, showing dispatchers exactly where clusters of customers were out.

Smart Dispatch: Crews were deployed based on outage size: a single serviceman for quick fuse resets, or full line crews for washed-out sections.

Real-Time Work Lists: Screenshots from TRUView guided material prep, letting teams arrive with the right poles, equipment, and supplies.

Rapid Restoration: Every customer who could safely receive power was restored in nine days, despite 51% system outages and five washed-out distribution circuits.

Looking Ahead: Accelerating Grid Modernization

Even before the impact of Helene, BrightRidge had made it a priority to boost the resiliency and reliability of their distribution grid. They had begun rolling out Tantalus VersaComms™ Gateways, integrating with new smart meters, and preparing their next-generation AMI platform, backed by the Tantalus Grid Modernization Platform™ and TRUSense™ Fiber Gateways. These solutions build on the utility's fiber backbone and provide a foundation for continual strengthening of their grid's resilience, reliability and visibility. This will help BrightRidge be even more prepared for the next big storm—which is just a matter of time. It will also enable them to provide even better service to the thousands of people who rely on BrightRidge for safe, affordable and reliable power.

Matt Heath himself is focused on the road ahead after Hurricane Helene and an ongoing partnership with the vendor that helped BrightRidge through it: Tantalus.

"I'm proud of who we are, as a community and a utility. Recovering from this event and how BrightRidge performed—with the help of outstanding Tantalus system performance—is the height of my professional career."

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