

TRILLIANT NETWORKS HELPS VICTORIA ELECTRIC COOPERATIVE RESTORE POWER FOLLOWING CATEGORY 4 HURRICANE DEVASTATION

[Victoria Electric Cooperative](#) (VEC), an electric cooperative serving residential and commercial members throughout Southeast Texas for the past 80 years, experienced the catastrophic effects of Hurricane Harvey in August 2017, a category four hurricane and one of the strongest storms to ever hit Texas. The utility was tasked with restoring power to all of their members who were left in the dark. Using Trilliant's SecureMesh® Narrow Area Network (NAN), SecureMesh Wide Area Network (WAN) and UnitySuite® platform, VEC restored power to 95 percent of members within ten days of the storm's landfall, however the restoration did not come without challenges.

Challenges

Hurricane Harvey made landfall directly along the Texas Gulf Coast as a category 4 hurricane on August 25, 2017. On that evening, when winds reached 40 mph, VEC announced to its members that, for the safety of their employees, they would no longer be responding to outages. The next morning, Hurricane Harvey hit Rockport, Texas, bringing record rainfall and winds that leveled entire blocks, leaving communities that just days earlier had been thriving, desolate and in darkness. The storm brought nearly two feet of rain in the first 24 hours, turning streets into flowing rivers.

According to the [National Hurricane Center](#), Harvey caused \$125 billion in damages, which is more than any other natural disaster in U.S. history except Hurricane Katrina. Strong, 130 mph winds knocked 22,467 meters offline and the flooding damaged approximately 142 AMI meters. Nearly all of Victoria Electric's members were left in the dark. Additionally, staggering amounts of rainfall and rising floodwaters from the area's rivers forced more than 39,000 people out of their homes and prohibited travel to the VEC territory.

Solution

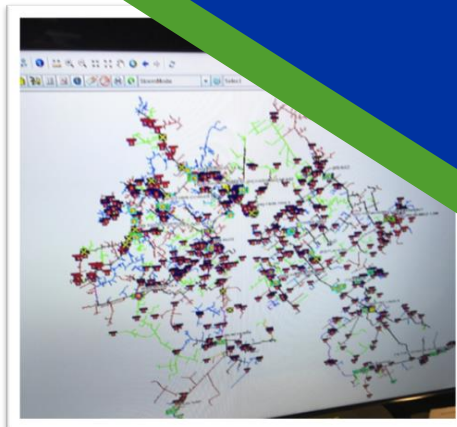
Prior to Harvey, the last major storm to affect the VEC territory was Hurricane Claudette, which made landfall near Port O'Connor on July 15, 2003. While Claudette's impact was mild compared to Harvey's, which resulted in more than triple the amount of rainfall, it allowed VEC to recognize the need for an advanced metering infrastructure (AMI) to help with the restoration efforts of possible future storms.

VEC deployed Trilliant's full-scale AMI in late 2012. Prior to 2015, before the installation of an outage management system (OMS), VEC relied solely on calls from members regarding outages in their territory; meaning the cooperative was not able to proactively communicate with members. Trilliant's SecureMesh WAN/NAN technology empowered VEC to read meters, enhancing their ability to provide safe, efficient, and reliable member service and storm recovery. The cooperative also incorporated Trilliant's solutions into their Emergency Response Plan (ERP), trusting in the solutions' ability to provide outage and restoration notifications to an OMS and pinpoint outages. When Harvey hit, the ERP was immediately put into place and VEC was glad to have incorporated the solutions.

"With Hurricane Claudette, restoration did not go as well as it could have. With the Trilliant solution, power was able to be restored quicker," said Richard Tristan, VEC's AMI supervisor. "VEC was able to proactively communicate with our members like never before."

Hurricane Harvey left nearly all of VEC's customers in the dark.





Initial damage following the storm.

Trilliant's SecureMesh platform and UnitySuite helped contest the tremendous damage inflicted by Hurricane Harvey.

The SecureMesh platform, developed specifically for AMI applications, served as a secure, multi-tier NAN/WAN communications platform, allowing VEC to locate the remaining outages after the initial energizing of circuits quickly and efficiently. Pre-engineered to work together seamlessly, featuring high bandwidth and low latency, the platform allowed for speedy communications to the VEC teams.

Trilliant's SecureMesh Narrow Area Network (NAN) solution, a standards-based, high-bandwidth wireless AMI technology built to support coverage of both dense urban and sparse rural areas, helped serve the predominately rural areas in VEC's territory.

While hurricanes often destroy established communications infrastructure, significantly delaying communications during or after a storm, Trilliant's SecureMesh Wide Area Network (WAN) provided VEC with high-bandwidth wireless IIoT technology.

Featuring adaptive mesh technology, the wireless network allowed for a real-time exchange of data to the restoration teams after portions of the AMI system were restored.

Through Trilliant's UnitySuite platform, VEC was able to manage outages and restoration notifications see if a meter lost power again after being restored. VEC also turned to social media to transparently communicate their restoration progress, sharing with members exactly how hard its system was affected.

The UnitySuite platform was also able to show the meters as they came back online. VEC still received billing data from Trilliant's solution and did not have to deploy additional resources to read the meters.



VEC crews organized and jumped into action as soon as possible.

Results

Hurricane Harvey inflicted tremendous damage across Texas, leaving communities flooded and in the dark. While poor conditions initially hindered VEC's restoration efforts, once conditions were deemed safe, VEC crews worked to assess damage and teams jumped into action. Aid rushed to the Texas coast from all corners of the state to help restore power to the thousands of members who had been left in the dark for days.



Ten days after restoration efforts began, VEC restored power to 95 percent of their members. Providing the right combination of communications and metering technology, Trilliant's SecureMesh WAN/NAN and UnitySuite played a

role in empowering VEC's rapid storm restoration efforts, as well as aid from fellow cooperatives and 369 individuals who helped rebuild and repair. Trilliant promptly sent replacement of meters and equipment power supplies that were damaged, remarkably, no WAN devices, gateways, extenders or extender bridges were lost from the impact of Harvey.

About Trilliant

Trilliant® empowers the energy industry with the only purpose-built communications platform that enables utilities and cities to securely and reliably deploy any application

- on one powerful network. With the most field-proven, globally compliant solution in the market, Trilliant empowers you by connecting the world of things®. www.trilliant.com

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