

Customer Success Story

Black Warrior EMC trusts CriticalLinc™ wireless data service for substation monitoring

Background

Black Warrior EMC is an electrical cooperative (co-op) that has provided reliable, economical service to West Central Alabama since 1939. Today, Black Warrior EMC is one of 22 rural electric co-ops in Alabama and one of 900 nationwide. It oversees more than 6,700 miles of power line in 12 counties, making it the largest electrical co-op in the state of Alabama. The majority of its customer base is residential (about 65%) and rural, as Black Warrior EMC services very few incorporated cities or towns.

Problems

For years, Black Warrior EMC relied on satellite technology for network connectivity at its substations, but this approach was fraught with problems. Critical components on satellites were subjected to wind, rain and other harsh weather conditions. Servicing satellites at substations located two hours or more from the home office was costly and inefficient. "You'd have to go out to the substations, readjust satellites, change parts," said Rich Quinney, Black Warrior EMC operations engineer. Satellites lost connectivity at the worst possible moments, during severe storms and harsh weather conditions. Plus, the modem on satellites had to remain a certain temperature, so connectivity was dependent on a heat exchanger circulating cool air. Black Warrior EMC was understandably looking for a more reliable solution.

Solution

Initially, Southern Linc provided a GE Orbit wireless modem to demonstrate the robust wireless data capabilities and ease of installation of this equipment. Quinney installed the equipment in a very short time and it worked flawlessly. Black Warrior EMC has since ordered 15 additional wireless modems for their substations. "We now read our meters three times a day and actually have 24 hours of data for every meter, so we know how much each meter used every hour," explains Quinney.

Cost Efficient

"Cost efficiency is a big selling point for us," reported Quinney. "When Southern Linc sent their price, I was shocked because it was one-half to one-third the price of satellite service," he continued.

CriticalLinc™

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CriticalLinc™ Benefits

Critical benefits of Southern Linc's wireless data for Black Warrior EMC:

- **Reliability:** The CriticalLinc network, supported by GE Orbit wireless modems, provides a redundant network with the ability to work in more harsh weather conditions than satellite services can.
- **Ease of Installation:** Black Warrior EMC engineers can install modems themselves and be online at a substation in less than two hours.
- **Cost Efficiency:** CriticalLinc wireless data from Southern Linc offers significant cost savings for Black Warrior EMC compared to satellite services.

The experiences described are unique to this customer.
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Highly Reliable

Another big selling point for Black Warrior EMC was the redundancy of the network. Now substation wireless modems connect to Southern Linc's Birmingham data center. Should an issue arise at the Birmingham office, network data transmissions would automatically switch over to the Atlanta data center; this provides each substation with a highly reliable data network.

Black Warrior uses CriticalLinc™ voice services for every employee

In addition to wireless data for field monitoring services, Black Warrior EMC has used Southern Linc for cellular phone service for more than 21 years. "We got our first Southern Linc phones in 1998. When we first started out, we had four phones per district and about 20 or 25 phones total. Now all of our employees have one, more than 70 phones. And we just switched over to the Sonim XP8 smartphones and are very satisfied with them."

True story: The Sonim XP8 dunk test.

Rich Quinney smiles as he reflects on the night he inadvertently put his SONIMs XP8 smartphone and the CriticalLinc network to the test in a mission critical situation. "We were working a storm restoration one night, and we all had to cross a creek. In the process, I was trying to walk across a log and fell in," he said. Quinney found himself neck deep in the water, which was elevated from the storm. Immediately, he thought of his Sonim XP8 smartphone. "I reached down to get my phone and dropped it. It was 3:30 in the morning and my phone was gone. I just gave up on it." As luck would have it, a colleague was walking back across the same log two hours later and also fell into the creek. While underwater, he heard Quinney's XP8 clock alarm sounding—it was Quinney's daily wakeup alarm. The colleague reached down and picked up the phone and found that it was completely intact and operational. "I'm still using that phone today. It stayed submerged for two hours in six feet of water, and it's still working," he added.

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Modem Installation

A directional antenna is connected to a piece of two-inch conduit at a standard height of 10 feet.



A technician mounts the conduit to a transformer and runs a LMR600 cable down and terminates it at the electrical box, where the modem is mounted, just beneath a communications card. Technicians simply plug in power, terminate two connections, then connect the Ethernet port—a simple, fast installation.



The GE Orbit wireless modem series is certified on the CriticalLinc network in three configurations.

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