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Case Study:

Talquin Electric Cooperative

Talquin Electric Cooperative is a member-owned, not-for-profit electric distribution cooperative headquartered in Quincy, Florida. Talquin distributes electricity to approximately 53,000 homes and businesses and provides water and wastewater services to more than 21,000 customers from the Gulf coast to the state line, including parts of Tallahassee and the surrounding areas. Talquin's 2600-mile service territory spans four counties including Gadsden, Leon, Liberty and Wakulla. With hundreds of employees and company vehicles, Talquin has plenty of radio traffic to coordinate.

The Situation

Degredation of Talquin's 30-year-old communications system was becoming more significant over time. Deficiencies ranged from excessive static and limited channel availability to poor signal strength and difficulty connecting with crews operating near the outskirts of the service territory. Ultimately, Talquin determined that its critical communications infrastructure was no longer reliable enough to meet its current and future needs.

Before mandatory narrowbanding was imposed by the Federal Communications Commission (FCC), Talquin operated on channel bandwidths of 25kHz. Narrowbanding, however, required Talquin to transition to channel bandwidths of 12.5kHz or less on or before January 1, 2013. The result was static – lots of static. According to General Manager Tracy Bensley, the excessive static problem left them with only one useable channel, which was not enough for its three primary businesses. "With water, waste water and electric, we needed the ability to split those into groups and put them on separate channels. Not having enough channels was a big problem," said Bensley.

Coverage of the service territory was also an issue. Reliability along the outskirts of the territory was poor and there were certain areas with no signal at all. As a result, dispatch was having trouble connecting with employees in the field. Considering the region's susceptibility for severe tropical weather events, the inability to communicate with crews working in the farthest reaches of the service territory was becoming a serious concern. Talquin Director of Information Technology Dane Clemons emphasized the need for reliable communications. "We need to be at our best when the weather is at its worst," Clemons said.

The Solution

A thorough assessment of Talquin's communications infrastructure and radio systems revealed the need for a significant upgrade. Talquin partnered with Williams Communications to replace the utility's outdated system with an open standard Tait DMR Tier III radio network integrated with Avtec's award-winning Scout™ Voice over Internet Protocol (VoIP) dispatch consoles.

Solution Components

- Four (4) Avtec Scout VoIP console positions
- 107 Tait TM9300 Mobile DMR Tier III radios
- 60 Tait TP9300 Portable DMR Tier III radios

The new system has provided Talquin with improved safety, enhanced situational awareness and increased operational efficiencies. New features and benefits include:

- The availability of multiple dispatch channels.
- The ability to have several conversations simultaneously.
- A redundant infrastructure with the resiliency to withstand Florida's severe weather.
- Interoperability to accommodate new technologies and communications with other utilities and public safety agencies.
- Ability to locate work crews and field employees immediately.
- Increased signal strength throughout the entire service territory.
- Lone-Man-Working, Man-Down and GPS locator apps to let dispatchers know if there is a problem and where to send help.

The Outcome

The new multisite, multichannel system allows for talk groups across Talquin's three divisions, and the audio is now free of static, ensuring clear, reliable communications between users. The functionality built into the system alerts dispatchers to any problems that might be affecting field employees and provides their exact locations.

"Our dispatchers absolutely love the Scout consoles because they make communicating with our field crews so easy," said Clemons. "Scout gives us a real sense of confidence – just knowing that we have a critical communications system we can count on in the event of an emergency."

Given the remarkable interoperability and inherent scalability of the new system, Talquin can now look forward to a much easier future, when upgrading its communications system becomes a simple software update – made automatically by their Scout consoles.

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