

Rappahannock Electric

Fredericksburg, Virginia

Case Study



THE CUSTOMER

Rappahannock Electric Cooperative (REC) is an electricity distribution cooperative located in Fredericksburg, Virginia. REC is expanding its territory to provide service to more than 154,000 households and businesses with 15,200 miles (24,400km) of line over 19 counties.

SITUATION

REC needed to replace its outdated equipment with a radio system that would satisfy their immediate needs while being future-proof for a number of years. REC was faced with several issues to overcome when it explored upgrading its radio network.

The old REC system was a 153MHz conventional system using PL tones (CTCSS) to separate traffic usage onto two frequencies. Channels had to be selected according to proximity to the nearest tower and only one conversation per frequency was possible.

With very few 153MHz frequencies available, REC considered moving its radio communications to another frequency band before the impending FCC Narrowbanding deadline of 2013.

The new radio network also needed to vastly improve the safety of REC staff, especially those in the field. They often had insufficient signal coverage and channel congestion during outages caused by storms, which compromised their safety and impeded their restoration efforts.

“REC’s new Tait radio system has enabled us to more effectively dispatch multiple crews over a wide service area by assigning various talk groups based on geographic needs.

Further, the ability to communicate peer to peer has dramatically decreased voice traffic for the entire fleet.”

Gary Schwartz,
Director of SCADA/LM Telecommunications
Rappahannock Electric Cooperative

RESPONSE

Tait delivered a five-channel, six-site TaitNet MPT 1327 radio network which uses the 220MHz band. The system gives REC a cost-effective infrastructure that allows voice and data on the same system and efficient two-way radio communications over a large geographic area.

Because MPT is such a well-developed technology, the TaitNet system was able to offer Rappahannock a number of proven worker safety features that other systems could not. For example, the TaitNet MPT 1327 control channel offers workers the ability to alert dispatch in an emergency with the touch of a single button.

The MPT system is complemented by 155 Tait mobile and 35 Tait portable radios used by line crews. These users can now easily roam throughout the REC service territory because the radio system automatically switches to the tower site that provides the best signal quality. Previously, crew members had to be aware of tower locations and manually change radio channels to get the best radio signal strength. The new system gives users the ability to talk from one end of the system to the other, regardless of location.

The MPT system also allows for more efficient management of, and communications between, staff with radios organised for private one-to-one, fleet and group calls. The network can host several conversations simultaneously, which is especially important when dispatching different crews for a coordinated crisis response.

The scalable, modular design of TaitNet MPT 1327 allows for expansion from a single channel to a regional network and the flexibility to add features including the eventual integration of an AVL system. In addition to the system build, Tait provided project management, installation and maintenance to ensure REC's network is used to its full capacity in the immediate and long-term future.

OUTCOME

The system has already benefited Rappahannock during recent storms by allowing power restoration to be handled by more than one group. The ability to have multiple conversations simultaneously without interference, meant several crews could get directions and handle switching orders to provide faster electrical service restoration.

MORE INFORMATION

For news, product specifications, comprehensive technical information and contact details of your nearest Tait service facility, please visit www.taitradio.com

CUSTOMER PROFILE

Rappahannock Electric Cooperative (REC) is a member-owned utility that provides electric service in Virginia, USA.

APPLICATIONS

- ▶ TaitNet MPT 1327 six-site system
- ▶ System design, build, implementation and maintenance
- ▶ Project management

BUSINESS BENEFITS

- ▶ Expandable system for future network growth
- ▶ Competitively priced end-to-end solution, including system and services
- ▶ Improved worker safety with the one-touch emergency call to dispatch function
- ▶ Multiple conversations can be carried out on the trunked system for efficient team deployment during crises

PRODUCTS USED

- ▶ Tait TM8000 mobiles
- ▶ Tait portables



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