

Emergency communications for First Responders



Background

When natural disasters knock out crucial communications infrastructure, high frequency (HF) radio works as an effective emergency communications solution. By getting the right equipment into place, response teams can establish secure channels for transmitting voice, text and data in and out of a disaster zone.

Scenario

The speed in which communications can be re-established following a powerful hurricane striking the southern United States is examined here with a hypothetical scenario.

- **Landfall - 10:20 a.m.**

Hurricane Clyde, a category 3 storm, hits Florida's northeast coast. With wind speeds up to 120 miles per hour, it is expected to cause significant damage. Residents have been advised to relocate or seek refuge at open shelters.

- **Sweeping power outages - 10:45 a.m.**

High-speed winds uproot trees across St. Johns and Duval counties, knocking out electricity and phone service for large areas around St. Augustine and Jacksonville. At this point, communication capabilities are down throughout the area hit by the hurricane.

- **HF radio deployed - 10:50 a.m.**

Emergency response teams are instructed to switch over to HF radio for primary communications. Most emergency response field offices have an HF radio system in place, powered by a generator and ready to operate.

At the same time, a communications support team is dispatched to a school in St. Johns County being used as an emergency operations center. This team is equipped with Barrett's deployable and mobile systems based on the 4050 HF transceiver, the self contained power supply eliminates the need for mains power in deployable systems, while mobile assets are equipped with a 2019 HF

vehicle-mounted antenna and a portable rapid-deploy 125-watt dipole antenna for use with deployable systems.

- **Communications support team arrives at shelter - 11:10 a.m.**

Operators park the vehicle at the school and begin setting up. They identify the school's flagpole as an ideal temporary mast, so they use it to support the portable base station antenna.

- **Antenna is in place - 11:35 a.m.**

With the portable base station antenna installed and secured, the team at the shelter is now able to contact all other locations.

- **Data connection established - 12:10 a.m.**

The communications support team finishes setup of the Barrett Communications 2020 data system, enabling email and fax transmission through the HF radio. This system transmits large files - such as National Incident Management System (NIMS) and Incident Command System (ICS) files in a matter of minutes. Barrett systems allow seamless communications with disparate system through the RFDS system. While Barrett's crystal clear digital voice communications, email, files transfer and chat functionality allow for ease of use with minimal training.

