Can You Hear Me Now?-SET

Boone County Amateur Radio Emergency Services (BCARES) conducted their 2016 Simulated Emergency Test (SET) as the "Can You Hear Me Now?-SET, 5 November 2016. In an unprecedented collaboration with the Boone County Office of Emergency Management the SET exercise was designed to access BCARES radio coverage across the 650 square mile county. The OEM, in cooperation with the County Public Works, identified 28 locations where radio coverage could be problematic, or significant in support of emergency operations of these agencies. The challenge would be, how well and by what means could BCARES members with their normal response VHF/UHF radios communicate. Some challenges were obvious with several of these locations in the Missouri River bottoms, and along the Katy Trail.

The exercise design consisted of a set of individual instructions to be placed at each of the 28 target locations and identified with the OEM logo/Statement and surveyor's flag (Figure 1). Each rover would find the flag and the set of instructions which directed contacts to be made with 5 monitoring stations over 5 different methods (simplex and repeaters on specified frequencies). The OEM would be responsible for placing each flag/package, and recording GPS coordinates of each flag. Figure 2 shows the Boone County map with all locations identified. The exercise was designed to be completed in 2 hours.

Twenty nine radio operators volunteered to participate in the "Can You Hear Me Now? SET". Sixteen operators were assigned Rover functions, 9 operators assigned monitor functions with 3 operators at the EOC/Net Control Station. (Two volunteers were sick on the day of the event). One monitor was redeployed as a rover for the second hour. Tactical call signs were assigned at net check-in.

The CanYouHearMeNow directed Net was called at 10:00 AM on 5 November 2016 on the local ARES repeater. Twenty seven operators were checked in and deployed. During the next two and a half hours more than 170 calls were made using nine different simplex frequencies and seven different regional repeaters. 101 of these calls were successful contacts. Twenty four of these contacts were via the Net repeater. Net Control logged 178 contacts. Three locations were found to be in need of more work. Six Winlink Peer to Peer contacts were attempted with 2 being successful including the transfer of a 5KB Excel file. Four SSTV images were received at EOC. Six rovers were recorded on the APRS system map, Figure 4 show K0SI-1 heading up Highway 63, while Figure 3 shows N0OFJ-3 heading to the Missouri river.

On this first attempt at accessing our county wide coverage we successfully communicated from more than 90% of the County. The BCARES portable UHF repeater was deployed on emergency power and provided 6 successful contacts (it was learned that a few of our volunteers did not have UHF capability). We enjoyed having 10 "new" operators (according to ARRL rules – licensed since 2012) join in the exercise. They/we learned that 5W HT radios may not be sufficient for all anticipated operations. Some operators learned to tune their radios properly, and some did not. Failure to communicate from 3 southern river bottom points can be attributed to several factors: Point #1 & 24; monitors not on air when rover called on 146.685 repeater; Net repeater and 147.315 repeater apparently do not cover these locations. Point #3: net repeater heard but not accessible at that point (rover repositioned to location where net repeater is workable). We will be analyzing the data that were recorded concerning the efficiencies in our communication capabilities across the County in an effort to improve our coverage. A database of available methods as well as Rovers that could be deployed to serve as aid to the OEM will be made. Work will continue to identify methods for VHF/UHF communications to the unsuccessful locations of this exercise.

Figure 1. One of 28 "Flag-Packages" marking the location for the county wide radio test. The package contains instructions for 5 calls to be made from that location

Figure 1A: The flag's locations clearly marked!

Figure 2: KM0R working Net Control and the OEM team of Tom Hurley, Assistant Emergency Director, Elizabeth Thompson and Jordan Wright at the Boone County Fire Protection District EOC monitoring the SET radio traffic.
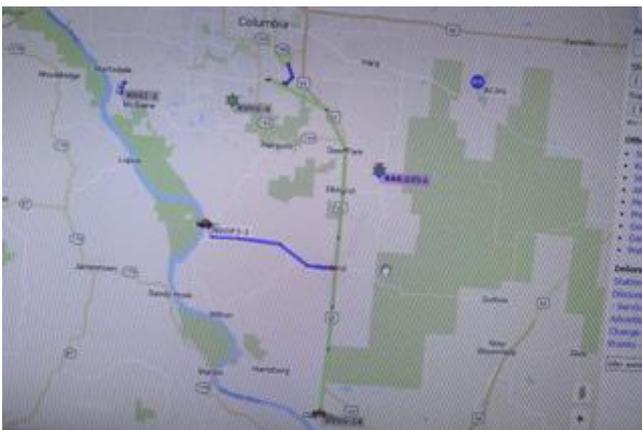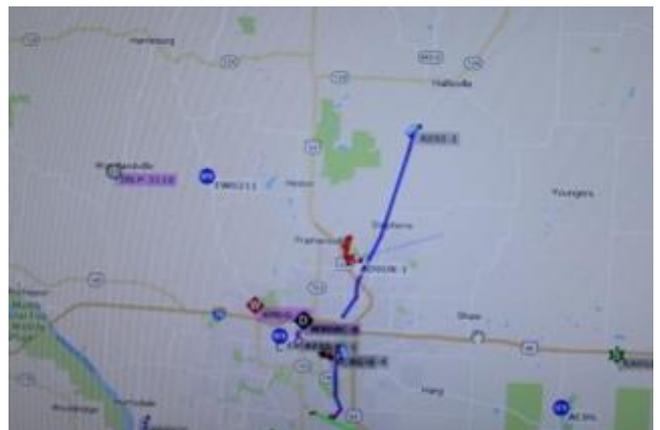

Figure 3: N0OFJ heading to the River

Figure 4 K0SI-1 heading up Highway 63

Figure 5 Boone County Missouri with SET - Test Communications Points