Simulated Emergency Test
Boone County ARES
November 6, 2021

Boone County Missouri ARES (BCARES) held their Simulated Emergency Test (SET) in cooperation with the Boone County Missouri Office of Emergency Management (BCOEM), the University of Missouri office of Emergency Management and the University Health Care Emergency Response trailer, located at the hospital on the Columbia campus. This exercise involved a dual approach, processing 12 points in the county and 8 points around the campus simultaneously in our 2-hour window.

The exercise scenario consisted of Boone County's response to a magnitude 7.3 earthquake in the vicinity of Marston, MO. BCOEM was interested in local assessment, and response and coordination with the state response. There are likely damaged roads, bridges, cracked foundations, downed trees, toppled power lines, and much more in the area. A RAVE notification message was sent to BCARES responders at 9:30 AM. The RAVE notification system enables Joint Communication Center 911 dispatch to send a mass text message to selected phone numbers. County responders were asked to check into the SET net after receiving the RAVE notification and Campus responders were asked to assemble at the MU General Services Building by 10:00 AM, as well as checking into the SET net on the 61 Repeater. Net Control for the SET net was established at the Joint Communications Center/ EOC amateur radio station. APRS mapping of county responders was also displayed at the EOC.

BOONE COUNTY OEM: THIS IS A TEST. Start Ex. Log into [Gmail]/Ham Radio/EC/BCARES&JC/SET-2021

***BOONE COUNTY OEM** <boonecountymo@getrave.com>*

to BOONE

BOONE COUNTY OEM: THIS IS A TEST. Start Ex. A 7.3 magnitude earthquake has occurred in the vicinity of Marston, MO. Boone County OEM is requesting Boone County Amateur Radio Emergency Services assist with situational awareness and communications support. Log into established net or report to staging location and await further instructions. THIS IS A TEST.

Figure 1 Net Control at EOC

Figure 2 APRS active SET responders

The Exercise planners created an information packet for each of the 20 points we were to visit. In each packet were an ICS-213 containing data to be transmitted to our EOC and a worksheet with instructions for the assessment of communications capability at each point to our repeaters and a simplex frequency used in the county by BCARES. These packets were placed at specific points around the county on the day before the exercise by BCOEM. The information packets were handed out to the campus participants at Staging in the General Services Building parking lot on campus. (It wasn't advisable to place the packets at open locations on the campus, suggested Major Richardson of the MU Police Department).

Including eight points on campus provided an exercise component built around the utilization of HTs and therefore new radio operators that only had HTs could participate in this exercise. By using the University Health Care trailer as a HT-net control and Winlink relay station we extended the reach of the campus HTs to the EOC with digital (Winlink) messaging. The hospital trailer is parked at the south end of campus, but situated behind an RF absorbing building. The operator therefore had to establish an antenna external to the trailer and located about 30 yards to the north-west for good access to the campus HTs as well as a good RF path to the VHF Winlink RMS node located at the EOC in north county. Eight ICS-213 forms were transmitted by voice to the Winlink relay/Campus-net control where they were entered into a Winlink ICS-213 form and transmitted VHF Packet to the EOC. Five HT-operators were available to locate the eight points (from the historic Columns to the Reactor Field) and transmit their message. These points were selected in cooperation with Emergency Management of the University of Missouri as points of interest should an earthquake occur in SE Missouri. Additionally, each packet requested evaluating the HTs RF coverage via three local repeaters and the county wide simplex frequency.

Figure 3 MU Health Trailer Campus Winlink Relay


Figure 4 MU Columns, sent via Winlink

Twelve county points were selected from the Geological Survey Region F Earthquake Impact Map which indicates liquefication, collapse potential, and landslides in Boone County from a large New Madrid Seismic Zone earthquake in SE Missouri. The location of these points was conveyed to each Operator responder as GPS coordinates. Tactical call signs were assigned to each participant at net check in. Two of these points were located within the Missouri River bottoms where little RF coverage exists to the EOC. External antennas were deployed in some cases to make the connection to the Winlink Node. Other Operators entered their ICS-213s into their computers and relocated up land to get connections with the VHF Packet RMS node at the EOC. Four operators did not have Winlink capability from their mobile operations and were directed to read the ICS-213s by voice to a Winlink Relay operator to be entered into the Winlink ICS-213 form and transmitted to the EOC. Two repeaters and a simplex frequency were used to pass these ICS-213s.

Figure51 County point with Yagi attached

This SET gave BCARES the opportunity to deploy to points by GPS coordinates and deliver ICS-213s from those points to the EOC. Nineteen of the twenty ICS213s were received by WX0BC, the BCARES amateur radio station located in the Joint Comm 911-dispatch center, which is across the hall from the BCOEM's EOC at the Boone County Emergency Communications Center. Twenty-five amateur radio operators participated in this SET, which is an increase of 30% from 2020 and 2019 SETs. Twelve of those used Winlink Express to send their ICS-213. Five operators used their HT on a simplex frequency to transmit by voice their ICS-213 on the MU campus to the MU Health Trailer for entry into Winlink and delivery to the EOC. Four of the mobile operators from county locations delivered their ICS-213 by voice via one of three repeaters to Relay stations where it was entered into the Winlink form and delivered to the EOC. Only one ICS-213 was lost due to computer issues in the mobile set-up.

The ICS-309 (generated from Winlink Express) is attached for review.

Submitted by,
Bill McFarland: BCARES – EC

COMMUNICATIONS LOG	TASK # SET 2021	DATE PREPARED: 11/15/21 TIME PREPARED: 14:05
OPERATIONAL PERIOD #November 6, 2021	TASK NAME: RECEIVED AT EOC	
RADIO OPERATOR NAME: N0AXZ	STATION I.D. WX0BC	

LOG

TIME	FROM	TO	SUBJECT
11/06/21 10:33	AD0ZE	WX0BC	213-2021-earth quake damage - 2021-11-06 10:27
11/06/21 10:38	AD0ZE	WX0BC	213-2021set bcares-earth quake damage - 2021-11-06 10:35
11/06/21 10:44	AD0ZE	WX0BC	213-2021 set bcares-earth quake damage - 2021-11-06 10:40
11/06/21 10:46	KE0ZYL	WX0BC	213-BCARES SET (EOC DIRECTOR)-This is a Test EARTHQUAKE SIMULATION - 2021-11-06
11/06/21 10:48	AD0ZE	WX0BC	213-2021 set bcares-earth quake damage - 2021-11-06 10:45
11/06/21 10:54	AD0ZE	WX0BC	213-2021 set bcares-earth quake damage - 2021-11-06 10:49
11/06/21 10:59	K0MIZ	WX0BC	213-2021 SET - BCARES-Earthquake Damage - 2021-11-06 10:48
11/06/21 11:00	AD0ZE	WX0BC	213-2021 set bcares-earth quake damage - 2021-11-06 10:57
11/06/21 11:02	KE0IKG	WX0BC	213-2021 SET-EARTHQUAKE-THIS IS A TEST! - 2021-11-06 10:49
11/06/21 11:02	N6VZO	WX0BC	213-2021 SET - BCARES-EARTHQUAKE DAMAGE - 11/06/21 1055
11/06/21 11:06	AD0ZE	WX0BC	213-2021 set bcares-earth quake damage - 2021-11-06 11:03
11/06/21 11:19	K0PHP	WX0BC	213-20121 SET BCARES-Earthquake Damage - 2021-11-06 11:09
11/06/21 11:23	AD0ZE	WX0BC	213-2021 set bcares-earth quake damage - 2021-11-06 11:20
11/06/21 11:31	KE0IKG	WX0BC	213-2021 SET BCARES-EARTHQUAKE DAMAGE 11062021 - 2021-11-06 11:31
11/06/21 11:34	K0MIZ	WX0BC	213-2021 SET - BCARES-Earthquake Damage - 2021-11-06 11:34
11/06/21 11:36	WD6BGN	WX0BC	213-2021 SET - BECARS-Earthquae Damage - 2021-11-06 11:35
11/06/21 11:52	W0TES	WX0BC	213-2021 SET-BCARES-Earthquake damage - 2021-11-06 11:42
11/06/21 11:58	AD0UK	WX0BC	213-2021 SET - BCARES-Earthquake Damage - 2021-11-06 11:55
11/06/21 12:06	KC0EZE	WX0BC	213-2021 SET - BCARES-Earthquake Damage - 2021-11-06 11:59