

Date: September 13, 2009

From: Bob Hollister, Cochise County RACES Officer

To: Mike Evans, Cochise County Emergency Services Coordinator

Info: Pablo Duarte, Cochise County Information Technology Department
RACES Membership

Subject: Paradise 2009 Training - After Action Report

1. Purpose: The annual trek to Paradise over Labor Day Weekend is used as training event for members of the RACES/ARES team to practice a wide variety of operator skills as well as conduct an amateur radio "special event" by operating from a unique location, in this case the Ghost Town of Paradise. This was the 30th anniversary of this event.

2. Exercise Objectives:

- Familiarize operators with basic MCU capabilities
- Provide operating practice to radio operators.
- Test HF Antenna configurations
- Test Band-Pass Filters

3. Mission Summary:

a. The RACES team deployed from the Cochise Amateur Radio Association (CARA) club site at 07:30 on Saturday (9/4) morning. After an uneventful convoy to the Paradise training site we set up two HF antennas (Inverted V & 20m Hex-beam). A light-weight antenna rotor was connected to the top of the pneumatic mast and then the Hex-Beam to it. Due to a software glitch I am unable to provide an accurate count of total radio contacts but know it was in excess of the 293 documented contacts including 41 states, Mexico, Venezuela, Puerto Rico, and Canada over approximately 23 hours of on-air operation.

4. Lessons Learned: Despite a reduced deployment team there were several positive lessons learned from the mission.

a. Operator Training: We had some new operators and they were able to receive hands-on experience using the HF long range equipment as well as participate in the setup process. We also had a guest operator from Pima County.

b. 20 M Hex-Beam Antenna – We have used the configuration of antenna rotor and 20 meter Hex-Beam in the past. It has less weight than the Yagi we used last year and seems to work as well as the Yagi and does not put the same weight load on the mast. The weight load of the heavier yagi may have contributed to the mast issues

referenced in last year's AAR. Although the HF whips continue to be the quicker deployment method, they do not provide the signal gain or directivity of the yagi for longer range operations. This tool would be very useful in checking into the National Communications System (NCS) Shared Resources (SHARES) HF network and with the FEMA HF network during emergencies.

c. Inverted-V Antenna – A repair of one of the loading resistors was made as we were putting up the antenna. It was noticed there was a loose connection between the resistor and the box holding the resistor. This continues to be a tried and true broadband antenna system. It was the antenna used on both MARS and Amateur bands, and was the only antenna used for communications below 14 MHz. The antenna provides excellent coverage when used in the weekly Sunday morning Arizona RACES net and also the daily morning MARS net.

d. Band Pass Filters – In previous years we have experienced adjacent band interference while we operated more than one band simultaneously. This year, two "band-pass" filters were again employed (20 meters and 40 meters). The use of the filters proved to be very effective. We are recommending to the club that filters be purchased for the 75 meter, 30 meter, and 17 meter for bands.

e. Satellite Operations – This system worked appropriately and the team used it to check for live weather satellite feeds.

f. Other Portable Operations – During previous years we have had a number of personal stations operate within the general area but have never really documented that capability. Many of the RACES members continue to practice portable operations using personally owned mobile equipment and antennas in addition to the MCU affiliated equipment. This is an added benefit to the RACES unit and provides additional capability and resource that the County may not be fully aware of. It provides the ability to deploy portable HF equipment around the county as needed during emergency operations. This year there were a total of six additional portable stations operating digital and voice operations during various times during the deployment.

g. Logging Software – As referenced at the beginning we experienced a failure with our contact logging software. This caused us to lose several hours of contact information during an attempt to merge software from two different computers. We do not typically use this software during normal mission operations and many of the operators were unfamiliar with basic data entry screens and more advanced operations such as merging from a second source. I had provided two paper log books to use for logging operations outside of the MCU but these instructions were not relayed nor made clear to all the operators at the beginning of the operation. It was also noted that while the computer used for logging was in the appropriate location for a single operator, it could not easily be used by a second person that might be assisting a primary operator.

5. Recommendations – A couple recommendations were provided to improve operations next year:

a. In the past three years, we have had hurricanes occurring somewhere during our annual Trek to Paradise. We learned part of the lesson from last year and avoided interference on our primary band (20M) with hurricane watch type activities going on. Unfortunately our choice of a 40 meter frequency was not successful. There was a commercial Chinese language station on our frequency of choice. Although that station is not permitted operation in our region, radio frequencies do not necessarily stay within regional boundaries. We will try to conduct additional research and test some additional frequencies prior to next year's event.

b. Logging Instructions need to be briefed to all operators at the beginning of the operation and again whenever part time or relief operators join midway through the operation. Paper contact logs need to be maintained for all bands and then the entries can be entered into the logging software in slow time to prevent hiccups like we had this year.

c. Portable Station Dispersal – Since we did have a number of personal stations operating in a relatively small area, it was recommended that we attempt to provide more distance between the additional stations to avoid some adjacent channel interference.

d. Additional Band Pass Filters - We are recommending to the club that band-pass filters be purchased for the 75 meter, 30 meter, and 17 meter bands. They are effective for contest use as well mitigating interference between adjacent stations during emergency deployments.

6. Summary – As always, extended training missions such as this provide opportunities to work out procedures and discover problems in a relatively non stressful environment. This was such an event. My thanks to all who participated, radio operators, their family members, and those who assisted in the preparation phase, execution phase, and finally the post deployment phase.

Attachment 1 – Counties contacted during AZ State RACES net Check-In

Coconino
Cochise
Gila
Graham
Maricopa
Mohave
Navajo
Pima
Pinal
San Diego, CA
Imperial, CA

Attachment 2 – RACES/ARES Participants:

Mike Bales, KC7GTY
Gary Keck, KE7DX (Pima County)
David Bly, K7DTB
Charles Campbell, K4AFN (MCU Driver)
Ken Carpenter, WA7UIM
Linda Carpenter, N7KAZ
Dale Chidester, NJ7C
Bill Epperson, W7OL
Bob Hollister, N7INK (RACES Officer)
Lee Ilse, KD7OED
Jason Maddux, KB7SKY
Dennis McAvoy, KE7KRE
Charles Morris, N7DQS
Peggy Morris, KC7LCE
RB Rice, K7HVV

Bob

Robert L Hollister

Life Thought for the day:

"The waste of life occasioned by trying to do too many things at once is appalling"

Orison Swett Marden