

Date: September 07, 2010

From: Bob Hollister, Cochise County RACES Officer

To: Mike Evans, Cochise County Emergency Services Coordinator

Info: Pat Hartley, Cochise County Information Technology Department

Subject: Paradise 2010 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 31th 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:

The RACES team deployed from the Cochise Amateur Radio Association (CARA) club site at 07:30 on Saturday (9/3) morning. After an uneventful convoy to the Paradise training site we set up three HF antennas (G5RV dipole, Inverted V dipole & 20 Hexbeam). A light-weight antenna rotor was connected to the top of the pneumatic mast and then the Hex-Beam to it. We made a total of 488 radio contacts, 46 states, Japan, Costa Rica, Italy, St Croix in the Virgin Islands, Canada (Provinces of British Columbia, Nova Scotia, Saskatchewan, Quebec, Ontario) over approximately 30 hours of on-air operation. This is an improvement of 195 contacts from 2009. Propagation was quite favorable this year for 20 meter (14.315 MHz) operation.

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

a. Operator Training: We had one new operator and he was able to receive hands-on experience using the HF long range equipment as well as participate in the setup/tear-down process.

b. 20 M Hex Beam Antenna – We have used this 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. 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. This antenna is borrowed from one of our members and we are considering purchasing one for the MCU as a permanent component.

c. Inverted-V Antenna – 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. G5RV HF Dipole – This antenna was also borrowed and was used to compare against the Inverted V for broadband coverage. There was little noticeable difference between signal strength of received signals during the test. What was different was the direction of arrival. Aligning the two antennas at 90 degrees from each other and switching between the two antennas you could select the better signal.

e. 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 employed (20 meters and 40 meters). The use of the filters again proved to be very effective. We will be recommending to the club that as a minimum, additional filters for the 75 meter, 30 meter, and 17 meter bands be purchased.

f. Logging Software – After the problem incurred last year with the software logging glitch we reverted to paper logs this year. Four different books were prepared so that any of the radios operating would have access to a log. This seemed to work very well. We had learned in previous years that teams of one radio operator and one logger per radio is the preferred method of operation.

g. Reduced Staffing – This is the second year in a row that we operated at a reduced staffing level. While there were adequate members available on Saturday to setup and man the radios, by Saturday evening we had lost 3 of our crew who departed for Sierra Vista. That would have been ok if a new crew had arrived Sunday morning to augment those who over-nighted. If we are going to operate more than two radio positions simultaneously for more than a couple hours at a time we need more operators. By Sunday morning, there were only 9 left for the traditional "Eggs Paradise breakfast gathering". After a couple hours of continuous operation, people need a break. If we are to have a 32nd anniversary, we will need a stronger commitment from the club to staff the special event.

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

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

b. Special Event Coordinator – The club needs to reassess what events it wants to sponsor and recruit additional personnel to ensure adequate staffing for those events.

c. Printer Ink – We need an HP 94 black replacement cartridge for the printer.

d. Mast Camera – The mast camera control problem has not been addressed yet. We are running on six months without this problem being resolved.

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 and their family members, and those who assisted in the preparation phase, execution phase, and finally the post deployment phase.

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

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

Attachment 2 – RACES/ARES Participants:

Ken Allen, KF7IYQ (MCU Co-Driver)
Mike Bales, KC7GT
Charles Campbell, K4AFN (MCU Driver)
Ken Carpenter, WA7UIM
Linda Carpenter, N7KAZ
Rob Cass, AC7XA
Dale Chidester, NJ7C
Nancy Chidester, KE7PCX
Bill Epperson, W7OL

Bob Hollister, N7INK (RACES Officer)

Lee Ilse, KD7OED

Charles Morris, N7DQS

Peggy Morris, KC7LCE

Dave Schurian, KD7LSD

Barbara Schurian, K1BBY