Alachua ARES/NFARC/NF4AC Clubs

MINUTES

August 14, 2024

Attendance: 21. The meeting was held in person at the Alachua County Emergency Operations Center and via ZOOM. Meeting attendees are not specifically noted as attending live and in person or via ZOOM.

Gordon Gibby
Leland Gallup
David Huckstep
Earl Sloan
Susan Halbert
Jeff Capehart
Rhys Harrison
Hugh Minnich
Peter Garfinkle
Earl McDow
Mark McDow
Dean Covey
Rosemary Jones
Larry Whitehead
Karen Whitehead
Anders Georgsson
Reid Tillery
Brian Joy
Eric Pleace
Mike Hasselbeck
Wendell Wright

Introductions. From 1830 until 1900 when the meeting commenced.

1. **INTRODUCTION/APPROVAL OF JUNE AND JULY 2024 MINUTES/ARES HOURS.** Jeff Capehart explained the structure of how ARES members are trained through ARRL and FEMA to handle basic emergency comms; training qualifications are documented by local and State ARES task books. Also showed our club website and copies of the task books. Talked about the new ARRL emergency communications course, which does not require one to be a member of the ARRL. KX4Z showed our groups.io messaging "system." All kinds of topics in our io group. KX4Z showed the webpage which he manages, that has a great deal of information. June and July minutes approved. AA3YB announced that the September meeting will be held at Queen of Peace Catholic Community, but in a different building. He will ensure that a Google Map/image will be published on our Web page and on our groups.io feed.

2. **PREVIOUS MONTH HOURS REPORT.** We had 64 hours in July because we'd taken a break from things after Field Day.

3. **EOC EQUIPMENT SECOND HF RADIO GEAR REPORT.** W4JIR laid out his liaison activity with the County's Fire Chief. He had through this access put in a request for a second HF station to duplicate equipment with the one already in the EOC. He also put in specifics for a tower that will be placed at the new EOC and ACFR headquarters when the facility is completed. W4JIR also has been working with ACFR on our facility needs when the new EOC is developed (to be occupied sometime in the next 18 months or so). W4JIR showed a "Gatorbox," which is a containerized "go-box" to house this newly acquired second HF station. Bottom line is that our current training is instantly transferable to the new gear, because the equipment is largely identical. Also this means that when we need to deploy HF, we will not have to disassemble our current station which is "permanently" in the EOC KX4Z talked about VHF/UHF simplex height and distance tests to be conducted at the new EOC location. He will use the tower trailer that we'd used at FD to do these tests. We're looking at conducting simplex tests with volunteers all over the county. Time? Sometime in November/December. KX4Z went through what he'd done with Reid Tillery by way of GMRS during Hurricane Debby.

4. **HOME BREW WINKEYER LAB N'LUNCH.** Three from our group will go to KX4Z's house to construct a "Winkeyer" that can send Morse; once you get a call sign, the rest is automated for the exchange. The user has to know code enough to capture the call sign of the intended QSO partner. The Lab N'Lunch will do a cheap homebrew Arduino Nano version of the $140 commercial Winkeyer; also is linked to W3FJP (logging software). KX4Z's is a modular build. Showed the circuitboard on a screen so that Zoom and live meeting participants see basically what the circuit looks like.

5. **HOME STATION DAMAGE REPORTS AFTER HURRICANE DEBBY.** Report on much equipment that "went out" as a result of the recent hurricane. Gordon showed his dead Evolve III computer whose battery almost blew up. Other hams in our area also had damage as a result of the hurricane. KX4Z in particular suffered an historically unusual amount of damage from what was a fairly minor storm.

6. **SIMPLEX VOICE & P2P DATA.** KX4Z talked about the differences between P2P data and simplex voice modes. A good number of the members are interested in practicing P2P. So we will probably leave the EOC machine "up" on Wednesdays in a P2P mode for VARA FM data practice. KX4Z set up a P2P machine in the EOC so that members could practice sending P2P messages – in this case from the machine in the EOC main room and our machine in the radio room (which thanks to KX4Z now has resolved data issues that made it problematic during the last storm). Jeff Capehart talked about the reasons for doing more VHF phone simplex testing. Next test will be on August 29. Jeff passed around handouts that have the simplex checkin protocol. Use these forms to log in the stations each operator can hear as the simplex checkins are done. An updated version of the form is on the GARS website. We are trying to get as many people as possible to check in – this is how you can know whom you can hear simplex (not repeater) during an emergency when the repeaters are not working. Submit lists to Mike Martell and Lorilyn. This will provide good data for operators to consult.

7. **HURRICANE DEBBY ARES AFTER ACTION REPORT DISCUSSION.** KX4Z talked about the AARIP. How it is set up. Talked about the amazing number of checkins on our .820 VHF Command Net. Far better than we'd done in the past. Our shelter volunteers are critical to the life of ARES – no volunteers at shelters mean we're useless to the County. We need more deployable volunteers. KX4Z showed the Winlink GIS mapping utility that we tested the for the

first time. There was some missing information, but the reason for this could be the fact that KX4Z's station equipment was offline. We didn't discover the filters on the mapping utility until after the event. The hams out there can be the eyes and ears on situational awareness and can provide this capability to public safety, utilities, public works, etc. W4JIR went through his discussions today with David Peaton here at the EOC concerning GIS. There is now no GIS trailer here in Alachua (it went to Jacksonville). We eyes-on-the-scene amateurs can create a map, even if there is no Alachua County GIS trailer. Here at the EOC there is software/board – and now we have permission to input information into that board! Peaton said "tell me what you want to capture and I'll give you a separate column on the board." We will get back to David Peaton on what we can do to provide information. Shelter reports? What do they report to the EOC from a shelter? The shelter manager reports directly into the EOC – shelter population counts and shelter needs. Obviously, our data possibilities and how to interact with the EOC's systems will need to be worked. KX4Z reported that Jen Grice said our essential missions include at least two: comms with the State (for which we have seven ways); second main mission: keep us in touch with the shelters. The shelter piece means that we'll have to know what the information requirements are from the EOC to the shelters. What are the EEI's for the shelters? We need to practice this information needs at least once during a deployment. We don't need shelter counts, etc., every hour. But we DO need to understand what the EOC is asking of the shelters. Susan Halbert said that it would be useful to have maps/situational awarfeness for trees down, floods, etc., that could be provided to the shelters (so they can know what shelter guests are able to go home). Drone information? That's all provided now by ACFR. This is how information is developed for what is actually going on (flooding creeks and waterways, for example). For future, we need to know who information can go from the EOC to the shelters – for example, road hazards, gas availability, other GIS mapable information that can go back and forth by radio data. Improvement ideas: there are more than 25 from the AARIP that KX4Z showed on the screens. Each improvement idea was discussed. Consensus seemed to be that this will be a situation specific call on frequency of net roll calls. Start out on hourly call, suggested W4JIR, and then back off to fewer. No resolution, but a consensus that we should let Net Control decide how often the net will be done. KX4Z talked the issue that the EOC's Icom transceiver was presenting issues such that digital FM and phone cannot be done on full power. "Looping" EOC and NF4RC (the latter, a digipeater, locks on a transmission cycle) seems resolved – the EOC station was set on digipeater for VARA FM. This may have been what triggered the digipeater NF4RC. We need to improve "occupying" a frequency to keep the nets going. We had missing field situation reports from our logs and we don't know why. Dispatching messages to NHC...Jeff Capehart suggested this. NHC looks for reports from the "path" of the hurricane, not from those outside the path who are merely "affected." A number of other items discussed. More weather information on net? This is needed. Last point: digital VARA P2P on Wednesday? We will do this...leave the EOC station on P2P mode Wednesdays for several hours to allow folks to practice P2P operations. W4JIR suggested that we ask D Peaton/EOT to make sure that batteries are taken from our room for each box that is deployed. AARIP approved by meeting participants.

8. **REVIEW: METHODS FOR SENDING 214 FORMS.**

9. **VHF EXOTIC TECHNIQUES.** Mike Hasselbeck did a presentation on weak signal VHF. "Exotic Communications Techniques." The subject of his talk concerned two specific weak signal VHF/UHF modes: SSB meteor scatter and moonbounce. Nothing to do with FM. These are digital modes – which one used depends on what kind of information you are trying to convey. Meteor scatter and moonbounce are entirely VHF and UHF, with "minimum QSO" –

exchange of call sign and signal report. WSJT-X is the source of the software used by practitioners of these two modes. Mike walked the crowd through WSJT-X and Joe Taylor's intent in inventing all the weaksignal modes – in this instance meteor scatter and moonbounce. Two general use scenarios: slow and fast modes. Fast modes – millisecond path openings using very fast modes. Foundation work for WSTJ is "compact messaging." Messages can be very efficiently coded. Message content can be strongly reduced. Other information can be added by virtue of this concept: Forward Error Correction! FEC is the crucial enhancement that CW does not have. In modern electronic communication, FEC is everywhere. FEC is the "secret sauce" that allows weak signal modes to work. Meteor scatter uses E Layer, 60-90 miles above Earth's surface. Sustained ionization in summer and around Christmas. 600-1100 miles of sustained contacts on 6m. Meteor scatter is random and the path opens for milliseconds. Ionization here has nothing to do with the Sun. Meteors coursing through the atmosphere cause ionization trails; these in turn are like fleeting radio mirrors. The ion trail reflects radio waves...pretty much every day mornings all year. VHF DX is possible at 500-1300. Except in major meteor showers, ion trail disappears very quickly. The major showers can cause trails that last for minutes. Short lived ionization trails called "pings." Last a second or less; contacts much more common on 6m than 2m. Pings are coming in 24/7 laid out the history of the high speed meteor scatter protocols, such as MSK144, which came out in 2016. Uses 15 second windows. Talked JT65 and Q65, which are modern codes with FEC that permit incredibly weak signals; modest stations with no elevation are now possible. Most EME on 144, 432 and 1296 MHz. KX4Z said that we have been offered a 1 kW amplifier for 6m. No answer yet.

10. ADJOURNMENT. At 2105 EDT.