

# Alachua ARES/NFARC/NF4AC Clubs

## MINUTES

**November 11, 2020**

Meeting held via ZOOM, instead of in person at the American Red Cross, Gainesville Red Cross, 6<sup>th</sup> Ave NW and 16<sup>th</sup> St

Attendance: altogether 13

Craig Fugate KK4INZ

Gordon Gibby

Jeff Capehart

Leland Gallup

Rosemary Jones

Susan Halbert

Vann Chesney

Tom Gause

Jim Bledsoe

John Trites NO5X

Wendell Wright

Earl McDow K4ZSW

John Kotsay, KN4ZUH

**Introductions.** From 1830 until 1859 when the meeting commenced. October 2020 Minutes approved.

- 1. UPDATES ON CREDENTIALLED VOLUNTEERS AND PATHWAY FOR NEW VOLUNTEERS (RACES).** Jeff Capehart said: if you have a county badge you're credentialed, if not, not. AA3YB gave update on the departure of Hal Grieb, the Emergency Manager, for a new job in CO; left last week. Gordon Gibby requested that a deadline process be established, and Jeff Capehart agreed this was a good idea to do processing by batch. February 15 suggested by KX4Z as a badging/course deadline.
- 2. APPROVAL OF OCTOBER 2020 MINUTES.** October minutes approved
- 3. POWER OUT! EXERCISE WRITING AND PUBLICATION.** Susan Halbert touted the advantages and skills gained by actually drafting, executing, and publishing an exercise. The improvement plan for the exercise was shown on a slide that all meeting participants could see. Main problem was portable digital equipment in the field, and familiarity with ICS forms and concepts. The Feb 2020 exercise showed we have improved. Susan's view is that we haven't done enough exercises to really get people familiar with the ICS process, and how the pieces fit: how scalable and modular it is. Bad point is that the ICS system is paper heavy. Perhaps an overview, the "Grand Idea" of the system, would be good as a quick refresher for the group. Many organizations use ICS and it is crucial for us to have familiarity. Learning to function in ICS is what we can practice. Next person to volunteer in designing, writing, and leading an exercise will have a great time and learn a great deal. KX4Z said we have many of the forms in word processing format so that one just needs to cut and paste. AA3YB echoed Susan's comments, encouraged others to run a simple exercise in the spring using the ICS system. An

example would be an exercise calling for contact between the shelters and the EOC using the new go-boxes. Rosemary didn't want to do an exercise with ICS but Susan said that the County would like ICS; Gordon reiterated that you'd have to write down the who what where why. Rosemary resistant. Topic to be revisited.

4. **GENERAL CLASS OVERVIEW**, 5-6 enrolled; difficult to know exactly how many people signed up for the course as opposed to building the antenna. Charlie Amico and Jim Bledsoe are new instructors. Almost all antenna materials are now available.
5. **BUILDING MULTI BAND END FED ANTENNA FOR THE GENERAL CLASS COURSE UPDATES**. This is similar to the one that we've built before, but tweaked. Materials are more expensive; wire alone is \$13.5! The transformers will have better wire jacks and will be 3T/21T...better on the lower bands. Not like the Myantennas commercial implementation, but a lot less expensive!!
6. **PUBLICATION OF 2020 EXERCISE AND PUBLICATION PRESENTATION TO STAFF OF ALACHUA COUNTY EOC**; this is now published, and KX4Z presented copies to the remaining EOC staff which is impressed with what we're about.
7. **BEGINNER'S CORNER: MICROPHONE WIRING**. KX4Z took 10 minutes to work through how microphones are wired. There are three wires; two are easy, and one has issues. Ground – sometimes there are two grounds, one for PTT and one for mic (difficult to keep separate – put on shield wire if you have). PTT – almost always this is done by shorting to ground by a switch to initiate transmission. Old vacuum tubes could be negative voltage, even 150v DC, and could be quite a bit of current...as much as 40 mA. Newer radios: almost always 5V or less, positive, and 1 to 5 mA range. **BE CAREFUL WITH OLDER RIGS**. Microphone wire is now the “issue” wire. Used to be that it carried AC from a dynamic or crystal mic. Mic element was a little “generator” driven by acoustic pressure so only produced AC. Dynamic mics...very low impedance (voltage to current ratio) do fractions of a millivolt. Crystal mics, very HIGH impedance (voltage to current ration) so 20-40mA common. These days, Electret mics are common: changed everything Permanent charges on sides of nonconductive resin. Voice sound pressure makes the edges move, so C changes and produces a TINY voltage (ac voice). Needs an amplifier to work. All electret mics now include their own JFET amplifiers ..and expect to get DC power for it on the “Mic” wire (typically 3-8 VDC)...and that wire will also have AC on it...a few millivolts. KX4Z described how the early “Signalink” boxes that he'd created had problems...solution to the problems were to us a 1 mf capacitor. Both DC and AC is the issue. Don't directly connect to a transformer winding. Icom rigs you'll also see receiver audio on the mic plug.
8. **EOC HF RADIO UPDATES**. New HF antenna connection box; new tuner strategy; status of EOC personnel. AA3YB described the EOC equipment suite, the problems that appeared in using the tube amplifier with the tuner...the tuner would begin to tune in the midst of a transmission. This would cause issues for the amplifier, which would blow fuses...KX4Z found on YouTube the issue was a question of how the IC 7300 and the LDG 1000Auto II tuner would “play” together. Gordon showed a document he'd written that laid out a strategy for using the tuner with the radio...in semi auto mode. You'd tune only when you wanted to, by using the tuner button on the 7300. Problem with blow fuses in amplifier solved

9. **BEATTY TOWER.** KG4VWI talked about the issue of .030 and .070 stations and how there can be interference between the various digipeaters. KX4Z suggested changing Mike Ridlon's RMS to a different frequency and then Beatty could be used for digipeating more effectively; this will require a Zoom meeting to do the COMML work in network path and support design.
9. **DECEMBER MEETING AND GOALS FOR 2021!** KX4Z's suggestion list so far includes a conference later this coming year; tech class for high schoolers; help people get on HF and exercise on HF...JS8 call net?; More APRS; VARA FM? Explain Shelter Web to EM. Wants people to think about what we may accomplish and be ready to talk about this at the December meeting,.
10. **FINANCIAL NET#3 AND SPECIAL SAFER TECHNIQUES.** Tom Gause talked about the financial meetings for the past year. People in ham radio are getting older and looking for a way to have income in their older ages. Gordon has laid a good foundation on financial planning. One question that came up was the difference between common and preferred stocks. Tom decided to do a presentation on preferred stocks and why they are advantageous for people getting older...why this reduces the risk factor for older people who need stability. Fixed income stocks are sort of between bonds and common stocks and can act as an income source. If folks are interested in this, there could be discussion of puts and calls, etc. Starting with preferred stocks would be a good starting point.
11. **REBUILD 30 YEAR OLD TRANSCEIVER STORY.** An Icom IC-728. This is a 30 year old rig; had issue with some bands out and others are "flaky." KX4Z thought the issue was audio amplifier bias...but this turned out not to be true. Gordon used slides to show "crossover distortion," and why he thought that was the issue, and what he would see as he put an oscilloscope on the rig. Found that the IF mixer stages were ok...but the first mixer stage that took the RF and produced the first IF frequency was unstable...that was the issue. Local oscillator was "missing"...the phase loop locking system was stable...but the trimming capacitor insulator was going bad and the solder joints were in need of repair. Thinks this resolved the issue...we'll see....
12. **HF PROPAGATION MYSTERIES EXPLAINED.** KX4Z has written two articles; one on critical frequency and the next on D level absorption. Described basically how critical frequency is...critical for EMCOMM in short/mid range HF comms, and how D layer absorption varies by band and time of day.
13. **ADJOURN MEETING AT 2037.**