NFARC/NF4AC Clubs

MINUTES June 12, 2019

ATTENDING – 13
Gordon Gibby
Mike Ridlon
Jeff Capehart
Chris Carr
Rosemary Jones
David Huckstep
Vann Chesney
Carol Chesney
Leland Gallup
Larry Rovak
Earl McDowd
Susan Halbert
Mike Shaffer

Meeting called to order at 1904

----------EOC RADIO CLUB MEETING----------
NF4AC Radio Club discussed; COL Huckstep asked about what the NF4AC club was by contrast with the NF4RC radio club was. Gordon Gibby explained that the EOC radio club was established so the EOC could get the call sign NF4AC. The two clubs really are mirror images in terms of function and organization, but exist for the sake of separate operating identities as needed. It is time for an annual meeting to elect NF4AC officers.

Gibby is the trustee of AC, Capehart is the trustee of the AC (EOC) Club; Gibby nominated Ridlon, someone nominated Capehart;
Votes: Capehart got 6; Ridlon got (lesser number). Capehart elected P
Nominations for VP; Ridlon nominated; Ridlon elected VP
Treasurer: Rosemary Jones nominated and elected
Secretary: Gallup nominated and elected

Officers and minutes at least once a year are all that is needed for the NF4AC club to be real. This evenings election and minutes (the same for both AC and RC clubs) constitute the necessary activity for the AC club to retain organizational life

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NFARC Meeting:

Minutes from May approved with amendments noted on emails.

Attendees roll call for this evening.

NF4AC signups for membership passed around and given to Gibby.

EC-001 Course. Homework doesn't need to be turned in. Gibby described the organizing principle for instruction was actual operations/hands-on experience to make the reading content come to life. For example, course participants practiced net control and net traffic operations and management by means of VHF transceivers. Radiograms and voice traffic both practices. Second week 11 go boxes going at once in the room. VHF and HF gateways going and people who had never done Winlink did it and learned the process. Nets with Radiograms done; six to 8 messages, repeaters, side frequencies all working, net controls were very busy. Consensus of participants from the first two sessions is that the course is outstanding. Last Session set for 15 June, the next Saturday. Exam is at 1600 next Saturday; call Allan West and tell him if someone wants to take the test and hasn't attended the course.

June informal exercise: have to send Winlink messages to Jeff Capehart; one to Gmail and one to his Winlink address for extra credit. Will Capehart's "whitelist" cause problem? Whitelist is a list of allowed emails; Winlink has a "whitelist" to not have people on spam. //WL2K is how to get around the whitelist issue. We sent Winlink messages as texts to phones.

HF antenna measurements demo. Gordon Gibby used his spectrum analyzer to show how much bandwidth the device has, with manual attenuation on top of "outside," and then did a run to show the state of the noise in the bandwidth chosen. Started with 3 to 8 MHz freq. He then adjusted bandpasses so that we could see ham signals in the 40 meter band very clearly. This established that the EOC roof antenna is now usable on 40 meters; 80 meters is still shrouded in noise, but it looked from the analyzer that there may be some signals on 80m.

Dr. Gibby showed a June 2019 document that illustrates the antenna conditions at the Gibby household and here in the EOC. There is still interaction in the EOC on the 80 meter band, but nevertheless much better than what was there before. The document reflects Ryan Lee's work, along with the support of COL Huckstep, in dramatically improving the antenna situation. The spectrum shows the lower (digital) part of the 80m band is much noiser than the phone part (75m). Dr. Gibby suggests that an outside antenna would give us the 80m on both digital and phone bands. Otherwise we have a usable antenna!

Background checks. Six have gotten fingerprints so far. How often fingerprinting and background checks may be necessary has not been worked out so far. We will have to run that issue to ground. At the NFL SEC conference the word was put out that every year was needed. This probably is not the case for true amateur volunteers who don't work every day. Everything should be done within a week to 10 days. Try to get done by Monday. The ASO office is open at 0700. Take the piece of paper provided in Jeff Capehart's email as printed out, so the ASO has something to look at - give to the technician. The next phase is to get the credential cards. They are trying to batch the processing, and we've not gotten the work yet on phase 2. Six previously have gotten the background checks, and there are now 12 additional who will get checks.

Ideal transistor amplifier, second step. Dr. Gibby wanted the group to understand at least a single transistor operation, starting with an ideal amplifier. This helps us to understand feedback. Transistors have great signal amplification. Dr. Gibby used a variety of drawings to illustrate. Tiny voltages applied to one input of the transistor will be normally be used to replicate the signal (voltage) with respect to controlling a vastly greater voltage – amplification. When there is a voltage reducing circuit attached, the the high gain is reduced and the effect is a stabilized output -- the input and the output voltages on the transistor inputs are fairly close. These voltage dividers are how systems are made stabilized. Gains of 10 as compared with much greater unstable gains. Use voltage dividers to determine the stable amount of amplification using negative feedback. Transistors are thus superb for

amplification uses. Signals cause small change in current which through the transistor and feedback will cause defined large currents (amplification). Using resistors makes for increased negative feedback; negative in that it opposes the change we began with. He then summarized the processes by which these circuits can be optimized for practical uses. Resistors determine the gains that result. Figure out AC resistances in the collector and the ….gives you the overall gain. Capacitors short out resistors in the AC, so gains of stages are instantly determinable. The discussion will continue next meeting for discussions of how to keep transistors in their "happy places."

Extra Class license instruction scheduled for August 2019.
Dr Gibby recruited instructors from ARES members present.
Gallup will do E1 and E2
Chesney will do E5, E6, and E7
Halbert will take propagation E3
McDowd will take safety E0
Gibby will do signals and emissions and E8 and E9
Capehart will do amateur practices, test equipment and measurements E4
Classes are August 17 and 18. Second day is at Dr Gibby's house. Test will be a month and a half after the course in August.

JS8Call demonstration. Using the EOC antenna, Leland Gallup demonstrated with his own equipment how JS8call works. He briefly described the history of digital modes and used the gear to give a real, live, demonstration of JS8call and its utility for weak signal emergency communication possibilities. When other, faster, modes are available, use those. When weak signal is all one has, use JS8Call. Gallup described JS8Call's store and forward capability, as well as its beacon ("heartbeat" in JS8Call parlance) and network creation aspects – like packet for HF weak signal.

Meeting adjourned 2100.