

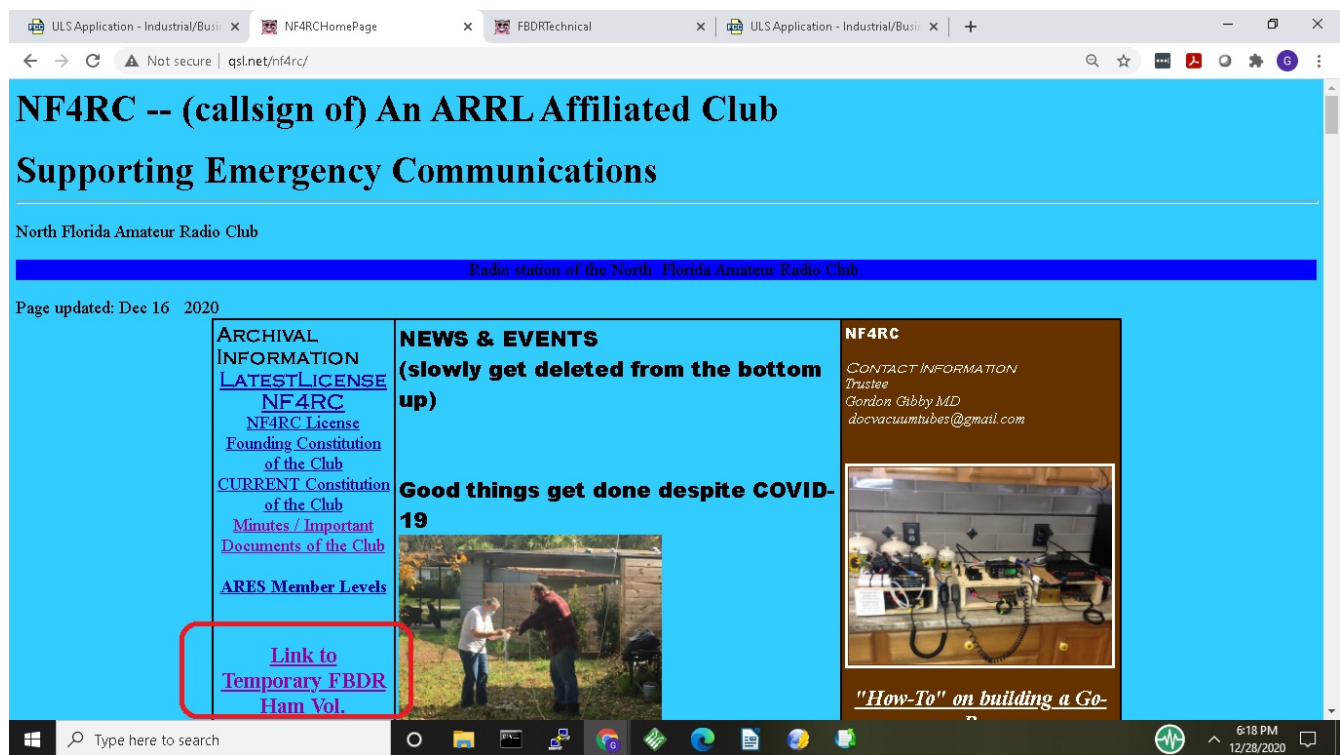
RESPONSE TO REQUESTS:

1. UPDATES ON REPEATER LICENSING
2. PROPOSED JANUARY TESTS / MEASUREMENTS
3. PROPOSED PHYSICAL QUALIFICATION ITEMS
4. READY TO TRANSIT LIST?

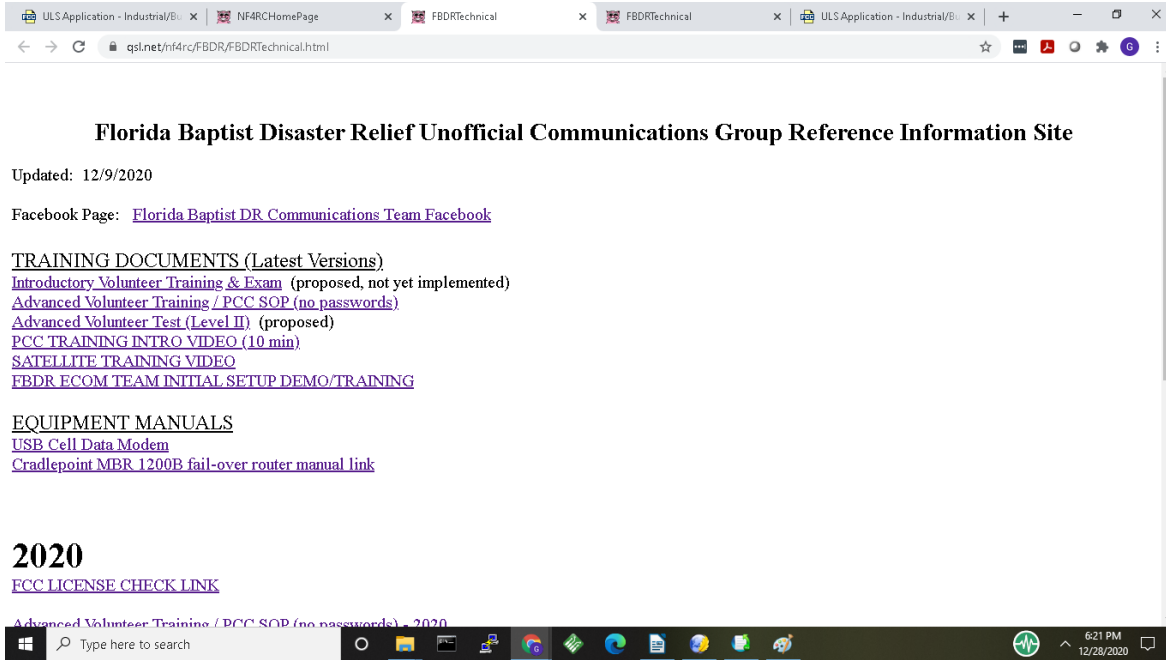
G. Gibby 12/28/2020

1. Updates on Repeater Licensing

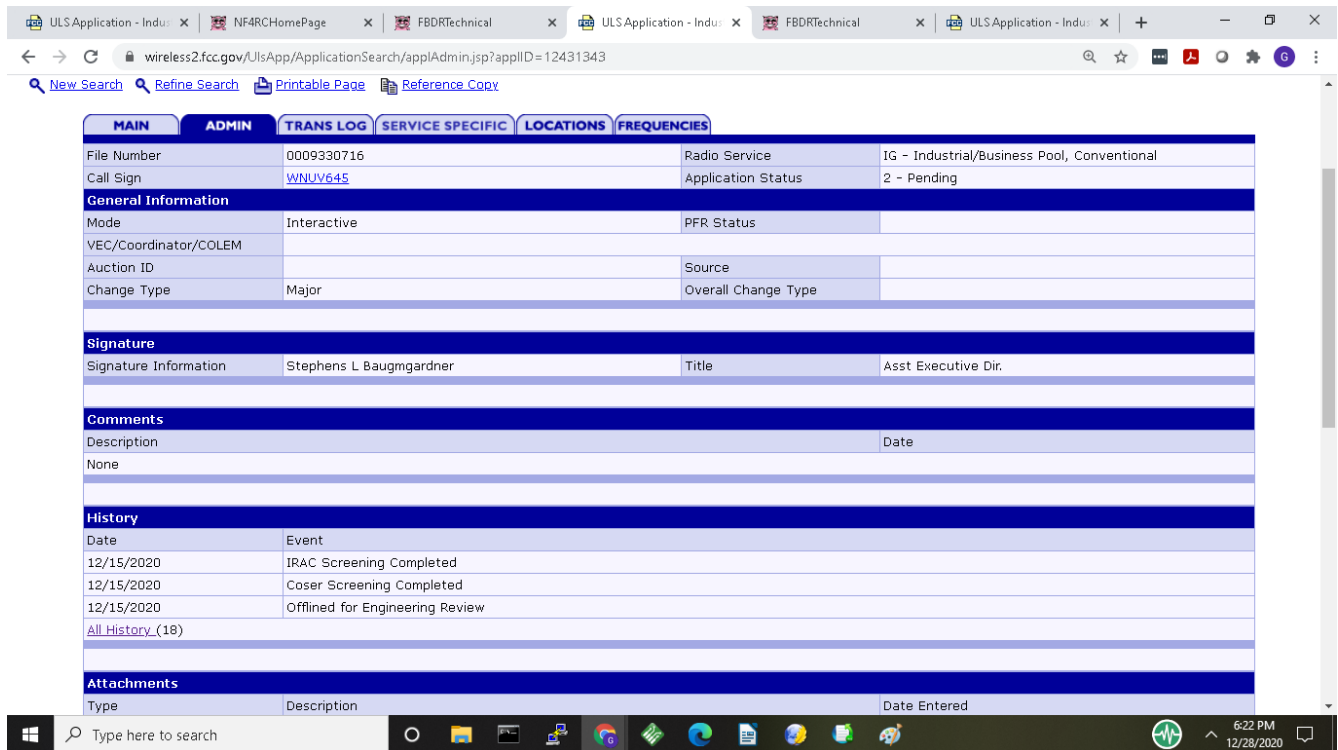
My club's web site (qsl.net/nf4rc) has a temporary link in the left most column of important links to a temporary page for keeping track of FBDR documents. See red-outlined link shown below:



Following that link leads to a page with multiple links, including one that gives access to our FCC filing:



Following that link, and then going to “ADMIN” History allows you to see that we are still in limbo:



Proposal Alternatives:

December 28 2020

(1) I can take home the KENWOOD DUPLEXER and attempt to remove portions that won't work for us, and create some minimalist #2 Business Band repeater out of the duplexer and power supply, using whatever controllers and radios I can make work with that. This would provide us with the "second" repeater that we have petitioned the FCC for approval. The main advantage of this option is possibly a repeater that is more easily programmed BY US and have nicer repeater responses, such as roger beeps, that we're more used to,, without the need for an external expert; the disadvantage is that the result may not be as cosmetically appealing as a commercial repeater.

(2) For in the range of \$350-\$500 we can purchase a used repeater on Ebay and have either the seller or a helpful friend tune it for us, example:

Approx \$350: <https://www.ebay.com/itm/Motorola-PM400-UHF-Pair-With-RICK-And-Duplexer-438-470-MHz-Repeater/264989584636?hash=item3db29c2cfc:g:MOcAAOSwsOBf5mAx>

I'm OK with either plan, I just don't have the ability to carry out #2.

2. PROPOSED JANUARY TEST/MEASUREMENTS

Background: Literally hours of testing during Pensacola were unable to find any advantage to the cell data modem to use either exterior cell phone antenna. Unless someone can show some improved item to test, I'm not ready to repeat any of that arduous testing, which involved both observations of the Cradlepoint and also connections using network-based software. It was unclear if the difficulties were in the (a) antennas, (b) coax cables operated potentially at GHz frequencies, or (c) the connection or internal wiring of the cell data modem. (see: <https://qsl.net/nf4rc/FBDR/2020/vzw-global-modem-usb730l-ug.pdf> and https://manuals.solidsignal.com/Manual_for_MBR1200B.pdf)

As a result of that disappointing outcome, in December I was able to carry out brief tests of a WEBOOST ATT cell phone boosting system which had very impressive outcomes to say the least.

- 10 dB outside directional antenna that worked the same no matter whether pointed south or north at Lake Yale, perhaps due to reflections from all the trailers
- 30-100 feet of RG8 cable TV coax
- 60 dB bidirectional amplifier (WEBOOST)
- 1-3 dB internal amplifier

– Cell phone signals on ATT cell phone went from non-existent to 2-3 bars close to the internal antenna (2 feet)

– Unexpected, cell phone signals on a VERIZON cell phone also skyrocketed from non-usable to easily usable. (our cell data modem is VERIZON)

NO TESTING involving the cell data modem was able to be carried out due to time constraints and other factors.

Proposed Testing

#	Proposed Test	Outcome
1	Using spectrum analyzer, attempt to determine if the att/verizon signals being amplified are in the 750MHz band, or the 1700/2100 MHz band.	
2	Observing the signal level to the Verizon cell data modem, determine whether it also sees significant improvement in signal level. (Inexplicably, at Pensacola, the cell data modem seemed to see some signal level INSIDE the trailer when our cell phones generally don't; I do not have an explanation for this, but the cell data modem did seem to do better when positioned up near the vent opening in the roof.	

3	If possible, attempt to measure speed of transfer with and without the booster	
4	Compare using the provided WEBOOST external antenna to the PCC trailer roof-mounted cell phone antenna(s) – this will require raising the aluminum towers. It is possible that the spectrum analyzer or the “bars” on the cell data modem may provide the measurement – determine if the PCC trailer cell phone antenna(s) can be used as inputs to the WEBOOST	

3. Proposed Physical Qualification Items

We currently have an online manual and online test for both Level 1 (introductory)

https://docs.google.com/forms/d/e/1FAIpQLSe0J0dtbDAHgw6eLKaovniO0nVRR6Whu1Ume760G_0CptQlnw/viewform

and Level II (advanced) – see

https://docs.google.com/forms/d/e/1FAIpQLScjHbZwumyoSIDIce_k30CX2ZZWK8qsxj-jeLE_iqUeQOB1ag/viewform

At present we do not have any additional testing materials.

Part of the Level II (advanced) training/testing materials involves sending a WININK message to my winlink address, providing me a “check” as to the applicant’s WINLINK capabilities.

Most of the applicable items are already covered in the above training materials (or otherwise need to be added) ; I can assist in providing familiarization and testing/evaluation at Lake Yale with the following items:

Item #	Item	
1	Getting ham radio system going	
2	Answering questions on the networking	
3	Understanding of HF antenna options	
4	Practice using HF radio system for digital communications	

4. Ready to Transit List

It appears to have been proposed (but not yet discussed) that we attempt to leave the PCC trailer in “ready to transit” condition after each visit. This appears to be a new expectation, that needs discussion.

Unfortunately, the only known checklist for that is on pages 28-29 of the training document that I wrote (see: <https://qsl.net/nf4rc/FBDR/2020/CommTrailerSOP%28nopasswords%29.pdf>) and it was developed as a first-cut trailer movement PREPARATION document, not as a “leave it this way every time” document.

It would need some updating and review, since such items as an external network RJ45 plug have been added to the trailer since that document was written (I had to cut the wire when I got the trailer ready for transport to Pensacola; there was NO checklist at that point in time.)

So I propose that the group discuss what sort of checklist is desired, and edit as necessary, and then I can add that improved checklist and its application statement to the training document referred to above and forward it to Linda at Florida Baptist Disaster Relief.