

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
RESPONSE EFFORTS UNDERTAKEN)	ET Docket No. 17-344
DURING THE 2017 HURRICANE SEASON)	

**To: The Chief, Public Safety
and Homeland Security Bureau**

Via: ECFS Electronic Filing

REPLY COMMENTS OF DAN WHITE, W5DNT

Dan White, W5DNT, submits Reply Comments in response to Public Notice DA 17-1180 which requested public input on matters related to the 2017 hurricane season. The intent of this filing is to clarify to the Federal Communications Commission (FCC) in Reply Comments several characterizations contained in Comments filed by the ARRL, the National Association for Amateur Radio (ARRL). It is noteworthy that many, if not most, of the amateurs involved in emergency preparedness are not members of the ARRL. Groups such as RACES, authorized under FCC Part 97.407, functionally report to local governmental entities, not ARRL.

1. I, Dan White, W5DNT, am a Registered Professional Engineer and an Amateur Extra Class license holder, first licensed in 1971. I have operated most all modes of amateur communication, including WINLINK and PACTOR, and am involved in Emergency Communications in an official leadership capacity in two Texas counties, as the RACES Radio Officer and ARES Emergency Coordinator for both nearby counties. I am also the District 2 Assistant Emergency Coordinator for ARES in North Texas. My interests in amateur radio are very diverse and widespread, not those of a “special interest group” such as those that have pushed for RM-11708 and subsequently

WT 16-239 as a way to provide free email and bypass commercial maritime services under the guise of “emergency communications” while exhibiting total disregard for incumbent narrowband spectrum users.

2. In the spirit of full disclosure, I am a Life Member of the ARRL and a member of both ARRL’s Maxim Society and Legacy Circle, in recognition of lifetime financial support. Having said that, it brings me no pleasure to openly and strongly disagree with Comments provided by the ARRL, but based on the very serious ramifications of both WT 16-239 if enacted by FCC and the Amateur Radio Parity Act (ARPA) if approved in Congress, I am left with no alternative but to openly do so. In ARRL’s Comments, they imply that future emergency responses are dependent on implementation of WT 16-239, the elimination of symbol rate limits, and the passage of ARPA. In fact, neither of these ARRL “wish list” items were real factors in the 2017 hurricane response. Moreover, if implemented in their current form, both would actually serve to hinder amateur radio related emergency response capabilities in the future by their very nature. The egregious elimination of the symbol rate limit in *ALL* narrowband HF & MF band segments, as requested by ARRL, would create significant interference problems, thus dramatically impacting highly reliable modes such as CW, which has proven itself throughout time to be the mode of last resort during poor conditions. Implementation of ARPA will dramatically limit the amateur’s ability to install adequate outdoor antennas and leave one totally at the mercy of uninformed Homeowners Associations, solely concerned about neighborhood aesthetics and unaware of the need for viable amateur radio during an emergency.

3. After reading through the first 21 pages of ARRL's highly opportunistic and self-promoting comments, primarily of a historical nature, their real "special interest" agenda begins to emerge in their Comments; the promotion of wideband digital waveforms in *ALL* of the narrow band HF segments and promotion of the Amateur Radio Parity Act, drafted in large part by and heavily slanted to favor Homeowner Associations, not amateur radio operators. ARRL's voluminous filing appears opportunistic at best, less than an accurate representation of the roughly 750,000 amateurs in the United States, many of whom are not ARRL members. In both of these matters, ARRL has seemingly failed to heed comments offered by industry experts.
4. ARRL notes in its Comments, at Sections 32-34, the matter of digital data bandwidth limitations. In ARRL's original petition for rulemaking, RM-11708, it asked the Commission to eliminate the symbol rate limitation of Section 97.307(f) of the Rules and to impose a 2.8 kHz bandwidth limit for all data transmissions below 29.7 MHz. ARRL, in its comments, clearly points out FCC's four year delay and urges that WT-16-239 be "resolved before the next hurricane season", almost as if it is an absolute necessity, in order to provide proper amateur emergency response capability. ARRL goes on to refer to the "Force of 50" and their request for Temporary Authorization and deployment of PACTOR 4 modems. As evidenced by the filing of Mr. Timothy Moloney, an actual on the ground amateur operator, it is noteworthy that the ARRL fails to mention the "Force of 50" was actually 22 individuals and more importantly that the PACTOR 4 modems were never actually even deployed or used for emergency traffic, which was handled successfully with currently allowed WINLINK systems, according to Mr. Moloney. This seems to negate ARRL's opportunistic public relations effort to sell FCC on the importance of PACTOR 4.

<https://ecfsapi.fcc.gov/file/1012254347531/FCC%20comment%20PS%20docket%2017%20344.pdf>

5. Many of the initial comments to RM-11708 were organized by “sailing forums” as a cut and paste non-technical response campaign, as evidenced by FCC time stamps. However, once the broader amateur community learned of the proposed rulemaking, hundreds of comments were filed against the proposal by some very knowledgeable amateurs, including such world recognized spectrum utilization experts as Dr. Theodore Rappaport. Unfortunately, when the Commission finally issued its Notice of Proposed Rulemaking in WT Docket No. 16-239, the bandwidth limitation requirement for all bands below 29.7 MHz of 2.8 kHz was not included. Sadly the ARRL’s original filing did not address interference with narrowband users nor did they incorporate advice freely provided them by Dr. Rappaport. The technical realities are that wideband emissions are incongruent with simultaneous narrowband emissions in the limited HF and MF allocations, thus requiring the Commission to impose bandwidth limitations in various HF/MF sub bands. WT 16-239 completely ignores the unintended technical consequences of interference that will result, despite the mandate that amateurs avoid interfering with others. While emergency communications ability is important, we must not lose sight of other important and longstanding legacy uses of the amateur service, namely the narrowband modes of CW and RTTY, and such new and novel modes such as PSK, FT-8 and JT-65. If the current baud rate limit were removed, with no corresponding limits placed on bandwidth, the results will be catastrophic. How can the amateur service be self-regulating and use the minimum bandwidth possible, yet have rules that allow unlimited bandwidth? Today's 300 baud limit serves as a governor or speed limit on the occupied bandwidth. Removing that limit and any bandwidth limitation makes the decision as to what bandwidth is needed for minimum interference an entirely subjective one. That is, one person's view may be to use more bandwidth than another. And with unlimited bandwidth, there is nothing to stop an operator from exceeding a sensible bandwidth and interfering with many

operators in adjacent frequencies. Furthermore, the FCC's implicit decision to make the bandwidth unlimited, while following the requirement to avoid causing interference, would only be useable in practice when no one else is in the band to interfere with! This clearly shows why there must be some bandwidth regulation, and why the narrowband users must be protected from the arbitrary wide bandwidth data signals. If the baud rate is to be generally unlimited then, (taking into account the special situation for 30 and 60 meters which should remain "as is" with current mode limitations, 30 meters should remain CW, RTTY and 500 Hz digital, with which both bands work very well at this time), there must be a hard limit placed on bandwidth, and that a 200 Hz bandwidth be imposed on the very lowest 50 KHz band edges to preserve the integrity of narrowband experimentation and operation, and that the 500 Hz bandwidth should be the maximum bandwidth on all data signals within the lower 100 KHz portion of every HF and MF band, to ensure that future PACTOR and other wideband data and WINLINK users do not overwhelm the very limited HF spectrum, where the vast majority of hams operate and experiment with CW, RTTY, PSK, FT-8, JT-65 and other narrow forms of highly spectrum-efficient data modulation. Many new such narrowband waveforms such as FT-8 are now very widely used by amateurs. Based on recent data from "Club Log" uploads, FT-8 represents 55% of all QSOs uploaded, more than all other modes combined! While SSB spectrum is not affected by WT 16-239, to eliminate the baud rate limit with no corresponding bandwidth limitation, literally throws ALL traditional HF narrowband spectrum under the bus, allowing signals of SSB equivalent bandwidth to freely encroach and egregiously interfere.

6. A truly complex question arises from ARRL's incessant wideband push; "what is amateur radio really all about?" To better frame that question, perhaps one should first consider "what is amateur

radio really NOT about?" That question really gets at the intended usage of some of this new wideband technology. Amateur radio is not a "personal or private communications service" nor a "quasi commercial service", where folks use it primarily to avoid paying for commercially available maritime data plans, text message their non-ham buddies, get weather maps for their commercial fishing vessels, order boat parts, post to Facebook, post blogs, etc. When FCC 97.113 is considered, there are better suited services reasonably available to the maritime community as a routine email provider, other than amateur radio. Amateur radio is not meant to be a global ISP, nor a radio based backup for the internet. Paradoxically, while ARRL objected strongly and rightfully to "Broadband Over Power Line" (BPL), their proposal of RM-11708 and WT 16-239 if enacted as is, would in essence bring broadband directly into non-phone frequencies, to compete directly with CW, RTTY, PSK, FT-8, JT-65 and other narrowband digital modes.

7. Amateur radio is not set up to be an encrypted service. As the FCC and ARRL have both said on numerous occasions in the past (RM-11699), we all need to know what is being said via amateur radio, and by whom. Surely Homeland Security and the National Security Agency would agree with that. After all, that is a key to the national security and self-policing aspects of our great hobby. Besides that, when a real emergency does exist, we need a transparent way to ensure that all know what is going on, so that frequencies can be properly cleared and made available for use. Right now with the new PACTOR modes, it is virtually impossible for an Official Observer to actually perform their duties with regard to all the automated email servers that are in operation. A functional Official Observer program is essential to ensure the integrity and lawful use of amateur spectrum. HIPPA is often used by PACTOR supporters as justification to "obscure" or encrypt transmissions. Interestingly, HIPPA only applies to "covered" individuals. Radio

operators simply passing emergency traffic are not even covered by HIPAA in the vast majority of cases. Furthermore, in seeking input from medical professionals, I consulted with a well-known Mayo Clinic physician, Dr. Scott Wright, MD, who is also an active amateur radio operator, K0MD. Dr. Wright is of the opinion that the true need to pass HIPAA sensitive traffic over the airways in an emergency is vastly over exaggerated. According to Dr. Wright, “HIPAA applies to covered entities as defined in the statute, defined as healthcare providers, health plans, and healthcare clearinghouses, who bill electronically. A radio station would not fit within the definition of a covered entity. As you may be aware, vendors who perform services on behalf of covered entities are classified as business associates, and the covered entity is required to enter into a business associate agreement with the covered entity by which the business associate agrees to comply with certain sections of HIPAA. Amateur Radio stations by definition are not covered or would not typically fit the business associate agreement. From a practical standpoint, it is most unlikely that HIPAA covered information would ever be transmitted via amateur radio. There may be a time when amateur radio is used to connect Hospital “1” with Hospital “2” so that health care providers can discuss management or stabilization of a critically ill patient. Even then, there is no need to reveal protected health information such as the patient’s name, date of birth, etc., to discuss a health issue or treatment plan. If during a life or death emergency, there is a need to transmit protected health information, it may be the lesser of risks to reveal it if the lifesaving information that is achieved by communication justifies the risk.” Dr. Wright’s position is further evidenced by the fact HIPAA was really not an issue in the Puerto Rico response. Any arguments that amateur operators need the ability to encrypt or obscure medical data should be ignored and summarily dismissed. May I also suggest to anyone that might believe amateur radio has a need for encryption that they look to other radio services to provide for their “customers”; encryption is not consistent

with the amateur radio service. When an operator is unexpectedly interfered with by one of these automated stations, callsign capture by FEC is often not practical and in fact beyond the equipment capabilities of most amateurs. A simple CW ID levels the playing field and should be a requirement of these new modes! The “busy detectors” sometimes enabled by automated stations have been demonstrated repeatedly to be ineffective at best in detecting anything other than another PACTOR signal. Busy detectors alone simply will not solve the interference problem. The fact that PACTOR claims a distinct advantage over other narrowband modes is in and of itself very problematic from an interference standpoint.

8. The single biggest problem many of us see is interference from automated stations. Based on data previously obtained from Winlink.org, many of these automatic PACTOR stations have operated at greater than 500 Hz outside of the required “automatic station bands”, with no apparent regard for FCC 97.221. If they don't have any regard now for existing FCC rules, one really has to question their future regard for any voluntary band plan the ARRL might or might not develop. To expect the amateur service to self-regulate its use of bandwidth in an HF environment with global propagation is quite unreasonable. Experimentation of wideband signals should be used at UHF and above where vastly greater spectrum is available to amateurs and where global interference cannot occur due to the lack of ionospheric propagation. It is very noteworthy that IARU Region 1 and 2 band plans place the wideband stations in similar ACDS sub-bands as FCC 97.221 attempts to do.
9. My strong recommendation is that the FCC protect incumbent CW, RTTY, FT-8, PSK and JT-65 users in the lower 100 KHz end of the HF and MF bands. Additionally, except as noted for 30 and 60 meters, a bandwidth limit of 200 Hz in the lower 50 KHz of each HF and MF band would

further ensure protection of CW and novel highly spectrum efficient low bandwidth modulations, like FT-8 and JT-65, developed by noble laureate Dr. Taylor of Princeton. Such narrowband experimentation is critical for the state of the radio art, one of the crucial missions of the amateur radio service. Furthermore, I believe the FCC should closely examine compliance with both FCC 97.221 and FCC 97.113 by automated and maritime email stations now in operation. The benefits of PACTOR 4 over CW or other modes in cases of emergency under adverse radio conditions are questionable at best, in part because despite the waiver granted on September 29, 2017 for use of PACTOR 4 in the wake of Hurricane Maria, it is reported that only administrative messages or tests were successfully accomplished with no actual emergency traffic conveyed using that mode. What remains most important is that bandwidth protection currently in place below 29.7 MHz by the 300-baud symbol rate limit of Section 97.307(f) of the Rules be maintained. This will protect CW and other modes that could be dramatically interfered with by use of systems with much higher symbol rates.

10. A separate sub-band for wideband data above the conventional HF & MF narrowband operational band sections, such as those described in Section 97.221 of the Rules, would be congruent with IARU band plans and would assure the integrity of narrowband operations. It also would be helpful to the Commission and the ARRL to use the extraordinary technical expertise of industry experts such as Dr. Rappaport, to address data usage in the HF and MF bands.
11. In Sections 35-37 of its Comments, ARRL argues a matter that is not even before the FCC at this time, and hopefully never will be in its current form: The Amateur Radio Parity Act (ARPA). This very lop-sided ARRL-proposed bill, negotiated by ARRL with the Homeowner Association

(HOA) lobbyist groups such as Community Associations Institute (CAI), was adopted as HR.555, and is now stalled in the Senate as SB 1534. In the opinion of many well-known attorneys and real estate experts who happen to be amateurs, if enacted ARPA would actually result in FEWER amateurs available to provide emergency services, not more as ARRL's comments seem to indicate.

http://www.cq-amateur-radio.com/cq_highlights/2017-cq/2017-08-cq/2017-cq-white-paper.pdf

Regretfully, ARRL never involved any of those industry experts, rather used its existing representatives to “negotiate” language with a better funded HOA association. Final draft language was provided by the HOA groups and in its haste to “get a deal done”, ARRL agreed. The result is a bill that will NOT help American emergency preparedness, rather hinder it, contrary to ARRL's Comments.

12. The language of ARPA has major flaws. It requires “prior approval” of any outside antenna by the HOA. HOAs are typically unfavorable toward outside antennas, hence the ARRL's need for ARPA to force them to do otherwise. Section 1 of ARPA gives the HOA power to effectively limit what bands an amateur may use. An HOA could permit only small whip operation on 2 meters because that would satisfy the Section 1 requirements. HF communications are necessary in a hurricane response, even by ARRL's description of events. Furthermore it gives the HOA the authority to decide what is aesthetically acceptable and what is not. All parties should readily see where that is hugely problematic.

13. A deed-restricted HOA resident who has been successfully using an outdoor antenna for years without permission now moves from possible risk of HOA enforcement to a federal law violation. By not obtaining “prior HOA approval”, the antenna owner is now in violation of the federal

regulations, which preempts HOA rules! A CB operator caught in the same situation is subject only to HOA fines, not federal law, because only the Amateur Radio Service is included in ARPA. A federal violation could even have FCC licensing consequences for the amateur.

Conclusions

While ARRL's submission offers the FCC some useful historical information, it falls woefully short, in the context of emergency preparedness or otherwise, of justifying their purported need for wideband data in ALL narrowband MF & HF band segments. Moreover, it totally fails to address significant interference problems associated with it, which would be exacerbated in emergency preparedness situations. It would better serve the public interest if real experts, not just "ARRL management", were consulted to seek solutions to such interference problems. ARRL's current recommendations would result in harmful interference, thus actually hindering future amateur radio emergency response capabilities. Furthermore, the use of encryption by way of undocumented codes such as PACTOR 4 should be reviewed as a matter of national security and not permitted.

ARRL's comments on ARPA, which drastically favor HOAs to the detriment of amateur radio emergency preparedness, are misleading at best and certainly not representative of the best interests of amateur radio as a whole, much less the interests of national emergency preparedness. FCC is urged not to give any weight to ARRL's misleading and misguided comments on this issue.

Respectfully submitted,

By: *Dan White*
Dan White, W5DNT

Dan White, W5DNT
8803 Bellechase Road
Granbury, Texas 76049
W5DNT@ARRL.NET