Before the Federal Communications Commission
Washington DC 20554

In the Matter of

Amendment of Part 97 of the Commission's
Amateur Radio Service Rules to Reduce
Interference and Add Transparency to Digital Data
Communications

RM-11831

Reply Comments to William Axelrod, K3WA

This is a reply to comments filed specifically in rebuttal to my own by William Axelrod, K3WA.

Although Mr. Axelrod concedes that my comments are mostly correct, he still misinterprets or misrepresents them. I address his remarks here.

His “National Security” claims cannot be taken seriously

Mr. Axelrod may have missed my mention of the supposed impact of so-called “effectively encrypted” amateur digital communications on national security as I placed them in footnote 17 at the end. I was brief because, quite frankly, the alleged threat is impossible to take seriously. Communications has become a bit more mainstream in the eight decades since Pearl Harbor, when Japanese-Americans were sent to internment camps and any radio amateurs among them had their equipment smashed.

Except in isolated totalitarian states like North Korea, international communications by ordinary citizens is hardly novel or suspicious. The Internet is a faster, cheaper, more accessible, more reliable and yes, far more secure and untraceable means of international communication than any amateur radio mode could ever be, with both amateurs and the NSA listening. On the Internet, true end-to-end encryption (not the phony “effective encryption” at issue in this proceeding) is readily available, widely used and completely legal; I routinely use GNU Privacy Guard (GnuPG) to encrypt email with foreign friends. Traffic (i.e., “metadata”) analysis is easily thwarted with the TOR (The Onion Router) network, public WiFi hot spots, free anonymous email services, “burner” phones, public computers and the simple expedient of carrying a thumb drive or dropping it in a public mailbox. Even if Winlink/Pactor were banned from the ham bands in the US, the technology would still exist and be used legally outside the US. Even in US jurisdictions, it could be used either legally or illegally outside the amateur bands. (Anyone seriously interested in security would be well advised to apply their own end-to-end encryption before passing their data to a Winlink-like service.)

In any event, the record thus far shows that Mr Axelrod, along with the original Petitioner and other supporters of this proceeding, are simply mistaken in their assertion that there is no way to monitor Winlink messages.

Mr. Axelrod misunderstands my concerns about education and experimentation

Although I do not believe that Winlink and Pactor should be banned from the amateur bands, my comments were not intended solely to defend them. At present I do not personally use either technology. I am not a sailor. I am not a Winlink or Pactor developer or sysop, nor do I have any business interest in either technology. It should have been clear from my emphasis on unintended consequences that my concerns about RM-11831 are much more fundamental and go well beyond any immediate harm to Winlink and Pactor and their users (including in emergencies). If the ability to monitor an amateur communication becomes paramount, not only will the stated goal *not* be achieved, but most experimentation in the amateur service will come to a screeching halt. As I explained in my original comments, *anything* one might do to use the spectrum more efficiently and otherwise advance the radio art — as mandated by the rules — *necessarily* makes a communication harder for third parties to monitor. That's just math and physics.

I define "education" very broadly in the context of amateur radio. It is not only useful for formally teaching beginners about existing, widely used radio techniques, e.g., in preparation for an amateur license exam. It is also an excellent testbed for anyone (especially individuals and small informal groups) interested in designing and testing novel emission modes. This has

become easier than ever before with software defined radio (SDR) hardware and publicly available software toolkits such as *GNU Radio.* Indeed, I believe that the full potential of amateur radio as a personal, noncommercial vehicle for technical experimentation and education is far from being realized, to the detriment of the service. We do not need even tighter restrictions on such a clearly beneficial activity.

The Amateur Service has many co-equal uses

Mr. Axelrod doesn't seem to think much of electronic mail. The RACES and Red Cross organizations who use Pactor extensively in emergencies might disagree. But there's a much more important point to be made here. Amateur radio has always been a loose affiliation of "sub-hobbies" under a common umbrella of regulation and licensing, with users sharing the spectrum among themselves (the rules clearly state that no frequency is assigned for the exclusive use of any amateur station.)

Hams have always specialized in those aspects of the hobby they find most interesting to them. Personally, I am not very interested in DXing or contesting (which I see as high tech forms of stamp collecting) but I will *not* say that they deserve any less recognition or protection than my own interest in technical experimentation with new digital modes. I am not a sailor, but I will not say that those who do sail shouldn't be permitted their personal choice of operating mode, especially one (compressed text over an efficient digital modem) that is clearly much faster and far more reliable than passing messages by conventional SSB voice. If anything, there is an obvious utility to amateur HF digital communications as an emergency backup for small vessels

on the high seas — and emergency communications has always been given priority to all other uses of the amateur bands.

Unlike Mr. Axelrod, I will not presume to decide for today's young people which aspects of amateur radio should or should not appeal to them. I have been mentoring high school and university students during the 7+ years of my retirement, and I've always found it best to show them what's available and let them speak for themselves. I also tell them what *could* be available and challenge them to build it.

Respectfully submitted,

Philip R Karn, Jr, KA9Q