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

In the Matter of	**)**	
	)	
Amendment of Parts 2 and 97 of the	**)**	**ET Docket No. 10-98**
Commission's Rules to Facilitate Use by	**)**	**RM-11353**
the Amateur Radio Service of the Allocation	**)**	
at 5 MHz	**)**	

To: The Commission

COMMENTS OF ARRL, THE NATIONAL ASSOCIATION FOR AMATEUR RADIO

ARRL, the national association for Amateur Radio, formally known as the American Radio Relay League, Incorporated (ARRL), by counsel and pursuant to Section 1.415 of the Commission's Rules (47 C.F.R. § 1.415), hereby respectfully submits its comments in response to the *Notice of Proposed Rule Making*, 25 FCC Rcd. 5108, 75 Fed. Reg. 33748 (the Notice) released May 7, 2010. The Notice, issued in response to ARRL's 2006 Petition for Rule Making, RM-11353, proposes to modify certain of the Part 2 and Part 97 rules governing Amateur Radio pertaining to the use of certain channels in the 5 MHz (60-meter) band, in order to facilitate more efficient and effective use of the Amateur secondary channel allocations in that band. Generally in support of the Commission's Notice proposals (but with some suggested modifications), and in the interest of the Amateur Service in the expanded, compatible use of these channels, ARRL states as follows:

I. Introduction and Background

1. As detailed in ARRL's 2006 Petition for Rule Making, the Commission's 2003 *Report and Order* in ET Docket No. 02-98 (FCC 03-105, 18 FCC Rcd. 10258), among

other things, allocated to the Amateur Service five channels within the band 5250-5450 kHz on a secondary basis. The purpose of the allocation, according to paragraph 1 of that *Report and Order* was to provide "spectrum for amateur radio service licensees to participate in a voluntary, noncommercial communication service which provides emergency communications and allows experimentation with various radio techniques and technologies to further the understanding of radio use and the development of new technologies." The allocation was made pursuant to Footnote US381 to Section 2.106 of the Commission's Rules, the Table of Allocations.[1]

2. Pursuant to and by way of implementing that allocation in the Part 97 service rules, the Commission in the same *Report and Order* amended Section 97.303 to add a new subsection (s) thereto, which presently reads as follows:

> (s) An amateur station having an operator holding a General, Advanced or Amateur Extra Class license may only transmit single sideband, suppressed carrier, (emission type 2K8J3E) upper sideband on the channels 5332 kHz, 5348 kHz, 5368 kHz, 5373 kHz, and 5405 kHz. Amateur operators shall ensure that their transmission occupies only the 2.8 kHz centered around each of these frequencies. Transmissions shall not exceed an effective radiated power (e.r.p) of 50 W PEP. For the purpose of computing e.r.p. the transmitter PEP will be multiplied with the antenna gain relative to a dipole or the equivalent calculation in decibels. A half wave dipole antenna will be presumed to have a gain of 0 dBd. Licensees using other antennas must maintain in their station records either manufacturer data on the antenna gain or calculations of the antenna gain. No amateur station shall cause harmful interference to stations authorized in the mobile and fixed services; nor is any amateur station protected from interference due to the operation of any such station.

The reason for the unusual restrictions placed on Amateur operation on these channels,

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[1] That footnote currently reads as follows:

> US381 The frequencies 5332 kHz, 5348 kHz, 5368 kHz, 5373 kHz, and 5405 kHz are allocated to the amateur service on a secondary basis. Amateur use of these frequencies shall be limited to: (1) a maximum effective radiated power (e.r.p.) of 50 W; and, (2) single sideband suppressed carrier modulation (emission designator 2K8J3E), upper sideband voice transmissions only.

and the reason why individual channels were allocated to the Amateur Service instead of the normal band segment allocations used flexibly by Amateur Service licensees, is due principally to the need to protect primary Federal government communications in that band. Internationally, the band 5250-5450 kHz is allocated on a primary basis to the fixed, and mobile, except aeronautical mobile, services. There is currently no international Amateur Service allocation in this band. [2] In the United States, the 5250-5450 kHz band is allocated to the fixed service on a primary basis for Federal Government and non-Federal Government use, and on a secondary basis to the mobile (except aeronautical mobile) service. There are other applicable footnotes to the United States Table of Frequency Allocations which provide for Federal and non-Federal Government maritime and aeronautical mobile stations to use this band, among others, for various non-communication purposes. [3] The band is primarily used by the United States Government for ship-to-shore and fixed point-to-point communications. There is also a limited amount of non-Federal Government use. [4]

3. The Commission had initially proposed in ET Docket 02-98 to allocate the band 5250-5400 kHz on a secondary basis to the Amateur Service domestically, with the normal 1500-watt power limit applicable to other Amateur allocations in the High Frequency (HF) range. As ARRL had earlier proposed in RM-10209, the Commission found that a contiguous, 150 kHz allocation in the 5250-5400 kHz band would enhance amateur emergency communications and experimentation in the HF range when propagation conditions are not favorable for communication in the 3500 kHz and 7000

[2] However, radio Amateurs in several countries do have limited access to this band, including Finland, Iceland and Norway.
[3] See, e.g. United States Footnote 340.
[4] See the 2003 *Report and Order*, at paragraph 22.

kHz Amateur bands. In making this proposal, the Commission determined that Amateur Radio operators should be able to avoid interference to primary operations in this band due to the limited numbers of primary assignments.[5] In addition, the Commission indicated that the typical operational "listen before transmit" protocol employed manually by amateur radio operators could further minimize interference, thus to protect the primary (Federal government) operations in the 5250-5400 kHz band.

4. However, the National Telecommunications and Information Administration (NTIA) opposed the proposed 5250-5400 kHz allocation. NTIA stated that the band was extensively used by federal agencies, and that those agencies needed immediate access to the HF frequencies in times of emergency.[6] NTIA stated that the Federal agencies needed a procedure to immediately reclaim a frequency for emergency use once amateur operations had been established, and that the Commission's existing complaint process was insufficiently rapid to resolve interference to Federal emergency operations in real time. NTIA suggested that some amateur operators using some of the modes of operation permitted by Part 97 rules may not be able to hear or recognize a federal station's attempt to communicate because of the difference in modulation types. Therefore, NTIA was concerned that the "listen-before-transmit" protocol typically used by Amateurs would not necessarily be sufficient to avoid causing harmful interference in all instances. In addition, NTIA was concerned about preclusion of access by Federal agencies to the 5250-5400 kHz band while using automatic link establishment (ALE) systems that

[5] The Commission stated that a search of the Government Master File and the Commission's license databases in this band in January 2002 identified a total of 757 assignments. Twenty-six of those assignments were non-Federal Government assignments.

[6] *See* letter from Fredrick R. Wentland, Acting Associate Administrator for Spectrum Management to Edmund Thomas, then Chief, OET, dated August 21, 2002. The federal agencies using this band included at the time the Department of Defense, Coast Guard, Department of Justice, and twelve others.

sample channels periodically to determine channel availability. To accommodate Amateur operations in this band given these concerns, NTIA proposed that five specific frequencies, 5332 kHz, 5348 kHz, 5368 kHz, 5373 kHz and 5405 kHz, each 2.8 kHz wide, be made available to the Amateur Service on a secondary basis.[7] NTIA proposed that the Amateur emissions on these frequencies be limited to single sideband (upper side band), suppressed carrier telephony (emission designator 2K8J3E) centered in the proposed channels, not to exceed the equivalent of 50 W PEP transmitter output power into an antenna with a gain of 0 dBd. NTIA's position was that these limited channels and technical limits would permit compatible sharing in this limited spectrum.

5. Therefore, although the Commission found that frequencies in the 5250-5400 kHz range would be useful to Amateurs in completing disaster communications links at times when the 3 and 7 MHz bands are not available due to ionospheric conditions, and expressed its appreciation of the desire and efforts of the Amateur Radio community to assist with disaster communications, it was obligated to protect Federal Government users of that spectrum. Therefore, pursuant to NTIA's suggestion, the Commission allocated the 5 lightly used channels on a secondary basis to the Amateur Service, limited to 50 watts PEP transmitter output power into an antenna with a gain of 0 dBd or 50 W ERP, and upper-sideband emission only. The Commission said that it recognized that the five channels would not give the Amateur Service the 150 kilohertz of spectrum in the 5000 kHz range ARRL originally asked for, or the flexibility to use different transmission modes. However, it represented a "compromise," which would give the Amateur Service access to new spectrum while protecting the Federal Government agency uses.

[7] *See* letter from Fredrick R. Wentland, Acting Associate Administrator for Spectrum Management to Edmond Thomas, then Chief, OET, dated March 13, 2003.

6. The Amateur Service has benefited significantly from the allocation of five channels in the 5 MHz band, within the rather serious constraints imposed. The channels at 5 MHz have, in the seven years since the channels were first made available, provided an important bridge for radio Amateurs between the propagation characteristics of the Amateur 3.5-4.0 MHz and 7.0-7.3 MHz Amateur bands, and they have proven useful in Amateur Radio disaster communications planning. Because of strong admonitions provided repeatedly by ARRL to Amateur Radio operators relative to their obligations vis-à-vis Federal agency primary use of and access to these few channels, the access provided for the Amateur has been compatible with Federal users without qualification. ARRL (and as we understand it, NTIA) is unaware of a single reported instance of interference to a Federal user by a radio amateur operating at 5 MHz in that seven year period.

7. In 2006 ARRL proposed to the Interdepartment Radio Advisory Committee (IRAC) certain modifications to the Commission's rules governing the use of channels at 5 MHz. The IRAC responded favorably by letter dated May 12, 2006, a copy of which was attached to ARRL's Petition for Rule Making, RM-11353. It consented to the modification of Sections 2.106 (Footnote US381) and Section 97.303(s) of the Rules in the following respects:

A. Replacing the frequency 5368.0 kHz with 5358.5 kHz.

B. Allowing additional emissions, specifically 150HA1A [8] (Morse telegraphy by means of on-off keying); 60H0J2B (narrowband emission mode PSK31); and 2K80J2D (narrowband data emission PACTOR-III), provided that the operators using these modes utilize great care to limit the length of transmissions so as to avoid interference with Federal operations.

[8] The IRAC letter mistakenly specified the emission designator as "150H0H1H" but it is apparent that the IRAC intended to approve use of Morse code by means of on-off keying, which is the emission 150HA1A.

C. Allowing a power increase from 50 watts to 100 watts ERP, provided that Amateurs utilize Voice-Operated Transmit (VOX) while in the Single Sideband emission mode, so as to permit the Amateur operator to hear an attempt by another station, which may be a Federal user, to utilize the channel.

8. Though that same letter declined to support a contiguous band segment allocation for Amateurs at 60 meters, ARRL remains hopeful that at some point in the near future when Federal needs permit it, NTIA and the Commission will permit the domestic allocation of a contiguous band segment for Amateur operation in this band. ARRL suggests that the more traditional and flexible frequency band allocation would better protect Federal uses in this band from interference than does the present, five discrete channel allocation, as it would spread Amateur users across a wider segment and provide the Amateur licensee a means of rapidly and dynamically changing frequency by VFO in the event that a non-Amateur signal is detected near the Amateur operation, in order to avoid interference. In the interim, ARRL is grateful to NTIA for its responsiveness, and to the Commission for its willingness to accommodate the needs of the Amateur Service for additional flexibility in the use of the channels allocated for its use on a secondary basis by the proposals in this Notice.

II. The Replacement of the 5368 kHz Channel with 5358.5 kHz

9. The Notice first proposes the substitution of the 5368 kHz channel with the channel centered at 5358.5 kHz. ARRL proposed a change in the 5368 kHz channel because of numerous reports from Amateur licensees that there was substantial and frequent received interference on the channel centered at 5368 kHz. This emanates from a digital station on that frequency, which causes significant diminution of the utility of the channel for Amateur use. Substitution of that channel by a different 2.8 kHz bandwidth

channel around 5.3 MHz would alleviate that interference. The choice of 5358.5 kHz as a replacement channel center was of course that of NTIA. Therefore, presumably, the channel represents a choice that is compatible with most Federal operations. The Commission notes that among the few non-Federal users in this band, [9] most are assigned the entire 5005-5450 kHz band, and other bands as well, so the channel exchange will have a *de minimis* impact on non-Federal, non-Amateur licensees in the band. For the above reasons, ARRL supports the allocation of the replacement channel 5358.5 kHz at the earliest possible time.

III. The Proposed Power Increase

10. ARRL's Petition noted that typical transmitter output power in modern Amateur Radio transceivers is 100 watts PEP. The present 50 watt PEP transmitter output power limit applicable to the Amateur channels in this portion of the HF spectrum limits communications reliability. There are, at certain times of the year (including during many of the months of hurricane season each year when Amateur use of these channels is most critical), and very often in the southern latitudes, high static levels in this frequency range. Slightly higher transmitter power output would, especially in connection with weather-related emergency communications, substantially increase the communications reliability in the use of these channels, without significantly increasing the risk of interference to Federal users. ARRL therefore supports the proposed increase in permitted ERP from 50 watts to 100 watts. Because a typical antenna used by Amateurs is a dipole antenna, the Commission's proposed Appendix offers an appropriate and simplified enunciation of the power standard, relative to a dipole antenna. ARRL supports the proposed power increase and urges its adoption.

[9] These apparently comprise Part 90, IG station class licensees.

IV. Additional Emission Types

11. ARRL's Petition also requested, and the Notice proposes an opportunity to use emissions in addition to the presently permitted single-sideband telephony (emission designator 2K80J3E). The desired additional emissions requested by ARRL, and approved by NTIA, were the following (1) 150HA1A (Morse telegraphy, on-off keying); (2) 60H0J2B (now exemplified by "PSK31" a narrowband keyboard data mode); and (3) 2K80J2D (data, exemplified by an operating mode known as PACTOR III, an extremely popular data mode). The discussions between ARRL and NTIA about these additional emission types were very specific, and what was approved by NTIA was very specifically limited to the foregoing and no others. ARRL is aware of comments filed heretofore in this docket proceeding which suggest authorization of additional emission types beyond those mentioned above. However, due to the absolute obligation of radio Amateurs to protect the incumbent, primary Federal users of these channels, ARRL strongly urges that, for now, the Commission limit its consideration of additional emission types to those listed above. ARRL does support revisiting this topic in the future once some experience is gained with these specific emission types.

12. Morse telegraphy continues to be used by amateur stations because of its reliability in difficult propagation conditions, and it is a narrowband emission that works well in the limited allocations. Amateur stations typically utilize relatively short transmissions in telegraphy and are able to manually detect the presence of a non-Amateur signal within the channel bandwidth while operating in that mode. The same is true of 60H0J2B and 2K80J2D emissions, if careful manual operating practices are used.

13. ARRL specifically, and the Amateur Radio community in general are well-aware of, and specifically acknowledge, the need for immediate, interference-free access by Federal agencies to the channels at 5 MHz from time to time. The reason that Amateur use of these channels has been successful, and the reason for the unblemished record of interference avoidance during the past seven years is that Amateurs have been diligent in monitoring the channels in real time, during ongoing Amateur communications, for any non-Amateur activity. Amateurs are aware that upon hearing any unusual (i.e. non-Amateur) signal on any of the five channels, Amateur operation on the affected channel(s) must cease immediately.

14. One major issue that is raised by the authorization of emission types for Amateur use in addition to single-sideband telephony is the ability of users to detect non-Amateur signals on the channels, thus to terminate the ongoing Amateur communication immediately. ARRL believes that, with proper information dissemination and adoption of "best practices," as well as consistent adherence by Amateurs to voluntary band planning, the compatible sharing with Federal users that has existed over the past seven years will continue unabated in the future. ARRL commits to the necessary dissemination of "best practices" information to the Amateur community on a timely basis, and to the adoption and publication of a comprehensive band plan for these channels that will maintain maximum flexibility in Amateur use without interference. The necessary components of "best practices" and a viable band plan include the ability to clear a channel fast if Federal users need it; the means of determining attempted channel access by Federal users immediately regardless of emission type; discouraging usurpation of one or more of

the channels by any one emission type;[10] other means of minimizing Federal and Amateur interaction on any of the channels due to differing emission types; and absolute and strict adherence to listen-before-transmit prior to and during an ongoing Amateur communication. Those issues will all be addressed by ARRL's "best practices" document and its band planning efforts.

15. ARRL differs from the Notice proposal, however, relative to the additional emissions is in the specification in the Appendix[11]of the identification of particular data operating modes rather than simply specification of the emission designator for that mode. ARRL's proposal for Footnote US381 in the Table of Allocations and for Section 97.303 of the Rules listed the emissions to be permitted as follows:

> (a) single sideband suppressed carrier modulation (emission designator 2K8J3E), upper sideband voice transmissions; (b) Morse telegraphy by means of on-off keying (emission designator 150HA1A); (b) data emissions 60H0J2B and 2K80J2D.

ARRL specified the emission designators rather than the specific techniques of PSK31 and PACTOR-III, which currently exemplify those emission types. The Notice, on the other hand, specifies PSK31 and PACTOR-III as the specific techniques authorized for those two emission designators. ARRL requests that the Commission not specify "Data using PACTOR-III technique" but rather merely "Data" following the reference to the 2K80J2D emission in the proposed Section 97.307 (and incidentally in the proposed

[10] This will likely require, in the context of the private-sector band planning, the limitation of certain emission types to certain of the channels. ARRL firmly believes that this is properly done by cooperative planning within the Amateur community rather than by far less-flexible regulatory limitations. However, because the overarching obligation of radio Amateurs using these channels is to avoid interference to Federal users, ARRL *will not hesitate* to suggest regulatory limits, should such prove necessary in the future. Amateurs are well-aware that irresponsible operating practices such as habitual failure to listen before transmitting, especially when using emission types other than telephony, will jeopardize continued access to these channels and foreclose any future contiguous allocation in the 60-meter band. That said, it is anticipated that ARRL's educational efforts will be as successful going forward as they have proven to be in the past, and that regulatory intervention by the Commission will prove unnecessary.

[11] See, proposed Sections 97.303(h) and 97.307(f)(14)(i).

Section 97.303). Likewise, ARRL requests that the Commission replace "Data using PSK31 technique" with "Data" following the reference to the 60H0J2B emission in those same sections of the proposed rules. It is the emission designator and not the particular technique that defines the interference potential of the emission. Data modes follow an evolutionary process and Amateur Radio is well-known for such refinements. As long as the emission designator accurately reflects the emission mode being used on these channels in the future by radio Amateurs, the Commission's rules should permit the ongoing evolutionary process to continue without regulatory intervention.

V. Operation on Channel Centers

16. The Commission has proposed in Section 97.303(h) of the Appendix to the Notice the following: "For amateur stations transmitting CW emissions and PSK data emissions, the carrier frequency shall be set to the center frequency." If this is adopted as proposed, it will seriously limit the usefulness of these two modes and it will impose substantial inefficiency in the use of the 2.8 kHz channel bandwidth. It is perfectly possible (and ARRL did make its intent clear when discussing its proposals with NTIA) to have multiple CW and/or PSK31 communications ongoing simultaneously, entirely within the 2.8 kHz channel, provided that those simultaneous communications are not limited to the channel centers. ARRL's Petition suggested the following more flexible language, with reference to the channel centers regardless of emission type: "Amateur operators shall ensure that their transmission occupies only the 2.8 kHz centered around each of these frequencies." The Commission includes similar language in the proposed section 97.303(h), but also specifically limits the number of simultaneous PSK31 or CW

communications per channel to one.[12] Because radio Amateurs are experienced in respecting band edges (and, for some licensees, subband edges) and because they use equipment with a very high degree of stability and accuracy, they are therefore quite able to keep their transmitted signals within the authorized channel bandwidth. Thus, allowing multiple communications with CW and/or PSK31 emission types simultaneously is not anticipated to pose any compliance problems.[13] In addition to the spectrum efficiency in permitting multiple, simultaneous communications within the channel bandwidth of each channel, in emergencies it would be useful to utilize each channel for multiple communications simultaneously. Therefore, ARRL requests that the Commission not adopt Section 97.303(h) as proposed, but instead permit multiple PSK31 and CW emissions simultaneously within each 60-meter channel. Of course, due to the necessary bandwidth of a 2K8J3E or 2K80J2D emission, each of which approaches the 2.8 kHz channel bandwidth of the available channels in the 5 MHz band, obviously only one communication per channel using those emissions can occur at a time. It is not necessary to clarify that in the Rules.

VI. Other Issues

17. The Notice does not include a proposal for a specific limit on the length of a data transmission, but at paragraph 10 of the Notice, it seeks comment on whether a time limit (for data transmissions only) would help to insure that the infrequent instances in which Federal agencies exercise their primary access to the 60-meter frequencies,

[12] Due to propagation differences around the country, it is quite possible to have simultaneous communications ongoing on the same channel even if the communications are conducted on channel centers, but that cannot be relied upon for efficient use of the channel bandwidth.

[13] ARRL acknowledges that specifying channel centers in the rules does necessitate some explanation where, for example, a single upper-sideband emission is used on a 2.8 kHz channel, due to the offset of the carrier frequency. ARRL is of the view that this explanation, and methods to insure that the transmitted signal regardless of emission type remains within the channel bandwidth, are best included in its "best practices" document and implemented through educational efforts.

Amateurs using the channels can be better positioned to avoid causing harmful interference. The Notice asks those who urge a transmission time limit whether three minutes would be sufficient, and if not, what time limit would be suitable.

18. ARRL's dialog with NTIA on this subject revealed no necessity for a specific time limit on individual transmissions, and certainly no limit on the duration of an overall communication between two Amateur stations. NTIA specifically, however, noted[14] that Amateurs must, due to the power increase and the authorization of additional operating modes, "take extra care to limit the length of their transmissions in the digital modes so that they do not interfere with federal operations." While this is an important admonition from NTIA, and one that obviously, ARRL takes very seriously, a fixed, arbitrary time limit on individual transmissions is incompatible with the nature of Amateur radio communications.[15] ARRL's method of implementing NTIA's admonition is to regularly and continuously educate radio Amateurs of the importance of keeping transmissions, especially digital transmissions, short and manually listening before each transmission during a communication. The Commission has reached the proper balance of regulatory flexibility and channel preclusion avoidance by the language in the proposed appendix for Footnote US381 ("Amateur operators using data emissions must exercise care to limit the length of transmissions so as to avoid causing harmful interference to Federal stations.") and Section 97.307(f)(14)(i)(B) ("The control operator of a station transmitting data emissions must exercise care to limit the length of transmission so as to avoid causing harmful interference to United States Government stations."). ARRL urges

[14] See the May 12, 2006 letter from Karl Nebbia, NTIA to Paul Rinaldo, ARRL, *supra*.
[15] For PACTOR-III, each transmission/reception cycle is just a few seconds long. However, once a link is established between two stations it is difficult to interrupt their data exchange. Requiring them to disconnect after three minutes, for example, could be problematic, such as when conditions are poor, or when large files are being transmitted. This problem might be limited by software parameters.

that the Commission enact these provisions as proposed, and not otherwise limit the length of Amateur transmissions, regardless of emission type. [16]

19. At paragraph 12 of the Notice, the Commission, at the request of NTIA, asks "whether amateur operators that provide emergency communications using the 60 meter band should be encouraged (sic) to add a sound card generated Automatic Link Establishment (ALE) capability to their stations. While it would be anomalous to place in the Commission's rules a form of "encouragement" to Amateur licensees to utilize any particular communications equipment, it is assumed by this that the Commission might simply place some encouragement in a Report and Order adopted in this proceeding. While ARRL does not necessarily oppose that form of encouragement, it is noted that ALE is most useful when used with transceivers that are scanning channels across a broader frequency range than just a single band. ARRL assumes that ALE in the context of this proceeding refers to digital selective calling. For network-style ALE communication to function efficiently, the participating stations must make propagation "sounding" transmissions to promote link quality analysis. This could create the potential to monopolize a channel with periodic transmissions which are not readily subject to manual control, but more typically automatically controlled. It is further unclear that current ALE software incorporates "busy frequency detection." Therefore, adding a 60-meter channel to the network might obviate listen-before-transmit capability on that channel, which is in the context of interference avoidance to Federal stations,

[16] It would be illogical in any case to limit the duration of a data transmission but not a telephony or telegraphy emission. Any overly long transmission, regardless of emission type, jeopardizes the compatible sharing plan between Federal and Amateur stations and increases the risk of preclusion of Federal station access on a timely basis.

undesirable. Overall, ARRL takes no position on this issue at this point, but ARRL would not support any ALE capability *requirement* in the Commission's rules.

20. The final issue on which ARRL offers comment is with respect to the Commission's discussion of use of Voice-Operated Transmit (VOX) during single-sideband telephony on the 60-meter channels. ARRL had discussed this with NTIA at the time that the modifications proposed in the Notice were first raised with NTIA. The theory was that VOX would permit a more rapid detection by Amateurs during a transmission of the presence of a non-Amateur signal on the channel and the resultant need to vacate the channel immediately. ARRL acknowledges that NTIA was receptive to such a proposal. However, upon some further evaluation, it appears that the Commission and some commenters in this proceeding are correct: that VOX operation might actually *increase* the potential for interference because of its susceptibility to keying a radio to transmit in high surrounding noise environments, which are often encountered, especially in emergency contexts. Furthermore, VOX operation would only apply to single-sideband telephony emissions, which have been in use on these channels for seven years now without incident. There is thus no demonstrated basis for enacting a restriction on this emission type now, and such a restriction would be very difficult to enforce. Enactment of a rule that is impractical to enforce does not promote either compliance or respect for the rule. Finally, the discussion with NTIA about VOX operation was to add some extra protection for Federal stations due to the proposed power increase on the channels. The effect of that power increase is, however, unrelated to the issue of Federal station preclusion. Overall, in ARRL's current view, VOX should properly be considered one method of allowing frequent channel monitoring to guard

against Federal access preclusion, but not a mandatory one. It should be the responsibility of each individual Amateur licensees using these channels to configure their stations and to operate them in a way as to insure that a Federal user could interrupt that Amateur's transmission quickly and easily without waiting for an unpredictable end of an Amateur transmission.

VII. Conclusions

21. Based on the foregoing, ARRL urges the Commission to amend Footnote US381 to Section 2.106 of the Commission's Rules, and Part 97 of the Amateur Service Rules to implement the Notice proposal, but incorporating the changes discussed hereinabove by ARRL. These minor rule changes will substantially increase the flexibility in Amateur use of the channels in the 60-meter band, and will as well facilitate Amateur Radio emergency communications in this important segment of the HF spectrum. Amateurs have proven, through interference-free operation on these channels, that compatible sharing of the channels is possible. The proposed minor changes retain sufficient safeguards to protect the primary and important Federal Government operations that make use of these channels from time to time. ARRL firmly commits to the preparation and widespread dissemination of a "best practices" document for Amateur use of these channels going forward with the replacement channel, modified power limit and more flexible emission types permitted. ARRL will also develop a workable band plan for occupancy of these channels to insure against usurpation by any one emission type, and to continue the excellent track record of interference avoidance to Federal operations.

22. Ultimately, it is hoped that consideration can be given to a domestic secondary allocation of a contiguous band of at least 50 kHz in the vicinity of the existing channels. A continuous band rather than discrete channels is more normal for the Amateur Service, as it affords the opportunity for dynamic frequency selection according to band occupancy. In the meantime, the increased flexibility in the use of the five channels allocated to the Amateur Service on a secondary basis will greatly facilitate emergency communications preparedness and will permit a substantial degree of additional flexibility in the use of the channels without any increase in interference potential.

Therefore, the foregoing considered, ARRL, the national association for Amateur Radio, respectfully requests that the Commission make the changes with respect to channels presently allocated to the Amateur Service in the 5 MHz band contained in the Notice, but as modified as discussed in these comments.

Respectfully submitted,

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