

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION**

Shortwave Modernization Coalition	:	
Petition for Rulemaking to Amend the	:	
Commission’s Rules to Allow Fixed,	:	Petition for Rule Making
Long-Distance, Non-Voice	:	RM-11953
Communications Above 2 MHz and	:	
Below 25 MHz	:	

COMMENTS OF THE SILVERCREEK AMATEUR RADIO ASSOCIATION

I. INTRODUCTION

On April 28, 2023, the Shortwave Modernization Coalition (“SMC”) filed a petition with the Federal Communications Commission (“Commission”) to initiate a rulemaking to amend its eligibility and technical rules for licensees in the Industrial/Business Pool to authorize licensed use of frequencies above 2 MHz and below 25 MHz (the “2-25 MHz Band”) for fixed, long-distance, non-voice communications.

The Silvercreek Amateur Radio Association (“SARA”), an Ohio-based non-profit representing 138 members engaged in the amateur radio arts and sciences, respectfully submits the following response to RM-11953 before July 31, 2023.

II. SUPPORT OF MODERNIZATION

SARA applauds and supports modernization efforts across the radio frequency spectrum to make more robust, efficient, and impactful use of that scarce resource. SARA has in the past supported such efforts such altering the Sections 97.305 and 97.307 of the Commission’s rules as

it relates to symbol rate for digital emissions in the HF bands¹. SARA similarly supports broad, additional, modern uses of the HF radio spectrum.

III. COEXISTENCE AND INTERFERENCE CONCERNS

SMC states that “... Coexistence with Other 2-25 MHz Band Users Can Be Achieved Readily”². However, the statements on coexistence are based on insufficient studies of the impact of changes being proposed.

SMC provides subject-matter expertise declarations that “none of the SMC members ... has received a verified complaint of harmful interference.”³ SARA believes that the absence of a verified complaint is not equivalent to harmless coexistence or non-interference. While not asserting that harmful interference has occurred, it is unrealistic to believe that other service operators – notably those in Part 97 bands – would be able to identify the source of the interference to sufficient precision such that complaints could be filed, investigated, and verified.

Similarly, SMC points to dynamic frequency avoidance systems and other mechanisms to avoid interference. While this is true for co-channel interference, it does not address interference from harmonics, spurious emissions, or phase noise interference. SMC also addresses interference by referencing theoretical models created by the Voice of America Coverage Analysis Program (“VOACAP”) propagation prediction tool⁴. Again, this study addresses co-channel interference only in the form of collisions due to shifting propagation patterns.

¹ *Amendment of Part 97 of the Commissions Amateur Radio Service Rules to Permit Greater Flexibility in Digital Data Communications* - RM-11708

² Shortwave Modernization Coalition Petition for Rulemaking to Amend the Commission’s Rules to Allow Fixed, Long-Distance, Non-Voice, Communications Above 2 MHz and Below 25 MHz, section II(A)

³ *Ibid.* 14

⁴ *Ibid.* 17 *et seq*

Taking the proposal as written, there is cause for concern for adjacent users of HF bands. For example, a 20 kW signal applied to the transmission line, when radiated from a 10 dBi gain antenna as given in the proposal, has a theoretical EIRP of 200 kW. Applying the noted 35 dB filtering that “makes harmful interference unlikely”⁵ leaves emissions of 63 W of spurious emissions. 63 W is a significant amount of potential spurious interference in the proposed modified service and adjacent services that routinely and commonly operate in the ranges of 100 W to 200 W.

IV. RECOMMENDATIONS SHOULD RULEMAKING OCCUR

While SARA respects the SMC’s rights to petition for rule changes beneficial to its members, SARA does not agree that the proposal is of manifest public benefit while the proposed changes to Part 90 are significant. Thus, an equitable balancing of interests must be performed between SMC’s proposal and other users of the HF radio spectrum between 2 and 25 MHz, notably our members’ Part 97 operational interests. The nature of the business engaged in by members of the SMC brings with it significant resources for technological improvements to their infrastructure. Comparatively, users of the Part 97 bands – the very definition of “the public” - possess little additional resources to combat and overcome interference from this proposal.

SARA questions if modification to the Part 90 service is appropriate rather than the creation of a new service type and a new emissions designator with new associated rules. This is especially important when a new service type license auction could be used to control potential for “land rush” and oversubscription of the available bandwidth as the requestors line of business is highly

⁵ *Ibid.* 27

competitive for even the smallest advantage. If this proposal is to be explored by the Commission, SARA urges that this use should be an entirely new type of service with purpose-designed rules for it.

With that in mind, should the Commission desire to proceed to rulemaking based on this position as written, SARA urges the FCC to consider the following additional requirements for any future rulemaking on this proposal.

1. Creation of guard bands or other form of administrative allocation padding such that no emission of a “fixed, long-distance, non-voice communication” is closer than 250 percent of the authorized bandwidth from the carrier to a Part 97 band allocation.
2. Modify the proposed Emission Mask N⁶ in 47 C.F.R. § 90.210(n) subsection 1 to 3 in the following ways (changes to the proposal language are underlined):
 - a. (1) On any frequency removed from the center of the authorized bandwidth by 50 percent to 100 percent of the authorized bandwidth: At least $83 \log(2 \cdot f_d / B)$ dB where f_d is the displacement from the center frequency in kHz and B is the authorized bandwidth in kHz but with a minimum attenuation requirement of 35 dB
 - b. (2) On any frequency removed from the center of the authorized bandwidth by 100 percent to 250 percent of the authorized bandwidth: At least $31.5 \log((2.5 \cdot f_d / B)^2)$ dB where f_d is the displacement from the center frequency in kHz: at least and B is the authorized bandwidth in kHz but with a minimum attenuation requirement of 35 dB

⁶ *Ibid.* 28

- c. (3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 65 dB.
3. Ensure that there is no loophole by which a “fixed, long-distance, non-voice communication” is not subject to the proposed Emission Mask N⁷ as modified above.
4. 47 C.F.R. § 90.213 Footnote 1 should not be modified to exempt this proposed use from the 50 ppm requirement⁸.

CONCLUSION

The Silvercreek Amateur Radio Association appreciates the opportunity to provide comments in response to RM-11953 prior to the advancement of this proceeding. SARA urges the Commission to move cautiously and deliberately in consideration of this proposal for rulemaking and to carefully balance various competing interests in this proposal.

Respectfully submitted,

Dated: July 31, 2023

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⁷ *Shortwave Modernization Coalition Petition for Rulemaking to Amend the Commission’s Rules to Allow Fixed, Long-Distance, Non-Voice, Communications Above 2 MHz and Below 25 MHz* page 28.

⁸ *Ibid.* 31