

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of:)
)
WRC-12 Advisory Committee) IB Docket No. 04-286
)
To: The Commission)

**COMMENTS OF FREDERICK W. BRAY
(Corrected)**

Introduction

I am a supporter of The Maritime Radio Historical Society (MRHS), the licensee of public coast station KSM, and highly value the continued operation of the station. KSM is presently authorized to use A1A Morse and NBDP on high frequencies in the maritime service. I hereby respectfully submit my comments in support of the comments filed by the MRHS regarding the recommendations the FCC proposes to support at WRC-12.

KSM, as operated by the MRHS in conjunction with the National Park Service, is national treasure as it is the only intact, fully restored and operational historic coast station in the United States. Not only does it serve as a living museum, but it continues to provide Morse telegraphy A1A message traffic service and narrow-band direct printing (NBDP) broadcasts to ships at sea despite the fact that some regard these modes as insufficiently profitable. It is in the public interest that these operations be preserved and protected, both for the continuing services provided to ships at sea and to permit public demonstration of the actual operation and importance of coast stations in maritime communications history. The ability to continue to utilize A1A and NBDP is integral to the future operation of KSM.

Just as access to the airspace is essential to the ongoing usage and appreciation of classic aircraft, continued access to the maritime HF spectrum is essential for a classic coast station. It is important to public understanding that a technology that was essential to maritime safety and commerce for nearly one-hundred years not be reduced to a mere static display. Instead, it should remain alive on the HF spectrum just as classic aircraft can continue to participate in flight.

Unfortunately, portions of IWG-1 Agenda Item 1.9 and certain changes proposed to Appendix 17, Part A adversely impact the operations of KSM and other stations in the maritime service – both in

the United States and other countries -- that utilize Morse telegraphy A1A and NBDP. Indeed, the practical effect would be to end present KSM operations and to destroy an important part of history that continues to have utility. I therefore join the MRHS and KSM in their opposition to these provisions as discussed more fully below.

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Comments

Agenda Item 1.9

IWG-1 Agenda Item 1.9, Parts 1, 3, 4 and 6, call on the FCC to support recommendations at WRC-12 that would severely curtail effective use of Morse telegraphy A1A and NBDP by KSM and other coast stations. Although A1A and NBDP are less pervasive than in prior years, they are still an effective means of communication and continue to be used internationally. Due to the fact that these two types of emissions cannot effectively co-exist on the same frequency with digital data transmissions, it is important to continue to reserve and exclusively allocate some spectrum to these modes. As pointed out in the comments filed by the MRHS, the current recommendations for WRC-12 do not balance the conflicting interests but instead effectively eliminate the spectrum available for A1A and NBDP operations.

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Parts 1, 2, and 3, if adopted, contemplate the replacement of NBDP by digital modes. Not only is a reduction in the number of available NBDP frequencies contemplated, but Part 3 would make digital data transmissions primary over NBDP beginning January 1, 2015. As of that date, users of digital data transmission could force stations duly licensed by the FCC to utilize NBDP to cease operation on their assigned frequencies by claiming these stations are causing harmful interference. KSM and all stations other using NBDP would be relegated to secondary status on their licensed frequencies and would have to tolerate any and all interference from digital data transmissions.

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Parts 4 and 6 would have the same effect on Morse telegraphy A1A operations except that digital data transmissions would be immediately permitted on these frequencies with no transition period. KSM and other stations licensed to use A1A on their assigned frequencies would be instantly reduced to secondary status. They would no longer be able to claim protection from harmful interference and would be precluded from causing any interference. It is likely that they would be effectively forced off the air despite the nominal retention of their respective licenses.

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Due to natural variations in high frequency propagation conditions, any asserted harmful interference would be difficult to prove or disprove. It would vary from year-to-year and season-to-

season. Even on a daily basis, it would vary from hour-to-hour and by location throughout the world. Thus, any claim of harmful interference could easily completely preclude A1A and NBDP operations by KSM on some, and quite likely all, of the HF frequencies for which it is presently licensed. Moreover, even if a given frequency was not immediately used for digital operations, that status could change at any time in the future without regard to the fact that it was in active use by KSM or another A1A or NBDP licensee.

Taken together, these proposed changes would have a severe negative impact on the current and future operations of KSM and other stations by removing the protection from interference that currently and traditionally applies to stations in the maritime service, thereby eliminating the possibility of reception of KSM transmissions in many geographic areas.

Further, as pointed out by the MRHS, the provisions in Parts 3 and 6 would permit users of digital data transmission to force users of NBDP and A1A to cease operation without any provision to compensate these users for the loss of access to their duly licensed channels or for the cost of shifting to new channels, if indeed any such new channels would be available. This conflicts with fundamental fairness and should not be permitted to occur.

The MRHS has proposed that, at minimum, the frequencies currently assigned to KSM for A1A and NBDP, which are in active use, continue to receive the protection from interference ~~that they~~ currently and traditionally enjoy. This very modest and reasonable proposal balances the perceived need for increased digital services against the public interest in protecting KSM operations.¹ Due to the unlimited bandwidth digital operations permitted under the IWG-1 Agenda Item 1.9, Part 5, and the likely automatic, perhaps near continuous nature of these digital transmissions, concurrent use of a given frequency by stations utilizing A1A or NBDP modes would be highly problematic, if not completely infeasible.

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¹ The actual need for increased digital bandwidth at the expense of effectively eliminating A1A and NBDP operations is certainly questionable. Satellites generally provide better and more reliable digital service for most portions of the world and are not subject to the propagation issues attendant to HF, except perhaps in the Polar Regions. There is no reason to believe that the preservation of a limited number of frequencies as proposed by the MHRHS would impair the effective use of the large number of remaining frequencies for possible digital usage.

The MHRS has proposed continuing the existing protections for the frequencies that KSM is presently licensed to use. I support protecting the KSM's usage of the following frequencies (in kHz):

<u>A1A</u>	<u>NBDP</u>
4350.5	8433.0
6474.0	12631.0
8438.3	
12993.0	
16914.0	
22445.8	

Beyond the protection of the specific KSM frequencies listed above, the retention of the current and traditional protection for all coast stations utilizing A1A Morse and NBDP on their assigned frequencies would impact a very small portion of the HF maritime spectrum because there are few stations currently operating in these modes. The remaining frequencies that are proposed for expanded digital data operations could be utilized for that purpose while allowing the continued existence and effective operation of stations presently using A1A and NBDP. The MRHS proposal strikes a reasonable balance between the conflicting interests and I support it.

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The MRHS has further recommended that certain internationally recognized paired NBDP frequencies known as channels 23, 34 and 105, as set forth in 47 C.F.R. § 80.361, be retained as coast station and ship frequencies and that protection against interference for these frequencies be continued. Again, these frequencies are but a fraction of the current NBDP allocation. Their protection for continued NBDP would not appreciably reduce the spectrum available for expanded digital data transmissions. The MHRS proposal is reasonable and I endorse it.

These frequencies are (in kHz.):

<u>Channel</u>	<u>Coast</u>	<u>Ship</u>
23	6325.0	6274.0
	8427.5	8387.5
	12590.5	12488.0
	16818.0	16694.5
	22387.5	22295.5

34	8433.0	8393.0
	12596.0	12493.5
	16823.0	16700.0
	22393.0	22301.0
105	12631.0	12529.0
	16858.5	16740.5

Appendix 17

Certain proposed changes to Part A (Table of subdivided bands 4000 kHz. to 27500 kHz) of Appendix 17 call for the elimination of the current Morse telegraphy A1A calling and working frequencies within the referenced bands. Specifically, the proposed changes would make these Morse telegraphy A1A calling and working frequencies assignable to stations for digital data transmission.

These changes to Part A constitute the complete elimination of the Morse telegraphy A1A calling and working frequencies. Digital data transmissions would create massive interference on these frequencies. It would be impossible for KSM and other stations utilizing A1A to receive calls from ships, thereby severely adversely impacting their operations.

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The wholesale elimination of all Morse telegraphy A1A calling and working frequencies would also deny stations using this mode useful access to their duly licensed channels without compensation for loss of this access or for the cost of shifting to new channels, if indeed any such new channels would be available if this recommendation were adopted.

However, retention of some calling and working frequencies for A1A usage would preserve the viability of this mode while still permitting expanded digital data operations. This is feasible because of the presently smaller number of ships currently using Morse telegraphy A1A and the narrow occupied bandwidth of this mode. Accordingly the MRHS has proposed the retention of only a small number of A1A calling and working frequencies scattered over the entire spectrum. The MHRS has indicated that these would be sufficient to allow the continued operation of KSM and other stations using Morse telegraphy A1A.

The MRHS recommendation that the internationally recognized worldwide calling frequencies known as ITU channel 3 in each band be retained as Morse telegraphy A1A calling frequencies and

that protection against interference for these frequencies be retained is reasonable and I support it.

These frequencies are (in kHz.):

4184.0
6276.0
8368.0
12552.0
16736.0
22280.5

Additionally, the MRHS has reasonably recommended that a subset of the internationally recognized series of working frequencies known as W1 be retained as Morse telegraphy A1A working frequencies and that protection against interference for these frequencies be retained.

These frequencies are (in kHz.):

4187.0
6285.0
8342.0
12422.0
16619.0
22242.0

The effect of the MRHS proposal is that a single calling frequency and a single corresponding working frequency for Morse telegraphy A1A operations would be preserved and protected in each of the maritime bands. As pointed out by the MHRS, given the narrow occupied bandwidth of A1A Morse, the retention and of these few calling and working frequencies would represent, in the aggregate, only a very small portion of the spectrum at issue. Therefore, the MHRS is correct that the retention of interference protection for A1A operation on these frequencies would have a negligible impact on the expanded use of digital data transmission in the maritime service while at the same time allowing stations such as KSM to continue their Morse telegraphy A1A operations.²

Conclusion

The preservation and protection of some Morse telegraphy A1A and NBDP operations is important to the continued operation of KSM and other coast stations. These modes have immense historical significance and their continued viability is essential for the stations that currently utilize them. As pointed out in the comments by the MRHS, adoption of the recommendations for WRC-12 as

² If it is deemed that the preservation of frequency pairs is not appropriate, consideration should be given to preservation and protection of at least a single combined A1A Morse calling and working frequency in each of the maritime bands. Although not ideal, this would permit some continued operation by both coast stations and ships.

presently constituted would have a severe negative impact on the on the operations of KSM and other stations using Morse telegraphy A1A and narrow-band direct printing. As a practical matter, the operations of these stations would cease. An important piece of history would be lost forever. The continuing international usage of usage of Morse telegraphy A1A and NBDP for ship message traffic would also be effectively eliminated by the inevitable massive interference created by digital data transmission even if it continued to be nominally authorized.

However, by reserving and continuing to protect a small number of frequencies in each maritime band for Morse telegraphy A1A and narrow-band direct printing operations, the historical importance and continued viability of these modes could be protected. The practical impact of such continuing protection upon expanded digital data transmissions will be negligible because only a few frequencies in each band would be protected. This represents a fair and equitable balancing of the interest of stations such as KSM and that of those who favor expanded high frequency digital data transmissions.

Accordingly, I support the changes recommended by the Marine Radio Historical Society and KSM. I respectfully request that the FCC adopt these changes to the WRC-12 recommendations.

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