

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

In the Matter of)	
)	
Wireless Telecommunications Bureau)	
Seeks Comment on MariTEL, Inc.)	DA 04-378
Proposal for Shared use of Maritime)	RM-10321; RM-10821
VHF Channels 87B and 88B for)	
Automatic Identification Systems)	

**To: Chief, Public Safety and Critical Infrastructure Division,
Wireless Telecommunications Bureau**

REPLY COMMENTS OF MARITEL, INC.

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SUMMARY

MariTEL Inc.'s ("MariTEL's") proposal for the shared use of maritime channels 87B (161.975 MHz) and 88B (162.025 MHz) ("Sharing Proposal") allows for the cost-free employment of these channels for Automatic Identification System ("AIS") operations by the United States Coast Guard ("USCG") and mariners and would preserve MariTEL's commercial interest in its spectrum. MariTEL's proposal will not compromise the availability of AIS channels for legitimate USCG operations and will guarantee that USCG operations and homeland security applications are not impaired. If the Sharing Proposal is not accepted, the FCC must not punish MariTEL by allocating more spectrum to the USCG than MariTEL is required to relinquish under Section 80.371 of the rules merely because the USCG failed to manage AIS spectrum resources properly and to obtain the frequencies needed for its Congressionally mandated operations.

MariTEL is only obligated to provide up to two offset, narrowband channels pairs for AIS. MariTEL remains prepared to provide the USCG with the use of up to two narrowband offset channel pairs in each VPC for which it is licensed. MariTEL is not required to provide more than two narrowband offset channel pairs, nor is it required to provide spectrum for purposes not contemplated by the FCC. The FCC has neither contemplated nor required MariTEL to make simplex or wideband channels available for AIS operations. In addition, the FCC did not contemplate public-private partnerships with entities other than the USCG using AIS or the use of AIS channels for coastal surveillance. Finally, the FCC has rejected the notion of making domestic AIS spectrum policy consistent with international practices. If such uses had been contemplated or required, MariTEL would have participated differently in Auction 20.

MariTEL has the right to profit from the use of channels 87B and 88B. MariTEL is not required to dedicate its spectrum for commercial port operation purposes. Other spectrum is available for port operation purposes and entities wishing to use the spectrum allocated for port operation purposes should employ those channels. If they wish to use MariTEL's channels, they must compensate MariTEL for the use of that spectrum.

Studies confirm that use of AIS on a simplex basis causes widespread interference to adjacent maritime channels. The proposals to solve these interference problems contained in the Department of Defense's Joint Spectrum Center Report are not commercially viable and impair future product capabilities. These proposals must be rejected.

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MariTEL, Inc. (“MariTEL”), by its counsel and pursuant to the invitation extended by the Federal Communications Commission (“FCC” or “Commission”) in the above-referenced Public Notice^{1/} hereby submits the following reply comments in response to the initial comments of other parties that addressed MariTEL’s proposal (“Sharing Proposal”) of February 9, 2004 concerning the use of maritime channels 87B (161.975 MHz) and 88B (162.025 MHz) for Automatic Identification Systems (“AIS”).

I. Background

MariTEL submitted the Sharing Proposal in response to the ongoing effort by the United States Coast Guard (“USCG”) to strip MariTEL of the rights it obtained as the high bidder in the FCC’s auction of VHF Public Coast (“VPC”) channels.^{2/} The Sharing Proposal would, as the

^{1/} “Wireless Telecommunications Bureau Seeks Comment on MariTEL, Inc. Proposal for Shared Use of Maritime VHF Channels 87B and 88B for Automatic Identification Systems,” DA 04-378, *Public Notice* (rel. Feb. 13, 2004) (“Public Notice”).

^{2/} The American Pilots Association (“APA”) states that the uncertainty regarding the availability of channels 87B and 88B for AIS is “embarrassing.” Comments of the APA at 4. MariTEL agrees. Although, as the International Organization of Masters, Mates and Pilots

National Telecommunications and Information Administration (“NTIA”) itself envisioned,^{3/} permit the shared use of channels 87B and 88B by MariTEL and the USCG.^{4/} The Sharing Proposal would also continue to preserve MariTEL’s commercial interest in the channels by precluding use of the frequencies by entities other than MariTEL and the USCG. Finally, the Sharing Proposal asks that the FCC modify its regulations regarding the authorization of AIS equipment to prevent the destructive interference that will be caused by simplex use of channels 87B and 88B to adjacent channels licensed to MariTEL.

(“IOMM&P”) states, the USCG has been at the forefront of AIS development, but it has completely shirked its responsibility to ensure the availability of spectrum domestically for AIS operations. *See* Letter to Marlene H. Dortch, Secretary, Federal Communications Commission from George A. Quick, Vice President IOMM&P in DA 04-378 and RM-10821 at 3 (February 27, 2004).

^{3/} *See Wireless Telecommunications Bureau Seeks Comments on MariTEL, Inc. Petition for Declaratory Ruling and National Telecommunications and Information Administration Petition for Rulemaking Regarding the Use of Maritime VHF Channels 87B and 88B*, RM 10821, Petition for Rulemaking by the National Telecommunications and Information Administration at 1 (filed Oct. 24, 2003) (“NTIA Request”). NTIA, characterizes the Sharing Proposal as a “desperate attempt” by MariTEL to recover from its bad business decisions. Comments of NTIA at 3. Nothing is further from the truth. The Sharing Proposal, like other MariTEL proposals before the Commission, is an attempt to responsibly address MariTEL’s obligations under the FCC’s rules so that MariTEL can proceed with its announced business plan. Without resolution of these matters, MariTEL cannot be assured of interference free operations. While the NTIA’s and the USCG’s continued obstructionist tactics may have the effect the agencies desire – causing MariTEL to fail so they may have unimpeded access to all remaining VPC spectrum – the Commission should not countenance NTIA’s and USCG’s cavalier characterization of MariTEL’s (sole) efforts to resolve the outstanding issues as somehow suspect.

^{4/} The Sharing Proposal would not only provide the USCG with access to the spectrum it requires for AIS and free access to AIS spectrum by mariners, but, by causing the proliferation of AIS devices, it would also decrease the cost of current and future AIS transponders and increase adoption of AIS by non-mandatory carriage vessels. MariTEL contemplates that it will engage in a variety of relationships to enable shore station applications ranging from FCC permissible leases or assignments to partnership arrangements. As an example, MariTEL and other major maritime stakeholders have already begun discussing a partnership arrangement under which MariTEL would make available access to channels 87B and 88B and other partners would contribute network infrastructure and operations activities.

Several parties submitted comments in response to the Sharing Proposal. Regrettably, but predictably, based on the USCG's persistent efforts to prejudice MariTEL within the maritime industry, few of the comments even acknowledge MariTEL's unchallenged right to channels 87B and 88B^{5/} and fewer still responsibly address how the FCC should accommodate MariTEL if the Commission provides the NTIA with the relief it seeks and strips MariTEL of the rights to use its licensed frequencies.^{6/} MariTEL should not be punished for problems that were created solely by USCG's failure to manage AIS spectrum resources properly and obtain the frequencies needed for its Congressionally mandated operations. Only MariTEL has meaningfully addressed the issues created by this USCG failure. Yet, MariTEL's proposal remains opposed. MariTEL therefore is pleased to have the opportunity to submit the following reply comments.

II. Discussion

A. The Scope of MariTEL's Obligations

The commenting parties completely ignore the Commission's previous statements with respect to MariTEL's obligation to provide spectrum resources to the USCG and the United States' position with respect to AIS channels. The FCC's position could not be more clear. In considering the USCG's request to designate spectrum for AIS purposes, the FCC specifically rejected a plan to set aside particular channel pairs for AIS. It also specifically rejected the plan

^{5/} See, e.g., Comments of the Associated Branch Pilots at 3; Comments of Nauticast at 3-4. In the past, the USCG and other government entities challenged MariTEL's rights to channel 88B.

^{6/} Those who propose a solution only note that MariTEL should be compensated for the loss of its channels. While those parties at least understand that MariTEL will be dispossessed of its frequencies, they do not address the means by which MariTEL may be made whole. Similarly, they do not recognize the extent to which the use of channels 87B and 88B decimate the other frequencies for which MariTEL is licensed. See, e.g., Comments of NY/NJ Sandy Hook Pilots' Benevolent Association at 1; Comments of Harbor Safety at 1.

now proposed by the NTIA Request – to set aside channel 87B for AIS use. Instead, the FCC stated that VPC licensees are required to make available up to two offset, narrowband channel *pairs* for AIS and that these channel pairs could vary by geographic region.^{7/} The purpose of making spectrum available for AIS was to enable the *USCG* to support its Ports and Waterways Safety System (“PAWSS”) project “which will provide Vessel Traffic Services (“VTS”) to facilitate the safe and efficient transit of vessel traffic to prevent collisions, groundings, and environmental damage associated with maritime accidents.”^{8/} This obligation is stated explicitly in Section 80.371(c) of the FCC’s rules, adopted as a result of the rule making proceeding in which the FCC addressed this issue.^{9/} It is equally plain that the FCC considered, but found irrelevant, the fact that there are channels designated internationally for AIS. In particular, the FCC stated: “Because the United States will not be using the AIS channels designated by the ITU [International Telecommunications Union], the Coast Guard will need to inform foreign ships of the applicable AIS channels in each region.”^{10/}

^{7/} See *Amendment of the Commission’s Rules Concerning Maritime Communications*, PR Docket 92-257, *Third Report and Order and Memorandum Opinion and Order*, 13 FCC Rcd 19853 ¶ 49 (1998) (“Third Report and Order”). Contrary to the comments of the USCG, MariTEL has consistently acknowledged these obligations. Incredibly, both the NTIA and the USCG assert that MariTEL has failed to acknowledge its regulatory obligations. Untrue. See Comments of NTIA at 2; Letter to Frederick R. Wentland, Associate Administrator, Office of Spectrum Management, National Telecommunications and Information Association, United States Department of Commerce from C.I. Pearson, Rear Admiral, United States Coast Guard at 1 (Feb. 25, 2004) attachment to Comments of NTIA. MariTEL’s sharing proposal explicitly states: “Subject to FCC rules established prior to Auction 20, MariTEL has an obligation to make available up to (2) narrowband offset duplex channels to the USCG for ship-shore and shore-ship communications in the Ports and Waterways Safety System (“PAWSS”).” Sharing Proposal at 1. The statements of the USCG and NTIA are emblematic of their persistent distortion and misrepresentation of the issues.

^{8/} *Third Report and Order* ¶ 46.

^{9/} 47 C.F.R. § 80.371(c); see generally *Third Report and Order* but specifically ¶¶ 48-49.

^{10/} *Third Report and Order* at n.157. Many commenting parties note that channels 87B and 88B are designated internationally for use by AIS. See, e.g. Comments of NY/NJ Sandy Hook

Accordingly, contrary to the revisionist history offered by the USCG and others, the FCC did not contemplate MariTEL making available simplex channels for AIS.^{11/} The FCC did not contemplate MariTEL making available wideband channels for AIS. The FCC did not contemplate the use of VPC channels for AIS coastal surveillance. The FCC did not contemplate public-private partnerships with entities other than the USCG using the AIS channels. And, the FCC did not tie the designation of AIS channels to international standards.

MariTEL participated in the FCC's auction of VPC spectrum based on these ground rules.^{12/} Any change to these ground rules would have caused MariTEL to participate differently in Auction 20. Public policy dictates that the FCC not alter auction winners rights and obligations after an auction. To do so would completely undermine the credibility of the FCC's auction process and the faith of the financial community in the regulatory underpinning of the telecommunications industry.

Pilots' Benevolent Association at 1; Comments of Lockheed Martin at 5; Comments of Nauticast at 5-7; Comments of IOMM&P at 4. However, as noted herein, the FCC already considered the fact that channels are designated internationally for AIS and plainly recognized that such international designation does not compel identical domestic designation. To the contrary, the United States has never agreed that it would designate channels 87B and 88B domestically for AIS operations. Moreover, the FCC specifically identified the method by which the USCG should address this discrepancy between international and domestic approaches to AIS channel designation. The USCG has simply chosen to ignore that directive.

^{11/} Instead, channel 228B was designated, on a simplex basis, for ship-to-ship communications pursuant to a request from the USCG. Even without the designation of additional channels licensed to MariTEL pursuant to Section 80.371 of the FCC's rules, the USCG has always had the ability to track AIS equipped vessels in international waters by "listening" to their transmission on channel 88B in the default high seas mode. Therefore, any argument that increased homeland security measures necessitate 25 kHz simplex use on channels 87B and 88B is without justification. In fact, restricting transmissions on either channel 87B or channel 88B within U.S. territorial waters will increase the range by which shore stations can track AIS equipped vessels in international waters. The ship-to-shore-to-ship communications to be accomplished on the channels made available from MariTEL were intended to be operated in a duplex mode only, in conformance with their designation in the FCC's rules.

^{12/} See "156-162 MHz VHF Public Coast Station Spectrum Auction Scheduled for December 3, 1998," DA-98-1469, *Public Notice*, 13 FCC Rcd 17612 (1998) ("Auction 20").

B. MariTEL has the Right to Profit from the Use of its Channels

Contrary to the claims of many commenting parties, MariTEL has the right to profit from its use of channels 87B and 88B.^{13/} As noted above, the FCC contemplated that spectrum would be made available for USCG use in a limited manner.^{14/} In particular, the channels that MariTEL was required to make available to the USCG would be employed to support VTS operations. VTS operations are those conducted by the USCG to support vessel traffic management and similar services. In fact, the FCC has designated specific spectrum for VTS operations in particular ports across the United States.^{15/} That spectrum is available only for USCG use in those ports. It is not available for use by entities other than the USCG. Where a VTS system is operated as a public/private partnership, the channels employed for VTS operations are designated not for USCG use, but for private use.^{16/} Therefore, when MariTEL purchased its VPC authorizations in Auction 20, it had every reason to believe that the use of the channels it

^{13/} The NTIA comments imply that MariTEL has schemed to deprive the USCG of the use of channel 87B specifically so that MariTEL could derive profit from its authorization for AIS channels. *See generally* Comments of NTIA; Letter to Frederick R. Wentland, Associate Administrator, Office of Spectrum Management, National Telecommunications and Information Association, United States Department of Commerce from C.I. Pearson, Rear Admiral, United States Coast Guard (Feb. 25, 2004) attachment to Comments of NTIA. This implication is groundless. The USCG is no victim of MariTEL's schemes. Instead, MariTEL is a victim of the USCG's continued change to its AIS plans. As demonstrated below, the USCG migrated over time from desiring an AIS system based on VPC selected narrowband offset channel pairs to a system based on USCG designated simplex wideband frequencies. MariTEL's termination of its Memorandum of Agreement ("MOA") with the USCG and its series of proposals to satisfy the USCG's requirements are based on these constantly changing USCG needs for spectrum beyond that contemplated by the FCC's rules and decisions, not MariTEL's pre-conceived schemes to hold the USCG's AIS requirements hostage to MariTEL's commercial status.

^{14/} *See supra*, pp. 3-4.

^{15/} *See* 47 U.S.C. §§ 80.373(f), 80.383(c).

^{16/} The USCG and the Marine Exchange of LA/LB jointly operate a Vessel Traffic Service from San Pedro. Certain channels are specified for private use. *See* Los Angeles-Long Beach Vessel Traffic Service User Manual at 1-1, 2-1, April 1, 2001, *available at* <http://www.navcen.uscg.gov/mwv/mwv_files/VTS_LALB_UM_2001.pdf>.

would be required to dedicate for AIS use would be restricted to employment by the USCG and that MariTEL would be permitted to employ the channels elsewhere.

Now, however, in a departure from precedent, commenting parties suggest that the channels MariTEL is required to relinquish under Section 80.371(c) of the rules may be used in public/private partnerships and that MariTEL has no right to charge for the use of its frequencies by non-governmental entities.^{17/} This approach is simply inconsistent with the FCC's requirements and MariTEL's rights to its spectrum. As several commenting parties note, they will employ the spectrum to support their commercial operations.^{18/} MariTEL is required to dedicate spectrum for government use; it is not required to dedicate spectrum for commercial port operation purposes. The FCC has dedicated other spectrum for port operation purposes.^{19/} If these entities wish to use spectrum for port operation purposes, they should employ channels dedicated for that purpose. If they wish to use for commercial purposes, the same channel that the USCG is entitled to employ for non-commercial purposes, they must be required to compensate MariTEL for the use of that spectrum.

Other commenting parties object to paying for the use of MariTEL's spectrum because, they argue, AIS should be an "open" system.^{20/} Channels 87B and 88B are licensed to MariTEL. So long as MariTEL is the licensee of that spectrum, it is entitled, like any other commercial mobile radio service ("CMRS") licensee, to profit from the use of its spectrum. Under current rules, the FCC only requires that MariTEL permit the USCG to use up to two narrowband offset

^{17/} See, e.g., Comments of NY/NJ Sandy Hook Pilots' Benevolent Association at 1; Comments of Harbor Safety at 1; Comments of Lake Carriers' Association at 1.

^{18/} See, e.g., Comments of NY/NJ Sandy Hook Pilots' Benevolent Association at 1.

^{19/} 47 C.F.R. § 80.373(f).

^{20/} See, e.g., Comments of Lake Carriers' Association at 1; Comments of National Marine Radio Council at 1; Comments of APA at 4.

channels for a limited purpose. The residual use of those channels is MariTEL's and it can charge for their use.

C. A Departure from the Requirements of Section 80.371 Must Take into Consideration the Destructive Interference that will be Caused by the NTIA Request

As noted above, MariTEL's obligation is to provide the USCG with the use of up to two narrowband offset channel pairs in each VPC for which it is licensed. MariTEL remains prepared to meet that obligation.^{21/} What the USCG and other commenting parties have in mind for use on channels 87B and 88B – a public/private network using AIS technology – was not envisioned by the FCC when it crafted rules governing VPC licensees and was not envisioned by MariTEL when it bid on VPC spectrum.^{22/} MariTEL's Sharing Proposal attempts to reconcile the USCG's current needs with MariTEL's rights.^{23/}

However, if the USCG's new expanded requirements cannot be accommodated under the Sharing Proposal, then MariTEL must be compensated for surrendering more than it is required

^{21/} Nauticast states that MariTEL refused to meaningfully negotiate with the USCG with respect to the channels that MariTEL must make available to the USCG. Comments of Nauticast at 2. Nauticast's assertion is fabricated and unsupported. On May 27, 2003 MariTEL corresponded with the Coast Guard asking, in complete conformance with Section 80.371(c) of the FCC's rules, the two narrowband offset channel pairs that the USCG wished for MariTEL to make available for USCG use. *See* Letter to Captain Richard Hartman, Jr., Chief, Office of Communications System, United States Coast Guard from Dan Smith (May 27, 2003). The USCG never responded. It is the USCG that has failed to meaningfully negotiate with MariTEL, not the other way around.

^{22/} *See generally* NTIA Request.

^{23/} The NTIA attempts to justify the NTIA Request based on the FCC's statement that if the mechanism specified in Section 80.371(c) of the FCC's rules concerning the selection of frequencies proved ineffective, the FCC would "revisit this issue." Comments of NTIA at 4. The NTIA takes the FCC's statement out of context and misrepresents the meaning of the FCC's decision. The FCC did not state that it would revisit the obligation of the VPC licensee to provide the USCG with up to two narrowband offset channel pairs in favor of some other obligation. It merely stated that it would revisit the means by which those narrowband offset channel pairs would be selected. MariTEL remains willing for either the FCC or the USCG to select the two narrowband offset channel pairs to be dedicated for AIS.

under the FCC's rules.^{24/} In determining the appropriate compensation, the FCC must take into consideration that USCG use of channels 87B and 88B in the manner proposed would make the remainder of MariTEL's spectrum unusable for maritime communications. The impediments to MariTEL's use of its spectrum when it participated in Auction 20 was MariTEL's obligation to make available up to two narrowband offset channel pairs for USCG use. MariTEL did not agree to have the remainder of its frequencies rendered useless by technology otherwise incompatible with U.S. equipment standards. Therefore, the NTIA Request does not propose that MariTEL relinquish an amount of spectrum consistent with that specified in Section 80.371(c) of the rules.

Remarkably, the USCG contends that equipment issues are irrelevant to the FCC's resolution of issues regarding channels 87B and 88B.^{25/} However, equipment issues are not only relevant, but they are critical to the FCC's resolution of this matter.^{26/} MariTEL has already demonstrated that use of channels 87B and 88B in the manner desired by the USCG will cause destructive interference.^{27/} In response to the data presented by MariTEL, the USCG stated that

^{24/} Commenters with intellectual honesty at least recognize that MariTEL would be required to give up more than the FCC's rules require and note that MariTEL must be justly compensated. *See, e.g.,* Comments of NY/NJ Sandy Hook Pilots' Benevolent Association at 1; Comments of Harbor Safety at 1.

^{25/} *See* Letter to Frederick R. Wentland, Associate Administrator, Office of Spectrum Management, National Telecommunications and Information Association, United States Department of Commerce from C.I. Pearson, Rear Admiral, United States Coast Guard at 3 (Feb. 25, 2004) attachment to Comments of NTIA.

^{26/} As MariTEL pointed out elsewhere, resolution of equipment issues are necessary not only because of potential interference to adjacent channel operations but also because of AIS transponder design, which causes units to automatically transmit on frequencies (channels 87B and 88B) licensed to MariTEL.

^{27/} *See Wireless Telecommunications Bureau Seeks Comment on MariTEL, Inc. Petition For Declaratory Ruling and National Telecommunications and Information Administration Petition for Rulemaking Regarding the Use of Maritime VHF Channels 87B and 88B, DA 03-3585, Comments of MariTEL, Inc. at 38 and Attachment A (filed. Dec. 1, 2003); see also* Letter to

it would further study the issue, and report back to the FCC when results were available.^{28/}

Notably, the study that the USCG commissioned has been completed, but the USCG failed to submit it to the FCC.

It is not surprising that the USCG does not want the results of the study public. MariTEL has attached hereto a copy of that Joint Spectrum Center (“JSC”) report of the Department of Defense (“DOD”) studying the effect of the use of channels 87B and 88B in wideband simplex mode on proposed VPC operations (*see Exhibit A – “JSC Study”*), and as the Commission can see, the test results are in agreement with the report submitted earlier to the FCC by MariTEL. Specifically, the simulations conducted by both studies predict that implementation of AIS on a simplex basis causes widespread interference to adjacent maritime channels which requires a combination of geographic or frequency separation to alleviate. The JSC results also similarly highlight that current International Maritime Organization (“IMO”) shipboard installation guidelines are woefully inadequate to alleviate the predicted interference. Accordingly, the JSC Study confirms the incontrovertible facts – that AIS simplex operations causes harmful interference to other maritime users.^{29/}

John B. Muleta, Chief, Wireless Telecommunications Bureau from Dan Smith, President, MariTEL, Inc. at (Jan. 14, 2004) and inCode Report attached thereto at 2.1-2.2.2. Moreover, the inCode Report only supported what the USCG already knew, but attempted to hide from the FCC. *See . See “Electromagnetic Compatibility Between Marine Automatic Identification and Public Correspondence Systems in the Maritime Mobile VHF Band,”* NTIA Report No. 00-376 (April 2000), *available at* <http://www.ntia.doc.gov/osmhome/reports/ntia00-376/ntia_rpt_00_376.pdf>.

^{28/} *Wireless Telecommunications Bureau Seeks Comment on MariTEL, Inc. Petition For Declaratory Ruling and National Telecommunications and Information Administration Petition for Rulemaking Regarding the Use of Maritime VHF Channels 87B and 88B, DA 03-3585, Reply Comments of the United States Coast Guard at 3 (filed Dec. 11, 2003).*

^{29/} One of the most contentious issues now pending before the FCC is the potential “re-banding” of users of the 800 MHz spectrum. *See Improving Public Safety Communications in the 800 MHz Band; Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels, WT Docket No. 02-55, Notice of Proposed Rulemaking, 17 FCC Rcd 4873*

While fundamentally reporting the same interference characteristics as the inCode Report, the JSC Report proposes solutions that are not commercially viable and that significantly impair future product capabilities. In effect, the JSC report concludes that other users of the maritime spectrum should “protect themselves” by taking significant measures to develop and only deploy technologies capable of overcoming the severe AIS interference without regard to the commercial ramifications. Curiously, the JSC Study does not consider more effective solutions to insure that deployment of AIS does not propagate harmful interference in the first place. The following outlines the specific commercial encumbrances to adoption of the JSC Study recommendations.

First, while the JSC uses an Articulation Score (“AS”) to measure the intelligibility of a voice system,^{30/} it does not predict customer acceptance of a product with a continuous clicking sound that varies in frequency and volume. MariTEL’s experience with customer acceptance of similar interference from an early form of AIS^{31/} was profoundly negative and resulted in failure of customers to accept the service.

The JSC also proposes the use of Forward Error Correction (“FEC”) codes to reduce harmful interference. However, the employment of FEC provides significant commercial challenges including, but not limited to, a roughly 40% reduction in channel throughput^{32/} plus the time and expense associated with developing new maritime devices rather than using

(2002). That proceeding was initiated largely because of the interference caused by low-site digital operations at 800 MHz to high site systems. It would be irresponsible for the FCC to now adopt regulations that would certainly produce analogous interference among users of the maritime spectrum.

^{30/} An AS is designed to measure the percentage of words correctly understood over a channel subject to interference.

^{31/} The so-called “825 DSC” system.

^{32/} The lower a channel throughput, the less a carrier’s ability to support customers and applications.

commercial off-the-self devices. Critically, FEC codes are markedly less effective for higher-throughput data systems – exactly the type of system envisioned by MariTEL – compared to lower-throughput systems. Accordingly, while the JSC report claims that a 4-level modulation data system requires ~40% FEC overhead to overcome AIS interference, a more commercially viable 8-level modulation system may require ~60% FEC overhead to overcome the same AIS interference. Any requirement to implement FEC codes severely limits MariTEL’s wireless data business plans due to the difficulty of providing new and innovative higher-bandwidth applications to the maritime industry.

Finally, because the results of the JSC Report are based on simulations rather than developed equipment, it is possible that such maritime equipment would not be cost effective for the maritime market and may impose a considerable delay in MariTEL’s ability to build out a maritime wireless data system. The inescapable conclusion is that simplex AIS interference is a current encumbrance and long-term impediment to the commercial use of the maritime channels. Without developing an entirely new product portfolio to specifically overcome AIS interference, MariTEL will be precluded from providing services to any vessel equipment equipped with, or in close proximity to, a simplex AIS device. Accordingly, MariTEL again urgently requests that the FCC modify its current certification process for AIS equipment to insure that these devices cause no harmful interference to other users of the maritime spectrum

D. Other Matters

Time Slot Sharing – Several commenting parties are concerned that MariTEL’s time slot sharing proposal will compromise the availability of AIS channels for legitimate USCG operations.^{33/} To the contrary, the Sharing Proposal is designed to limit its base station transmissions based on channel loading. MariTEL’s proposed framework of limiting a non-USCG base station to minimum levels of throughput can be readily implemented with today’s technology. The ability to automatically decrease transmission based on higher channel loading is based in part on Class B AIS technology, which also envisions a varying level of transmission based on channel loading. MariTEL will demonstrate the viability of the technology prior to any implementation that exceeds the minimum threshold. MariTEL’s Sharing Proposal will operate to ensure that USCG operations and homeland security applications are not impaired. In addition, contrary to Lockheed Martin’s comments,^{34/} MariTEL’s sharing proposal does not envision the use of Fixed Access Time Division Multiple Access (“FATDMA”) messaging; instead, as stated above, non-USCG use of the VHF Data Link (“VDL”) will initially be limited to the minimum threshold using current technology. Any non-USCG use of the VDL that exceeds this threshold will only be implemented if and when technology is available to do so. Under this arrangement, FATDMA is not required.

SLSDC Use of Channels 87B and 88B – The SLSDC opposes MariTEL’s request, asserting that MariTEL “identified the Coast Guard as the sole federal entity entitled to these channels.”^{35/} MariTEL’s specific statement that the SLSDC would also be permitted to use

^{33/} See, e.g., Comments of Nauticast at 3; Comments of Lockheed Martin at 4.

^{34/} Comments of Lockheed Martin at 4.

^{35/} See Letter to Frederick R. Wentland, Associate Administrator, Office of Spectrum Management, National Telecommunications and Information Association, United States

channels 87B and 88B was insufficient for the SLSDC because “it strongly suggests that such use would be at MariTEL’s sufferance rather than according to the SLSDC’s independent and superior authority.”^{36/} MariTEL’s proposal contemplates codification in the FCC’s rules.

Therefore, the use of channels 87B and 88B would not be at “MariTEL’s sufferance.”

Moreover, as MariTEL has demonstrated countless times, it is the licensee of channels 87B and 88B. If the SLSDC has “independent and superior authority” it would be useful to know from where such authority is derived. Predictably, the SLSDC cites no such derivation.

Conformance to International Standards – Several commenting parties argue that the NTIA Proposal must be adopted because channels 87B and 88B are designated internationally for AIS use.^{37/} The FCC already considered and rejected the need to make domestic spectrum policy consistent with international practices.^{38/} Considering the enormity of interference issues caused by simplex AIS and the impact on U.S. licensees, the FCC should not depart from that decision now. As noted above, MariTEL participated in Auction 20 with the understanding that the FCC would not tie the use of AIS channels to international policies.^{39/} The FCC would set a dangerous precedent by following international rules that are contrary to United States’ policies when it specifically stated that it would not. Worse, there is no reason to believe that future

Department of Commerce from Jeffrey A. Rosen, General Counsel, Office of the Secretary of Transportation, United States Department of Transportation at 3 (Feb. 27, 2004).

^{36/} *Id.*

^{37/} *See, e.g.* Comments of NY/NJ Sandy Hook Pilots’ Benevolent Association at 1; Comments of Lockheed Martin at 5; Comments of Nauticast at 5-7; Comments of IOMM&P at 4.

^{38/} *Third Report and Order* n.157.

^{39/} *See supra*, p.5.

international decisions will not further impair the use of MariTEL's spectrum.^{40/} If the FCC follows international precedent now, MariTEL fears that it will do so in the future. MariTEL is specifically concerned that future international actions may establish guard bands (using MariTEL's licensed spectrum) and designate additional channels for AIS (using MariTEL's spectrum). MariTEL is also concerned that second generation AIS devices will cause even more harmful interference than the interference that MariTEL has already demonstrated by first generation Class A devices.^{41/} Unless the FCC reaffirms that domestic spectrum policy will be superior to international spectrum policy, MariTEL will simply be unable to proceed with the deployment of a maritime communications system.

III. Conclusion

The USCG's needs for AIS spectrum have plainly evolved since it first sought spectrum from the FCC to satisfy its requirements and since the time that the FCC adopted regulations designed to satisfy those requirements.^{42/} However, instead of admitting that its needs have

^{40/} Many IMO member countries are acutely aware of the interference issues caused AIS but have decided that AIS is the best use of the maritime spectrum and that users of adjoining channels should "protect themselves." IALA AIS Guidelines, Vol. I, part 2, future revision, and Ed. 1.2 of IALA Rec. A-124. Report of the 13th Session of the IALA AIS Committee Sept. 1-5, 2003, paragraph 11.3.4. Accordingly, IMO members and other international organizations are moving to expand the current functionality of AIS and develop standards that further impair other users of the maritime spectrum. Unfortunately, current FCC spectrum policy is not being fully considered in these developments, which, based on these proceedings, will lead to larger conflicts over the use of the maritime spectrum.

^{41/} Specifically, while the FCC considers AIS to be a technology that "operates on 12.5 and 25 kHz channels" and complies with IEC 61993-2, international AIS standards are actively developing second generation AIS devices currently envisioned to only operate in a 25kHz, B-side simplex mode and whose emissions mask will be much worse than IEC 61993-2 devices.

^{42/} For example, as recently as 2002, the USCG represented to the maritime community that AIS would operate on a duplex basis, a position now abandoned by the USCG. See "Automatic Identification System" Power Point Presentation By Jorge Arroyo, United States Coast Guard, Waterways Management Directorate at the 4th National Conference of the Harbor Safety Committee at 3 (March 3-5, 2002), available at <<http://www.uscg.mil/hq/gm/harbor-safety>>.

changed, and that the FCC's regulatory framework is not designed to meet these changed needs, the USCG has attempted to re-invent history and misrepresent MariTEL's obligations. If the USCG were forthright, it would have recognized MariTEL's rights to channels 87B and 88B and worked with MariTEL, the FCC and, to the extent required, Congress, to secure the use of these channels in a manner that does not undermine MariTEL's auction rights. However, the USCG continues to blame MariTEL for problems of the USCG's own creation, it continues to operate a campaign of misinformation against MariTEL within the maritime industry, and it continues to attempt to misstate and misapply the Commission's rules and decisions to achieve its desired results. For the foregoing reasons, the FCC should reject the USCG sponsored NTIA proposal and either require the USCG to abide by section 80.371 of the FCC's rules or adopt MariTEL's Sharing Proposal, which alone provides the USCG with the spectrum assets the USCG desires and is supported by MariTEL, whose spectrum assets the USCG would otherwise take.

Respectfully submitted,

MariTEL, Inc.

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