

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

In the Matter of)	
)	
Amendment of the Commission's Rules)	PR Docket No. 92-257
Concerning Maritime Communications)	
)	

COMMENTS OF THE UNITED STATES COAST GUARD

The United States Coast Guard (Coast Guard or USCG) respectfully submits these Comments in response to the Fourth Further Notice of Proposed Rulemaking (Notice) RM-9664 released December 28, 2001 in the above-captioned proceeding.

Introduction

1. Section III.A of this Notice discusses Distress Communications. As noted, the Coast Guard is responsible for search and rescue operations at sea, coastal areas and many inland waterways of the United States, and monitors VHF Channel 16 for these distress messages. Section III.B.3 of this Notice discuss frequency assignments for Automatic Identification Systems. The Universal Shipborne Automatic Identification System (AIS) is an essential system not only in support of safety, but also in support of Homeland Security. Comments are included in other sections where the Coast Guard is affected.

Distress Communications

2. In paragraph 7, we agree with the Commission's assertion that it is unnecessary to propose that a watch be required only after the licensee's construction requirements has passed or a licensee has actually constructed facilities in an area, and that the onus should be on the licensee to immediately initiate and maintain the watch, rather than wait for written notification from the Coast Guard.

3. In paragraph 8, the Commission invited comments regarding notification of a site providing channel 16 watchkeeping. The USCG continues to recommend that a licensee notify us prior to relocation of a site that may affect Channel 16 coverage. Channel 16 coverage is greatly affected by site location and advance knowledge provides us with the opportunity to determine when/if/how it may

provide or be required to provide alternative coverage to ensure mariner safety. The Coast Guard further believes that a business decision to discontinue, reduce or suspend operations at a site are normally made well in advance of the actual event and does not consider it an undue burden that it be provided as much advance notification as possible. We recognize that some events are beyond the operators control and readily accept that in those cases, advance notification may not well be possible. Under those conditions, the “notify as soon as practicable” rule is appropriate.

Specification of 12.5 kHz channels

4. In paragraphs 9-11, the Commission sought comments on its proposal to allow flexibility in the use of 12.5 kHz channels, limit frequency deviation to ± 5 kHz, and require Canadian coordination whenever operation on either adjoining 25 kHz channel would require Canadian coordination. The Coast Guard supports the Commission intent in each of these matters.

Use of Additional VHF Channels

5. In paragraphs 12-14, the Commission seeks comments on whether public safety, as opposed to maritime, has a greater immediate need for spectrum. The only internationally allocated maritime mobile spectrum above 26 MHz available for existing technology or for new technology such as AIS described below, exists within the 156-162 MHz band as described in APS 18 of the International Telecommunications Union Radio Regulations. Only about 60% of the frequencies allocated internationally for maritime mobile use are available for such use in the US. MariTEL and the National GMDSS Task Force are correct in noting the extreme shortage of VHF maritime channels. That shortage is a serious problem, which will only grow more serious as new spectrum-dependent maritime technology becomes required, as AIS has recently become required. The Coast Guard believes the question raised by the Commission, whether public safety or maritime has the greatest immediate need for spectrum, is immaterial. Maritime operations are constrained by the need for internationally allocated spectrum due to the need to be interoperable with the international community. Public safety operations, though also essential and having their own critical needs, are currently not so constrained. The Coast Guard therefore requests the Commission’s assistance in making more APS 18 internationally allocated spectrum available to the maritime service to meet its increasing needs.

Shipborne Universal Automatic Identification Systems (AIS)

6. The International Maritime Organization (IMO) Maritime Safety Committee (MSC), at it’s 73rd session (December 2000), adopted amendments to Chapter V of the Safety of Life at Sea (SOLAS) Convention to require the installation of AIS on ships. AIS is intended to provide a ship’s identity, position, course and speed,

among other things. AIS offers tremendous potential to achieve significant awareness of vessels operating in the maritime domain which will improve maritime security. These amendments will enter into force on 1 July 2002 and provide a phase-in schedule that begins in July 2002 and ends in July 2008 based upon ship type and tonnage. As a result of the events of September 11th and the value of AIS as a maritime domain awareness tool, the IMO, at the request of the US, has agreed to address amending SOLAS in May 2002 to fully implement AIS. Under this amendment, AIS installation on all ships subject to SOLAS on international voyages would be required by July 1st, 2004. The U.S. believes that AIS should be installed on ships as soon as possible. AIS could be required to operate in any navigable waterway in the US. To accomplish this, the following action is necessary:

- (a) Frequency authorization. Section 80.371(c)(3) of the Commission's rules should be consistent with the Memorandum of Agreement (MOA) described in the Notice¹. We defer to the Commission the best means of accomplishing that.
- (b) Certification. AIS units are expected to be available for certification as early as this month, and several should be ready by summer 2002. A means must be found to certify them without undue delay, and yet in a way to ensure the integrity of the AIS VHF data link is not violated². The Coast Guard previously commented³ that certification should be accomplished in a manner similar to that required of 406 MHz Emergency Position-Indicating Radiobeacons (EPIRBs).⁴ To accomplish this, we request certification for all AIS equipment be in accordance with USCG Navigation and Vessel Inspection Circular (NVIC) No. 8-01, dated 26 September 2001, paragraph 165.155.⁵ Specifically, AIS units should be tested independently and reviewed to the applicable international standards under the Coast Guard's equipment approval process, prior to authorization by or on behalf of the Commission. All standards necessary for certification of AIS,

¹ Footnote 53

² The AIS is a complex self-organizing TDMA broadcast system, taking its time synchronization from an internal global positioning satellite system, or from other AIS units within radio range. If one AIS unit operates improperly, it can disrupt the operation of other AIS systems in an area. Independent testing and evaluation of AIS units is therefore essential. Experience with GMDSS automated equipment has shown that equipment (i.e. 406 MHz EPIRBs and Inmarsat ship earth stations) that was certified by an independent body had significantly fewer problems than equipment (e.g. digital selective calling) that was not. Although many digital selective calling problems can be attributed to inadequate standards, many other problems should have been discovered during certification. [Conversely, the Coast Guard has intercepted problems with 406 MHz EPIRBs prior to authorization as a result of the lab testing requirement.](#)

³ USCG Comments filed to the FCC 23 August 2000 in WT Docket 00-48, *Amendment of Parts 13 and 80 of the Commission's Rules Concerning Maritime Communications*, beginning with page 33.

⁴ See 47 C.F.R. 80.1061

⁵ NVIC 8-01 is available from <http://www.uscg.mil/hq/g-m/nvic/index00.htm>

identified in both previous Coast Guard comments⁶ and NVIC No. 8-01, have been completed, approved, and are publicly available.

- (c) Licensing of AIS ship stations. Unless telecommanded⁷ to shift frequencies from an authorized shore station, AIS systems broadcast on both⁸ the frequencies 161.975 (maritime channel 87B) and 162.025 (maritime channel 88B) MHz, in accordance with APS 18 of the International Telecommunications Union (ITU) Radio Regulations. Use of channel 87B by shipborne AIS in US navigable waterways is allowed under the MOA. Channel 88B is a federal channel allocated to the Coast Guard by the National Telecommunications and Information Administration, where use for AIS purposes has been authorized, and where Coast Guard frequency authorization is pending. Once authorization is granted, we will submit a letter to the FCC authorizing other users of shipborne AIS to operate AIS equipment on that frequency, for interoperability purposes. The Coast Guard requests that the Commission then allow shipborne users of AIS to operate under existing VHF maritime radio provisions of their existing ship station license.

7. In view of the events of 11 September 2001 and the necessity to expand envisioned uses of AIS in support of Homeland Security as well as navigation safety, the provision of adequate, interference-free spectrum throughout the nation's waterways and an effective, thorough, independent certification process has become urgent.

Emission masks

8. In paragraphs 18-19, the Commission sought comments on their proposal to adopt emission masks and designators for the full range of possible data services as Part 90 licensees may offer. The Coast Guard believes emission masks are necessary for operation at 12.5 kHz bandwidth, and supports its adoption.

⁶ Id.

⁷ Although the Coast Guard will have the capability of transmitting an AIS channel management telecommand under the National Distress and Response System Modernization Project, installation due to be completed by 2006, shifting AIS frequencies is a complex operation and should not be performed unless necessary for sound operational reasons. Ship operators normally cannot practically change AIS operating frequencies themselves.

⁸ The international standards that define AIS required it to operate on two frequencies to ensure that other ships receive its signal in the presence of radio interference, that AIS operates reliably regardless of the numbers of AIS-equipped vessels in an area, and that vessels in an area reliably receive AIS transmissions when transmissions are switched to another frequency, or to a radio repeater mode.

Station documents

9. In paragraphs 21-23, the Commission sought comments on whether electronic record keeping is sufficient for purposes, which include distress logs. The Coast Guard supports MariTEL's comments regarding electronic documentation. Distress logs, licensee data on contact information can be essential tools to the Coast Guard. Therefore, we believe that means of accessing this documentation be through means demonstrated satisfactory to the Commission.



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By direction
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