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Small Entity Compliance Guide

Maritime Automatic Identification Systems

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WT Docket No. 04-344
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This Guide is prepared in accordance with the requirements of Section 212 of the Small Business Regulatory Enforcement Fairness Act of 1996. It is intended to help small entities—small businesses, small organizations (non-profits), and small governmental jurisdictions—comply with the above-referenced FCC rules. This Guide is not intended to replace the rules, which provide the final authority in this context. Although we have attempted to cover all parts of the rules that might be especially important to small entities, the coverage may not be exhaustive. This Guide might not apply in a particular situation based upon the circumstances, and the FCC retains the discretion to adopt approaches on a case-by-case basis that may differ from this Guide. Any decisions regarding a particular small entity will be based on application of the statute and regulations. Interested parties are free to file comments regarding this Guide and its application to a particular situation; the FCC will consider whether the recommendations or interpretations in the Guide are appropriate in that situation. The FCC may revise this Guide without public notice to clarify or update contents. Direct your comments and recommendations, or calls for further assistance, to the FCC’s Consumer Center:

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I. OBJECTIVES OF THE PROCEEDING

In the *Second Report and Order* in WT Docket No. 04-344, the Commission adopted additional measures for domestic implementation of Automatic Identification Systems (AIS), an advanced marine vessel tracking and navigation technology that can significantly enhance our Nation’s homeland security as well as maritime safety.

The potential benefits of AIS for maritime domain awareness and maritime safety can hardly be overstated. It is critical that the Commission took appropriate measures to facilitate and encourage the widespread implementation of AIS in all navigable waterways within the territorial jurisdiction of the United States, both coastal and inland. The actions taken in the *Second Report and Order* in WT Docket No. 04-344 will permit the Coast Guard, other first responders, and the maritime community in general to reap, in full, the unique advantages that AIS offers for our Nation’s safety and security, while ensuring that the United States remains a full partner in the seamless global AIS network that has emerged in recent years. The Commission will continue to work with NTIA, the Coast Guard, and other stakeholders in the maritime community to ensure that advanced communications technologies are brought to bear in furtherance of the Commission’s goal of promoting the safety of vessels, the integrity of marine environments, and the detection and defeat of waterborne terrorist threats.

II. REGULATIONS AND POLICIES THAT THE COMMISSION ADOPTED OR MODIFIED, INCLUDING COMPLIANCE REQUIREMENTS

In the *Second Report and Order* the Commission took the following actions:

- Designated maritime VHF Channel 87B for exclusive AIS use throughout the Nation, while providing a replacement channel for those geographic licensees that are currently authorized to use Channel 87B in an inland VHF Public Coast (VPC) service area (VPCSA);
- Determined that only Federal Government (Federal) entities should have authority to operate AIS base stations, obviating any present need for the Commission to adopt licensing, operational, or equipment certification rules for such stations; and

- Required that Class B AIS shipborne devices comply with the international standard for such equipment, while also mandating additional safeguards to better ensure the accuracy of AIS data transmitted from Class B devices. (Class A AIS devices are those currently certified by the Commission for compliance with international and Coast Guard carriage requirements. Class B AIS devices, which have somewhat reduced functionality vis-à-vis Class A devices, are intended primarily for voluntary carriage by recreational and other non-compulsory vessels.)

These measures will facilitate the establishment of an efficient and effective domestic AIS network, and will optimize the navigational and homeland security benefits that AIS offers.

A. Designation of Channel 87B for AIS in Inland Areas

1. Need for AIS in Inland Areas

The Commission concluded, on the basis of the augmented record, that it would promote the primary objectives in this proceeding, and would serve the broader public interest, to designate Channel 87B for exclusive AIS use in the thirty-three inland VPCSA. Making Channel 87B, like Channel 88B, available only for AIS throughout the Nation will serve the public interest by expanding the effectiveness and reliability of AIS and also the public interest in homeland security and maritime safety would best be served by prohibiting non-AIS operations on Channel 87B throughout the Nation in order to protect the integrity of terrestrial (*i.e.*, non-satellite) AIS communications.

In addition, non-AIS operations on Channel 87B would likely cause interference to satellite AIS communications. Therefore, the Commission concluded that non-AIS operations on Channel 87B would likely need to be terminated if satellite AIS proves feasible and is fully implemented. Also, there are compelling safety and national security reasons to designate Channel 87B for AIS on a nationwide basis. Because the desirability of deploying AIS in coastal and international waters applies equally to inland rivers and lakes, the optimization of the domestic AIS network clearly requires the designation of Channels 87B and 88B for inland AIS, and permitting any non-AIS uses of Channel 87B anywhere in the Nation would compromise the integrity of the domestic, and by extension the global, AIS network.

The Commission also determined that implementation of satellite AIS would serve the public interest, and that clearing Channel 87B of non-AIS operations would be necessary to maximize the effectiveness of satellite AIS operations. The Commission did not rely primarily on the need to accommodate satellite AIS as the basis for a nationwide designation of Channel 87B for exclusive AIS use. Accordingly, the Commission determined that a nationwide designation would be warranted even in the absence of satellite AIS, which obviates the need to revisit the issue if satellite AIS ultimately proves infeasible.

2. Existing Licensees on Channel 87B

The Commission concluded that it can afford an additional period of grandfathering protection to the site-based Channel 87B Private Land Mobile Radio (PLMR) licensees in inland VPCSA. Specifically, the Commission permitted them to remain authorized to operate on Channel 87B for fifteen years after the effective date of the rule amendments adopted in the *Second Report and Order*. This will provide incumbent site-based licensees with an ample period of time to adjust to the redesignation of Channel 87B without any disruption to their present operations, while at the same time ensuring eventual clearance of all non-AIS operations from the channel. The Commission noted that PLMR licensees in the 150-174 MHz band are required to migrate from 25 kHz bandwidth operations to 12.5 kHz technology or technology that achieves equivalent efficiency by 2013. Therefore, a fifteen-year grandfathering period in this proceeding should more than span the replacement cycle of equipment in use by site-based Channel 87B PLMR licensees in inland VPCSA.

In light of the Commission's determination to redesignate Channel 87B for exclusive AIS use in those VPCSAAs, it was appropriate to redesignate one of the public safety set-aside channel pairs in each inland VPCSA for use by inland VPCSA licensees. Therefore, the Commission redesignated duplex Channels 84 and 85 for VPC communications in the inland VPCSAAs and decided to make Channels 84/85 available to inland VPCSA licensees, rather than Channel 25, for several reasons. All four of the public safety licensees are licensed on Channel 25, but not all four are licensed on the other channels. In addition, Channel 25 is more useful for public safety interoperability because it is set aside throughout the inland VPCSAAs. Like incumbent site-based PLMR licensees operating on Channel 87B, site-based incumbents currently authorized on Channels 84/85 will remain authorized to operate on those channels for a period of fifteen years following the effective date of these rule amendments. This grandfathering protection will be accorded both to existing licenses and to licenses granted pursuant to applications that were filed prior to the release of the *Second Report and Order*. That is, if an application for authorization to operate on Channel 84 or 85 that was pending as of the release date of the *Second Report and Order* is granted subsequent to the release date, the licensee will be permitted to operate on Channel 84 or 85 until fifteen years after the effective date of these rules, regardless of the date of licensing. In light of the actions described above, however, the Commission will suspend the acceptance of new site-based applications for Channel 84 or 85 as of the release date of the *Second Report and Order*, and will amend the FCC's rules to prohibit any subsequent applications for those channels. With respect to incumbents on Channel 87B, a grandfathering period of fifteen years should provide affected public safety licensees with ample time for transition without any disruption to their present operations. In addition, making these former public safety set-aside channels available to inland VPCSA licensees is equitable because it will restore the operating capacity of these licensees, who, unlike the maritime VPCSA licensees, were under no pre-existing obligation to make any of their licensed spectrum available for AIS. This action is also equitable in consideration of the fact that the nationwide AIS designation of Channel 87B is itself intended to promote public safety and will not disserve public safety, especially in light of the Commission's determination to temporarily grandfather the existing public safety use of the channels. Moreover, the Channels 84 and 85 may still be used for public safety operations by inland VPCSA licensees, partitionees, disaggregatees, and/or lessees, even after this redesignation. The Commission has recently revised the Part 80 rules to provide VPC licensees with the flexibility to provide (or, *e.g.*, lease spectrum for) private land mobile radio service, which may include public safety or critical infrastructure industry communications. It remains, however, that such operations must be consistent with the Part 80 rules in the absence of a waiver permitting operation under Part 90.

In order to provide a transition period for inland VPCSA geographic licensees to switch from Channel 87B to Channels 84/85, the Commission permitted inland VPCSA geographic licensees to continue to operate on Channel 87B for up to two years after the effective date of these rules, while allowing them to modify their licenses to replace Channel 87B with Channel 84 or Channel 85, as appropriate, any time after the effective date. In areas where VPC spectrum has been disaggregated, Channels 84/85 will be assigned to the licensee authorized to operate on Channel 87B. This transition period should be ample to avoid any disruption of existing operations by inland VPCSA licensees, and should not otherwise prove onerous to the licensees. The Commission did not allow inland VPCSA geographic licensees as lengthy a grandfathering period to continue operating on Channel 87B as it afforded site-based Channel 87B licensees in the inland VPCSAAs because geographic licensees can engage in wide-area VPC operations, which pose a greater potential threat of interference to AIS. Because, incumbent site-based licensees operating on Channels 84/85 in the inland VPCSAAs have been grandfathered to permit them to continue to operate on those channels for fifteen years, while inland VPCSA licensees are required to migrate from Channel 87B to Channels 84/85 within two years, there may in some inland VPCSAAs be a period during which an incumbent site-based licensee and the migrating geographic licensee are both authorized on Channels 84/85. In such instances, the geographic licensee must protect the site-based incumbent operations in accordance with Section 80.773(b) of the Commission's Rules, 47 C.F.R. § 80.773(b). At the same time, this limited relief for existing inland VPCSA licensees should not compromise efforts to

implement AIS in the United States as quickly and broadly as possible. At the end of the two-year transition period, the Commission will modify any inland VPCSA licenses that were not previously modified to replace Channel 87B with Channel 84 or Channel 85, as appropriate. Inland VPCSA geographic licensees remain subject to their existing construction deadlines. (*See* 47 C.F.R. § 80.49(a)(1) (establishing five- and ten-year construction deadlines for VPC geographic licensees).) Transitioning to Channel 84 or Channel 85 from Channel 87B should not significantly disrupt those construction efforts.

B. AIS Base Station Issues

The Commission concluded that AIS base stations should be operated only by Federal entities, and, as a consequence, that the Commission need not adopt any rules pertaining to AIS base station equipment certification, licensing, or operation.

C. Class B AIS Shipborne Equipment

The Commission concluded that it should base Part 80 certification of Class B AIS devices on compliance with the pertinent international standard for such devices, IEC 62287-1. Therefore, the Commission:

- Added a new Section 80.231.
- Revised Section 80.1101(c)(12) of the Commission's Rules, 47 C.F.R. § 80.1101(c)(12) to incorporate IEC 62287-1 by reference as the Commission standard for certifying Class B AIS equipment.
- Adopted additional requirements as safeguards to better ensure that Class B AIS devices will transmit accurate static data, including the correct Maritime Mobile Service Identity (MMSI) number. (An MMSI number, also referred to simply as an MMSI, is a unique nine-digit number assigned to commercial and recreational vessels participating in the Global Maritime Distress and Safety System (GMDSS). The MMSI functions as a "phone number" for the vessel and must be programmed into the vessel's digital selective calling (DSC) radio. MMSIs are also used for AIS transponders.)

In sum, the Commission determined that certification of Class B AIS equipment in accordance with the established international standard for such equipment would serve the public interest for the same reasons that underlie the Commission's earlier determination to certify Class A AIS equipment in accordance with the established Class A international standard. Therefore, the Commission amended rules to incorporate by reference IEC 62287-1 as the standard for certifying Class B AIS equipment under Part 80.

The Commission also adopted three measures to provide better assurance that Class B AIS devices will be programmed with the correct static data, and in particular the correct MMSI by noting that the same public interest considerations that militate in favor of adopting additional safeguards to better ensure the accuracy of the static data programmed in Class B AIS equipment might also support the adoption of such measures for Class A AIS equipment. The Commission would consider extending to Class A AIS devices the three measures adopted in the *Second Report and Order* to better ensure the accuracy of static data in Class B devices, or adopting other measures that could safeguard against the transmission of inaccurate static data from Class A devices, upon receiving an appropriate petition or request for such action. The Commission reserved discretion to propose such action *sua sponte*, should circumstances indicate that it would promote the public interest. None of the measures the Commission adopted conflicts with IEC 62287-1, and none should be burdensome for either equipment manufacturers or end users.

First, the Commission prohibited any person from knowingly entering an incorrect MMSI or other static data in a Class B AIS device. Although this is a very basic measure, the Commission thought that it

ensures and clarifies that the Commission may impose the full range of sanctions at its disposal for the willful or knowing entry of false data. The Commission will view any violations of this requirement as very serious, because the transmission of inaccurate static data could result in the misidentification of vessels, thus compromising the Coast Guard's ability to use AIS to full effect on behalf of its maritime domain awareness efforts.

Second, the Commission required that the static data, including MMSI, be entered by sellers and professional installers of Class B AIS devices, not the end users. IEC 62287-1 prohibits end users from altering MMSIs, once programmed in the unit, but does not prohibit end users from entering the numbers initially. Thus, this requirement would go further than IEC 62287-1 by requiring professional entry of the MMSI number at the point of sale or installation.

Third, the Commission required manufacturers to include a conspicuous label on Class B AIS devices explaining how to enter and confirm static data, and warning that inputting an MMSI that has not been properly assigned to the end user, or otherwise entering any improper or inaccurate static data, is prohibited. Manufacturers also will be required to include this information in the user's manual. IEC 62287-1 contains only minimal guidance on the contents of manuals and user instructions, so adoption of this requirement does not conflict with the standard.

The Commission also adopted a proposal that applicants for Commission certification of a Class B AIS device first obtain Coast Guard certification of the device, consistent with the Commission's procedures for Class A AIS devices. The Commission concluded that it is in the public interest to allow the use of Class B devices prior to the effective date of the rules adopted in the *Second Report and Order*. Therefore, the Commission granted the waiver requests to the extent that it will certify Class B equipment that meets the requirements adopted in the *Second Report and Order* prior to the effective date of the new rules. This waiver applies to the pending requests and to any other requests for Class B certification received prior to the effective date of the new rules.

III. RECORDKEEPING AND OTHER COMPLIANCE REQUIREMENTS

The rule changes adopted in the *Second Report and Order* will not impose undue compliance burdens on small entities.

The other rules adopted in the *Second Report and Order* impose new compliance burdens on manufacturers and vendors of Class B AIS devices by requiring that such devices comply with the international standard for Class B AIS equipment, IEC 62287-1, in order to be certified by the Commission for use in the United States, and by requiring that static data be entered into Class B AIS equipment only by the vendor or installer. The rule amendments adopted in the *Second Report and Order* also impose requirements for the professional installation and labeling of Class B AIS devices to better ensure the accuracy of the static data transmitted from such devices.

In order to avoid the disruption of VPC station operations in inland VPCSAAs that might otherwise stem from the designation of Channel 87B for exclusive AIS use in the inland VPCSAAs, the Commission had provided the licensees of those stations with both a significant transitional period to adjust to the loss of Channel 87B, as well as a replacement channel. Specifically, it had provided that site-based licensees operating on Channel 87B in inland areas may continue to use that channel for fifteen years after the effective date of these rule changes, and that geographic licensees operating on Channel 87B in inland VPCSAAs may continue to operate on the channel for a period of two years following the effective date of these rule amendments. In addition, in each inland VPCSA, the Commission made a duplex channel pair, either Channel 84 or Channel 85, depending on the inland VPCSA, available for VPC use by the geographic licensee as a replacement for Channel 87B. Channel 84/85 will be made available immediately upon the effective date of these rule amendments; thus, licensees will be able to operate on

either Channel 84/85 or Channel 87B for a significant period of time, allowing migration of existing users of Channel 87B to alternative spectrum without disruption of existing operations on Channel 87B.

Adopting rules for the certification of Class B AIS devices based on the international standard, IEC 62287-1, will benefit the manufacturers of such devices, including small entities, because manufacturers would have to manufacture Class B AIS devices in accordance with that standard in any event to serve vessels traveling outside U.S. territorial waters. Adoption of a different standard incompatible with IEC 62287-1 would increase costs of manufacturing Class B AIS equipment by requiring that such equipment conform to both standards. Those costs would be passed on to consumers, and it is even possible that establishment of a U.S.-specific standard for Class B AIS devices would compel vessel owners and operators, including recreational boaters, to purchase and install two separate Class B AIS devices. Adoption of a different standard would also delay domestic deployment of Class B AIS equipment because no such accepted alternative standard currently exists. Also, the Commission noted that the manufacturers addressing this issue all support the incorporation by reference of IEC 62287-1.

The Commission determined in the *Second Report and Order* to impose additional requirements pertaining to the labeling, sale, installation and operation of Class B AIS equipment. Specifically, it had adopted rules that: (a) prohibit any person from entering an incorrect MMSI or other static data in a Class B AIS device; (b) require that sellers and professional installers of Class B AIS devices, not the end users, enter the static data; and (c) require affixation on a Class B AIS device of a conspicuous label explaining how to enter and confirm static data, and warning that it is a violation of the Commission's rules to input an MMSI that has not been properly assigned to the end user, or to otherwise enter any improper or inaccurate static data, and to provide this same information in the user's manual. These provisions do not impose a significant compliance burden on manufacturers, vendors or users of Class B AIS equipment. The Commission did not see any alternative that would permit differential application of these requirements on small entities without undermining the purpose of these requirements, to promote homeland security and maritime safety by ensuring that Class B AIS devices transmit accurate static data.

For details of other compliance requirements, refer to the *Second Report and Order*.

IV. WEBLINK AND CITATIONS

The *Second Report and Order*, FCC 08-208, was adopted September 15, 2008 and released September 19, 2008. Final rules adopted in the *Second Report and Order* were effective on March 2, 2009, except for §80.231, which contained new information collection requirements that had not yet been approved by OMB. In this regard, the Federal Communications Commission has sought comment on the information collection, *see* 74 Federal Register 9243 (Mar. 3, 2009), and will publish a document in the Federal Register announcing the effective date. The incorporation by reference listed in the rule is approved by the Director of the Federal Register as of March 2, 2009.

http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-08-208A1.doc
http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-08-208A1.pdf
http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-08-208A1.txt

23 FCC Rcd 13711 (2008), erratum, 24 FCC Rcd 3241 (2009).
74 Federal Register 5117 (Jan. 29, 2009) (summary).