

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

In the Matter of )  
 )  
Amendment of Parts 13 and 80 of the ) WT Docket No. 00-48  
Commission’s Rules Concerning Maritime )  
Communications )

**FOURTH REPORT AND ORDER AND SECOND MEMORANDUM OPINION AND ORDER**

**Adopted: June 7, 2010**

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By the Commission:

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**I. INTRODUCTION AND EXECUTIVE SUMMARY**

1. In this *Fourth Report and Order* in WT Docket No. 00-48, we address a number of issues pertaining to the Maritime Radio Services that were raised in the *Third Further Notice of Proposed Rule Making (Third Further Notice)* in this proceeding,<sup>1</sup> and amend the Commission’s Part 80 rules

<sup>1</sup> See Amendment of Parts 13 and 80 of the Commission’s Rules Concerning Maritime Communications, *Memorandum Opinion and Order, Third Report and Order, and Third Further Notice of Proposed Rule Making*, WT Docket No. 00-48 & PR Docket No. 92-257, 21 FCC Rcd 10282 (2006) (*MO&O, Third Report and Order, and Third Further Notice*, respectively).

accordingly. The decisions we adopt herein advance the key objectives underlying this proceeding, which are “to promote maritime safety, maximize effective and efficient use of the spectrum available for maritime communications, accommodate technological innovation, avoid unnecessary regulatory burdens, ... maintain consistency with international maritime standards to the extent consistent with the United States public interest, [and] regulate the Maritime Radio Services in a manner that advances our nation’s homeland security.”<sup>2</sup>

2. In this *Fourth Report and Order*, we
  - prohibit the certification, manufacture, importation, sale, installation, or continued use of INMARSAT-E emergency position indicating radiobeacons (EPIRBs)<sup>3</sup>;
  - conclude that VHF-DSC<sup>4</sup> handheld radiotelephones should include integrated Global Positioning System (GPS) capability, but defer adopting such a requirement until the Radio Technical Commission for Maritime Services (RTCM)<sup>5</sup> completes work on GPS performance standards;
  - require that any small passenger vessel<sup>6</sup> that does not have a reserve power supply carry at least one VHF handheld marine radio transceiver;
  - decline at this time to provide additional spectrum for ship station facsimile communications or to permit the transmission of data on maritime voice channels;
  - eliminate the limits on the number of frequencies that can be assigned to a private coast station or marine utility station;
  - revise the Part 80 rules to incorporate by reference the latest international standards for radar and other equipment; and
  - clarify that vessels subject to Global Maritime Distress and Safety System (GMDSS)<sup>7</sup>

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<sup>2</sup> *Id.* at 10283 ¶ 1.

<sup>3</sup> EPIRBs are battery-powered transmitters generally used to send a distress signal in an emergency. *See* 47 C.F.R. § 80.5 (defining an EPIRB as a “station in the maritime mobile service the emissions of which are intended to facilitate search and rescue operations”).

<sup>4</sup> Digital selective calling (DSC) is an internationally approved system for automatically contacting vessels on MF, HF and VHF frequencies. It allows mariners to send an automatically formatted distress alert instantly to the Coast Guard or other rescue authority anywhere in the world. DSC also allows mariners to initiate or receive distress, urgency, safety and routine radiotelephone calls to or from any similarly equipped vessel or shore station, without requiring either party to be near a radio loudspeaker. It allows users to “direct dial” and “ring” other maritime radio stations.

<sup>5</sup> RTCM is a non-profit organization that studies and prepares reports on maritime telecommunications practices, needs and technologies with a view toward improving the efficiency and capabilities of maritime telecommunications services and equipment. It is comprised of marine electronics manufacturers, government organizations, such as the U.S. Coast Guard, and other parties interested in maritime operations.

<sup>6</sup> For purposes of the Communications Act of 1934, as amended (the Act), and the Commission’s Part 80 Rules, small passenger vessels are United States vessels that transport more than six passengers for hire in either United States territorial waters or international waters. *See* 47 U.S.C. § 381; 47 C.F.R. § 80.901.

<sup>7</sup> The GMDSS is a “worldwide coordinated maritime distress system designed to provide the rapid transfer of distress messages from vessels in distress to units best suited for giving or coordinating assistance. The system includes standardized equipment and operational procedures, unique identifiers for each station, and the integrated use of frequency bands and radio systems to ensure the transmission and reception of distress and safety calls and messages at short, medium and long ranges.” *See* 47 C.F.R. § 80.5. Under the international Convention for the Safety of Life at Sea (SOLAS Convention), the GMDSS carriage requirements apply to cargo ships of 300 tons gross tonnage and over, and ships carrying more than twelve passengers, traveling on international voyages. *See* (continued....)

requirements are required to test their radiotelephone equipment on a daily basis.

## II. BACKGROUND

3. Previously in this proceeding, the Commission updated and streamlined the Part 80 rules to reflect recent developments pertaining to maritime safety, primarily with respect to domestic implementation of the GMDSS.<sup>8</sup> In the *Third Further Notice* accompanying the *Third Report and Order*, the Commission proposed to cease authorizing INMARSAT-E EPIRBs and to clarify the testing requirements for GMDSS radiotelephone equipment, and sought comment on whether to (1) require integrated GPS processors in VHF-DSC handheld radiotelephones; (2) require small passenger vessels that do not have a reserve power supply to carry at least one VHF handheld marine radio transceiver; (3) make additional spectrum available for facsimile communications by ship stations; (4) limit the number of frequencies that may be assigned to private coast stations and marine utility stations; and (5) update the standards for ship radar equipment. Eleven parties submitted comments or reply comments to the *Third Further Notice*.<sup>9</sup> We address these issues in the instant *Fourth Report and Order*.

## III. DISCUSSION

### A. INMARSAT-E Earth Stations

4. Inmarsat ceased providing service to INMARSAT-E EPIRBs on December 1, 2006. Not only does the carriage of an INMARSAT-E EPIRB no longer offer any safety benefits, but allowing the continued installation or use of such EPIRBs could actually jeopardize the safety of mariners who might mistakenly rely on them in lieu of carrying alternative EPIRBs or other distress alerting equipment.<sup>10</sup>

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SOLAS Consolidated Edition 2004, Consolidated Text of the International Convention for the Safety of Life at Sea, 1974, and its Protocol of 1988: Articles, Annexes and Certificates, Incorporating All Amendments in Effect from 1 July 1997, International Maritime Organization, London, 2004. These classes of vessels are known as “compulsory ships.” Vessels not required by treaty or statute to be equipped with radiotelecommunication equipment are termed “voluntary ships.”

<sup>8</sup> See Amendment of Parts 13 and 80 of the Commission’s Rules Concerning Maritime Communications, *Report and Order and Further Notice of Proposed Rule Making*, WT Docket No. 00-48, 17 FCC Rcd 6741 (2002), *erratum*, 17 FCC Rcd 10364 (*Report and Order*); Amendment of Parts 13 and 80 of the Commission’s Rules Concerning Maritime Communications, *Second Report and Order*, *Sixth Report and Order*, and *Second Further Notice of Proposed Rule Making*, WT Docket No. 00-48 & PR Docket No. 92-257, 19 FCC Rcd 3120 (2004). Most recently, in the *Third Report and Order*, the Commission adopted new technical requirements for DSC equipment; allowed the use of the INMARSAT Fleet F77 ship earth station in lieu of a single sideband radio by vessels operating more than one hundred nautical miles from shore; required additional classes of small passenger vessels to carry a reserve power source; extended the term of specified commercial radio operator licenses and permits to the lifetime of the holder; revised certain rules governing the commercial operator license examination process; promulgated rules to accommodate Ship Security Alert System beacons; and permitted the programming of maritime radio transmitters through remote control. See *Third Report and Order*, 21 FCC Rcd at 10297-10311 ¶¶ 26-52. In the *MO&O*, the Commission clarified the procedures for obtaining a GMDSS Radio Operator’s License by applicants who have completed a Coast Guard-approved training course; removed the sunset date for the Channel 16 watch requirement; relieved vessels that have upgraded to MF-DSC equipment of the requirement to maintain a watch on the frequency 2182 kHz; modified the requirements for station logs; and clarified the rules to permit routine calling on DSC frequencies. See *MO&O*, 21 FCC Rcd at 10288-97 ¶¶ 8-25.

<sup>9</sup> This includes late-filed comments submitted by Icom and NTIA, which we accept in the interest of developing a complete record in this proceeding. See Appendix A, *infra*, for a list of the commenters and the abbreviations or acronyms by which they are referred to herein.

<sup>10</sup> See NTIA Comments at 3.

Accordingly, we now adopt the Commission's proposal in the *Third Further Notice*<sup>11</sup> to prohibit any further certification, manufacture, importation, installation, or use of INMARSAT-E EPIRBs.<sup>12</sup>

#### B. GPS Requirement for VHF-DSC Handheld Equipment

5. The Commission invited comment in the *Third Further Notice* on a Coast Guard recommendation that VHF handheld radiotelephones fitted with DSC be required to have an integrated GPS capability.<sup>13</sup> Such a requirement, the Coast Guard explained, would facilitate search and rescue efforts by ensuring that distress calls include accurate information regarding the location of the vessel in distress.<sup>14</sup> The commenters generally favor adoption of the Coast Guard recommendation.<sup>15</sup> Icom opposes a requirement for integrated GPS capability in VHF-DSC handheld radiotelephones, but we are not persuaded that Icom's concerns outweigh the safety benefits. Icom argues that the cost of such a requirement would discourage carriage of VHF-DSC handheld radiotelephones, but does not attempt to quantify such costs.<sup>16</sup> We agree with the majority of the commenters that such compliance costs would not outweigh the clear safety benefits of automatically associating accurate and precise location information with distress calls.<sup>17</sup> Icom also contends that the requirement would increase demand for

<sup>11</sup> See *Third Further Notice*, 21 FCC Rcd at 10317-18 ¶ 68. The proposal is supported by NTIA, RTCM, and the Task Force. See NTIA Comments at 3; Task Force Comments at 2; RTCM Comments at 2. See also Iridium Satellite LLC *Ex Parte* Presentation (Mar. 9, 2007, reflecting oral presentation on Mar. 8, 2007).

<sup>12</sup> We codify this prohibition in a revised Section 80.1053 of the Rules, in which we also consolidate the existing rules prohibiting continued certification, manufacture, importation, sale, installation, or use of Class A, Class B, and Class S EPIRBs. See 47 C.F.R. §§ 80.1053, 80.1055, 80.1059. We also delete Section 80.1063, 47 C.F.R. § 80.1063, which sets forth the requirements for INMARSAT-E EPIRBs, and delete the references to INMARSAT-E EPIRBs (and to the relevant IMO standard for INMARSAT-E EPIRBs, IMO Assembly Resolution A.812(19)) elsewhere in the Part 80 Rules. See 47 C.F.R. §§ 80.15(e)(2), 80.905(a)(3)(vi), (a)(4)(vi), 80.1077, 80.1085(a)(6)(i), 80.1087(a)(2), 80.1089(a)(3)(i), 80.1091(a)(4)(i), (b)(3)(ii), 80.1101(c)(5)(i), 80.1101(c)(11), 80.1101(d)(1)(ii).

<sup>13</sup> See *Third Further Notice*, 21 FCC Rcd at 10318 ¶¶ 69-70.

<sup>14</sup> *Id.* at 10318 ¶ 69.

<sup>15</sup> See NTIA Comments at 3 (stating that NTIA "firmly believes that the safety benefits derived from an integrated VHF/DSC/GPS radio ... far outweigh the minimal costs associated with making the GPS capability integral to the VHF/DSC radio"); Canada Comments at 2 (affirming the Coast Guard's observation regarding the practical difficulties of connecting a VHF handheld unit to an external GPS unit); Sea Tow Comments at 3; Task Force Comments at 2; RTCM Comments at 2. Sea Tow emphasizes, in particular, the importance of having integrated GPS capability in handheld radios used by recreational boaters, who generally do not carry EPIRBs or any other means of conveying location information automatically to search and rescue authorities in the event of an emergency. See Sea Tow Comments at 2; see also Task Force Comments at 2-3.

<sup>16</sup> See Icom Comments at 1. The only commenter attempting to quantify the costs of an integrated GPS requirement states that it understands that GPS processors are available to manufacturers for about fifty dollars in limited quantities and that a "lower price would be expected for production quantities." See RTCM Comments at 4.

<sup>17</sup> See Canada Comments at 2 (stating that "with advancements in GPS chip technologies, coupled with the marketplace efficiencies relative to E911 initiatives, Canadian authorities believe that the accrued benefits of integrated GPS in VHF-DSC portables would outweigh the associated costs"). As suggested by the comments of both Canada and Sea Tow, mandating GPS capability in VHF-DSC equipment is supported by the same public interest considerations that underlie the Commission's E911 requirements. See, e.g., Wireless E911 Location Accuracy Requirements, *Notice of Proposed Rulemaking*, PS Docket No. 07-114, 22 FCC Rcd 10609, 10612 ¶ 6 (2007) ("[T]he goal of our E911 rules is to provide meaningful automatic location identification information that permits first responders to render aid.... [T]he public interest demands that carriers and technology providers strive (continued....)

Maritime Mobile Service Identity (MMSI) numbers,<sup>18</sup> but does not suggest that MMSI numbers are near exhaustion or explain why an increase in demand for MMSI numbers would otherwise be problematic.<sup>19</sup> Icom also asserts that this requirement could result in the use of the radios on land and confusion at coast stations when a land-originating distress signal is received,<sup>20</sup> but we view Icom's concern to be speculative. We therefore conclude that Part 80 should be amended to require that all VHF-DSC handheld radiotelephones include integrated GPS capability.

6. At this time, however, we will not establish a specific GPS capability requirement for VHF-DSC handheld radiotelephones. Rather, we will defer amending Part 80 until RTCM completes its ongoing efforts to develop performance standards for GPS processors. RTCM, supported by NTIA and the Coast Guard,<sup>21</sup> favors this approach because experience with GPS-equipped Personal Locator Beacons<sup>22</sup> "indicates that requiring functionality without establishing relevant performance standards can lead to disappointing performance."<sup>23</sup> We attach considerable weight to the position taken by the Coast Guard, the initial proponent of this requirement, that it would better serve the interest of maritime safety to wait for the development of GPS standards before imposing the requirement.<sup>24</sup> We believe the delay in implementing the requirement is more than offset by the importance of ensuring that the integrated GPS units operate effectively and reliably.<sup>25</sup> We accordingly anticipate adopting a Notice of Proposed Rule (Continued from previous page) \_\_\_\_\_

to ensure that when wireless callers dial 911, emergency responders are provided with location information that enables them to reach the site of the emergency as quickly as possible.").

<sup>18</sup> See Icom Comments at 1. MMSIs are nine-digit numbers assigned to commercial and recreational vessels participating in the GMDSS, which function as "phone numbers" for vessels.

<sup>19</sup> Moreover, VHF-DSC handheld radiotelephones already are required to be programmed with an MMSI, see 47 C.F.R. § 80.103(b), and mandating an integrated GPS processor will not alter that requirement.

<sup>20</sup> See Icom Comments at 1.

<sup>21</sup> See RTCM Comments at 2-4; NTIA Comments at 3-4; USCG Comments at 1. We note that we do not believe that our decision to defer adopting a rule requiring integrated GPS capability in VHF-DSC handheld radiotelephones necessitates a modification of Section 80.225(a) of the Commission's Rules, as Coast Guard apparently argues. In particular, it is not clear why the decision to defer adopting a rule requiring integrated GPS capability in VHF-DSC handheld radiotelephones requires reducing the grandfather period for handheld DSC equipment not meeting the technical standards adopted in the *Third Report and Order*. See USCG Comments at 1.

<sup>22</sup> Personal Locator Beacons (PLBs), like EPIRBs, send distress signals to search and rescue personnel via satellite and other means, but PLBs can be used on land and are intended to meet the distress alerting needs of the general public. See 47 C.F.R. § 95.1400.

<sup>23</sup> See RTCM Comments at 2. RTCM elaborates, "For instance, to operate properly, the GPS antenna may have to be properly oriented, and not shielded by puddle water or other obstruction. If the GPS processor operates continually, it could result in an unacceptable battery drain, reducing the time available for VHF transmissions, or alternatively requiring larger, heavier, and more expensive batteries. However, if the GPS processor does not operate periodically, it might 'cold start' when needed in an emergency, resulting in a delay in computing a position fix that could be 10 minutes or more." *Id.* To address these sorts of problems, RTCM initiated efforts to revise its PLB standard to ensure proper performance of GPS-equipped PLBs (see RTCM 1101.2, Standards for 406 MHz Satellite Personal Locator Beacons (PLB)), and RTCM believes that the results of those efforts will be of benefit in developing standards for GPS-equipped VHF-DSC radiotelephones. *Id.* at 3-4.

<sup>24</sup> See USCG Comments at 2 (stating that deferral "would ensure distress calls transmitted by DSC equipment to the Coast Guard are made to proven standards, minimizing the kind of 'disappointing performance' noted by RTCM").

<sup>25</sup> We note that the Coast Guard has indicated "its willingness to work with RTCM and the Commission in order to bring GPS functionality to all DSC-equipped handhelds in an expedited manner." *Id.* at 1. We reserve discretion to revisit our determination to defer rulemaking action if the delay extends beyond our expectations.

Making after RTCM's GPS standards are finalized.<sup>26</sup>

### C. Carriage Requirements for Small Passenger Vessels

7. In response to a National Transportation Safety Board (NTSB) recommendation that the Commission expand the reserve power supply requirement then applicable to small passenger vessels of more than one hundred gross tons,<sup>27</sup> the Commission in the *Third Report and Order* amended the rules<sup>28</sup> to extend the requirement to small passenger vessels of less than one hundred gross tons that (a) carry more than 150 passengers or have overnight accommodations for more than 49 persons,<sup>29</sup> or (b) operate on the high seas or more than three miles from shore on Great Lakes voyages.<sup>30</sup> The Commission considered simply removing the tonnage limitation, as recommended by NTSB, but concluded that this approach struck a better balance between safety benefits and compliance costs.<sup>31</sup> At the same time, however, the Commission requested comment in the *Third Further Notice* as to whether small passenger vessels that do not carry a reserve power supply should be required to carry at least one VHF handheld marine radio transceiver.<sup>32</sup>

8. The commenters addressing this issue uniformly favor the imposition of a requirement for carriage of at least one VHF handheld radio transceiver on all small passenger vessels that do not have a reserve power supply.<sup>33</sup> As the Coast Guard notes, in the absence of a reserve power supply, "a handheld VHF radio with a self-contained power source enables communications for emergency, and search and rescue purposes, even if the vessel's power supply is compromised."<sup>34</sup>

<sup>26</sup> We will request comment at that time on how best to implement such a requirement, *i.e.*, whether those standards should be incorporated by reference, in whole or in part, in Part 80, and on ancillary issues, such as a compliance deadline. Such a proceeding may also consider whether to require integrated GPS capability in fixed-mount VHF-DSC units, as the Task Force and Sea Tow each recommend. *See* Task Force Comments at 2-3; Sea Tow Comments at 2. We do not address those recommendations herein because we find them to be outside the scope of this rulemaking, inasmuch as the *Third Further Notice* requested comment only with respect to requiring integrated GPS capability in handheld equipment.

<sup>27</sup> *See* Letter, dated July 3, 2002, from Marion C. Blakey, Chairman, NTSB, to Michael K. Powell, Chairman, FCC (*NTSB Recommendation*). The impetus for the *NTSB Recommendation* was a fire on a ferry during a commuter run between Manhattan and Weehawken, New Jersey. The vessel was not required to (and in fact did not) have a reserve power supply because it was below one hundred gross tons. As a consequence, it lost communications contact with search and rescue personnel when the fire disabled the main power supply. The passengers and crew ultimately were rescued without loss of life, but the NTSB concluded that the inability to contact search and rescue personnel through VHF radiotelephone communication unnecessarily increased the risk to those on board. *Id.* at 2.

<sup>28</sup> *See Third Report and Order*, 21 FCC Rcd at 10303 ¶ 37; 47 C.F.R. § 80.917.

<sup>29</sup> This is the class of vessels subject to Subchapter K of the Coast Guard regulations, 46 C.F.R. §§ 114.100-122.910.

<sup>30</sup> This is the class of vessels subject to Subchapter T of the Coast Guard regulations, 46 C.F.R. §§ 175.100-185.910.

<sup>31</sup> *See Third Report and Order*, 21 FCC Rcd at 10303 ¶ 37.

<sup>32</sup> *See Third Further Notice*, 21 FCC Rcd at 10318-19 ¶ 71.

<sup>33</sup> *See* NTSB Comments at 2; NTIA Comments at 4; Task Force Comments at 4; RTCM Comments at 4.

<sup>34</sup> *See* Letter, dated Jan. 7, 2007, from Joseph D. Hersey, Jr., Spectrum Management Division, USCG, to Frederick R. Wentland, Associate Administrator, Office of Spectrum Management, NTIA, at 2 (*Coast Guard Letter*), appended to NTIA Comments. The Coast Guard further observes that any vessel can experience problems with its power supply, and such problems typically occur during an emergency situation, such as a fire or the taking on of (continued....)

9. We agree, and amend the rules to require carriage of at least one VHF handheld marine radio transceiver on all small passenger vessels that do not have a reserve power supply. In deciding to adopt this new requirement, we also accord significant weight to the NTSB's support of the requirement and, in particular, its statement that "the carriage of at least one VHF handheld marine radio transceiver by small passenger vessels not having a reserve power supply would meet the intent of our safety recommendation . . . ."<sup>35</sup> Moreover, no party has suggested that any class of small passenger vessel should be exempted from the requirement to carry either a reserve power supply or at least one VHF handheld marine radio transceiver, or that the compliance costs of this new requirement would be onerous.<sup>36</sup>

10. We will require compliance with the requirement for carriage of a VHF handheld marine radio transceiver (or a reserve power supply) within one year after the effective date of this rule amendment, consistent with the one-year transition period the Commission adopted in the *Third Report and Order* with respect to the reserve power supply requirement.<sup>37</sup> We nonetheless strongly encourage the owners and operators of all small passenger vessels to install a reserve power supply or at least carry one or more VHF handheld marine radio transceivers as soon as possible, in the interest of protecting their passengers and crew without further delay.

11. We will not require, as suggested by the Task Force, that all VHF handheld marine radio transceivers used in satisfaction of this requirement be DSC-capable.<sup>38</sup> Our rules still permit certification of handheld maritime transmitters that do not have DSC capability,<sup>39</sup> and small passenger vessels are not yet required to carry a VHF radiotelephone with DSC capability.<sup>40</sup> We nonetheless encourage the owners and operators of small passenger vessels that do not carry a reserve power supply to carry handheld VHF-DSC equipment.<sup>41</sup>

#### **D. Ship Station Facsimile Frequencies/Transmission of Data on Voice Channels**

12. In the *Third Further Notice*, the Commission requested comment on whether to allot additional frequencies for ship station facsimile use or to take other action to provide additional spectrum for such communications.<sup>42</sup> It requested comment, in particular, on whether there are unused or underused VHF maritime voice channels that could be made available for ship station facsimile use, and whether it should permit the transmission of data over maritime voice channels.<sup>43</sup> Based on the

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water – precisely the situation in which maintaining communications with search and rescue authorities is most essential. *Id.* at 1-2.

<sup>35</sup> See NTSB Comments at 2.

<sup>36</sup> The Commission estimated the retail cost of VHF handheld marine radio transceivers to be under fifty dollars. See *Third Further Notice*, 21 FCC Rcd at 10319 ¶ 71. No commenter has questioned this estimate.

<sup>37</sup> See *Third Report and Order*, 21 FCC Rcd at 10303-04 ¶ 38.

<sup>38</sup> See Task Force Comments at 4.

<sup>39</sup> See 47 C.F.R. § 80.203(n). We find that RTCM's recommendations to amend the rules to prohibit the certification, manufacture, importation or sale of non-DSC handheld VHF equipment is beyond the scope of the *Third Further Notice*. See RTCM Comments at 5.

<sup>40</sup> See 47 C.F.R. § 80.905(a)(1).

<sup>41</sup> See RTCM Comments at 4.

<sup>42</sup> See *Third Further Notice*, 21 FCC Rcd at 10319 ¶ 72.

<sup>43</sup> *Id.*

unanimous position of the comments addressing this issue,<sup>44</sup> we decline to take any action in this regard at this time. As the commenters observe, while there is a growing demand for spectrum for maritime non-voice communications, there has been no diminution in the demand for maritime voice channels, which remain both congested and essential for maritime safety.<sup>45</sup> On the basis of the existing record, therefore, we believe it would be premature to expand the spectrum allotted for maritime facsimile or data communications.<sup>46</sup>

#### E. Private Coast Station Frequencies

13. The Commission's rules limit the number of frequencies that may be assigned to private coast stations or marine utility stations.<sup>47</sup> In the *Third Further Notice*, the Commission questioned whether it was necessary to retain this limitation, given the current level of demand for such frequencies and the fact that they are shared on a non-exclusive basis.<sup>48</sup> The consensus of the commenters is that the limitation is not needed.<sup>49</sup> We agree, and will amend the rules accordingly.

#### F. Radar Standards

14. In the *Third Report and Order*, the Commission amended Section 80.273 of the Rules,<sup>50</sup> which sets forth the technical requirements for maritime radar equipment, to incorporate by reference the latest versions of certain international radar standards adopted by the International Telecommunication Union (ITU), International Maritime Organization (IMO), or International Electrotechnical Commission

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<sup>44</sup> See NTIA Comments at 4; Task Force Comments at 4-5; RTCM Comments at 5.

<sup>45</sup> See NTIA Comments at 4-5; RTCM Comments at 5. According to NTIA, "Any reduction in the availability of voice channels could cause serious problems and jeopardize the safety of life and property in and around our nation's waterways." See NTIA Comments at 4.

<sup>46</sup> After the close of the pleading cycle in this proceeding, RTCM Special Committee 123 published a standard for VHF-FM Digital Small Message Services (VDSMS), which can be used for the transmission of short digital messages on maritime voice channels without causing interference to voice communications on the channel, see RTCM Standard 12301.1, "VHF-FM Digital Small Message Services" (July 10, 2009), and RTCM filed a petition for rulemaking requesting that we incorporate the new standard into the Part 80 rules, and permit VDSMS on certain maritime voice channels. See RTCM Petition for Rulemaking, RM-11563 (filed Aug. 19, 2009). We will address RTCM's petition for rulemaking in a separate proceeding.

<sup>47</sup> See 47 C.F.R. § 80.511 (providing that, absent a "showing of need," only one port operation frequency, one commercial frequency and one non-commercial frequency will be assigned to a private coast station or marine utility station). Private coast stations serve the operational, maritime control and business needs of ships, and may not provide public correspondence service. See 47 C.F.R. §§ 80.5, 80.507(a). Marine utility stations provide the same types of communications and services as private coast stations, except that they employ handheld marine radios, rather than a fixed base station, to communicate with vessels. See 47 C.F.R. §§ 80.5, 80.507(c).

<sup>48</sup> See *Third Further Notice*, 21 FCC Rcd at 10319-20 ¶ 73.

<sup>49</sup> See NTIA Comments at 5; RTCM Comments at 6; Task Force Comments at 5. NTIA notes, moreover, that the limitation may be counterproductive: "Because the Commission's rules provide that these frequencies are licensed on a shared, non-exclusive basis, it appears that eliminating the limit on the number of frequencies that can be assigned would serve the public interest by making more frequencies available for the maritime community, and relieving the Commission from the unnecessary administrative burden of reviewing and acting upon justification requests." See NTIA Comments at 5.

<sup>50</sup> See 47 C.F.R. § 80.273.



(IEC).<sup>51</sup> The Commission did not amend its rules to incorporate by reference additional international standards recommended by RTCM, in particular certain IEC performance and testing standards for shipborne radar, because “requiring compliance with those standards may impose significant new requirements for radar installations.”<sup>52</sup> Rather, the Commission sought comment on incorporating these standards by reference.

15. We agree with RTCM, NTIA, and the Task Force that it would serve the public interest to incorporate by reference the most up-to-date versions of the relevant standards.<sup>53</sup> The incorporation of the international radar standards will promote maritime safety by ensuring that vessels operate with the most advanced radar technology. In addition, the incorporation by reference of these standards should not create a new compliance burden on the owners and operators of vessels,<sup>54</sup> or manufacturers of radar equipment.<sup>55</sup> The absence of any comments opposing the incorporation of any of these standards further supports the view that such action will not be burdensome.<sup>56</sup>

16. RTCM has submitted a detailed recommendation for updating Section 80.273, which is supported by both NTIA and the Task Force.<sup>57</sup> After the close of the comment filing deadline, however, the IEC published a new, comprehensive standard for shipborne radar – IEC 62388 – that expressly supersedes the separate IEC standards identified in RTCM’s recommendation.<sup>58</sup> We will accordingly

<sup>51</sup> See *Third Report and Order*, 21 FCC Rcd at 10307 ¶ 45.

<sup>52</sup> See *Third Further Notice*, 21 FCC Rcd at 10320 ¶ 74. The Commission noted, *inter alia*, that adoption of these additional standards would apply minimum radar standards to vessels of less than 500 gross tons, which have not been subject to such requirements to date. *Id.*

<sup>53</sup> See RTCM Comments at 6-11; NTIA Comments at 6; Task Force Comments at 5.

<sup>54</sup> Even though certain vessels – passenger ships of 150 gross tons and over on international voyages and cargo ships of 300 gross tons or more on international voyages – have not been subject to Commission radar standards to date, such vessels have to meet the international radar requirements when operating in international waters, irrespective of the Commission’s Part 80 rules.

<sup>55</sup> See RTCM Comments at 6; NTIA Comments at 6. Indeed, NTIA believes the adoption of the international radar standards for domestic use will benefit manufacturers and users of radar equipment because they will need to meet only a single set of radar standards, regardless of where they operate. See NTIA Comments at 6 (stating that, given “the international character of the equipment, it is not believed that adoption of the international standards would create any significant compliance or cost burdens on affected entities. Furthermore, the adoption of international radar standards would assist in harmonizing radar standards which will inure to the benefit of maritime entities.”); see also RTCM Comments at 6, 9.

<sup>56</sup> The Commission specifically requested comment in the *Third Further Notice* on “whether mandating compliance with these IEC standards could impose significant additional costs or burdens on the manufacturers and users of radar equipment.” See *Third Further Notice*, 21 FCC Rcd at 10320 ¶ 74.

<sup>57</sup> See RTCM Comments at 7-8; NTIA Comments at 6; Task Force Comments at 5. RTCM’s recommendation calls for the incorporation by reference of a separate set of IEC standards for each of five different categories of radar equipment, based on the features integrated into the equipment (*i.e.*, separate standards for radar equipment with automatic radar plotting aid (ARPA), automatic tracking aid (ATA), and electronic plotting aid (EPA), respectively) and whether the equipment is to be carried on a high-speed craft (*i.e.*, separate standards for radar equipment with ARPA on high-speed craft, and for radar equipment with ATA on high-speed craft). See RTCM Comments at 6-10. As RTCM notes, ARPA, ATA, EPA and chart facilities are integral parts of modern radar equipment and should be included as part of the equipment’s certification. *Id.* at 9.

<sup>58</sup> IEC 62388 Edition 1.0 (2007-12), “Maritime navigation and radiocommunication equipment and systems– Shipborne radar–Performance requirements, methods of testing and required test results.” IEC 62388 “replaces all the IEC 60936 (radar) and IEC 60872 (plotting) series of standards.” *Id.* at 11.

incorporate IEC 62388 as the applicable IEC standard for radar installations on board ships that are required to carry radar under the SOLAS Convention or Coast Guard regulations. As further suggested by RTCM,<sup>59</sup> we also incorporate by reference IEC 62252 as a testing standard for radar on voluntary vessels because we believe that requiring compliance with IEC 62252 will likewise promote navigation safety without being unduly burdensome for manufacturers.

17. We will prohibit the installation of non-compliant radar equipment, *i.e.*, radar equipment that was certified under the old standards, immediately upon the effective date of these rule amendments. Inasmuch as IEC 62388 and IEC 62252 already are in effect, as are the pertinent new IMO radar standards, there would be no point in delaying the domestic application of these new radar standards. We will, however, grandfather all certified radar equipment installed prior to the effective date of these rule amendments for the remaining useful life of the equipment. This grandfathering protection will obviate any need for mariners to incur the cost of prematurely replacing recently installed radar equipment that was certified under the old standards.

### G. Testing of GMDSS Radio Equipment

18. In the *Third Further Notice*, the Commission proposed to add a rule to Subpart W of Part 80 to clarify that vessels subject to the Subpart W GMDSS requirements are required to test their radiotelephone equipment on a daily basis.<sup>60</sup> The commenters unanimously favor adoption of such a rule.<sup>61</sup> We accordingly amend Subpart W for the reasons stated in the *Third Further Notice*.<sup>62</sup>

19. While supporting the proposed rule, NTIA expresses concern that daily testing would engender risk of battery drainage with respect to certain types of equipment – specifically, handheld sealed lifeboat radios, EPIRBs, Automatic Identification System (AIS) Search and Rescue transponders (SARTs), and radar SARTs. NTIA therefore recommends that these four types of equipment be tested only monthly.<sup>63</sup> We agree with NTIA that daily testing of the specified types of equipment could exhaust the battery, and we clarify that this equipment is not deemed to be “radiotelephone equipment” for purposes of new Section 80.1107. Thus, the new rule does not mandate daily testing of handheld sealed lifeboat radios, EPIRBs, AIS SARTs, or radar SARTs. Although NTIA recommends that such equipment be tested at monthly intervals, Section 80.409(b)(5)(ii) of the Rules currently specifies weekly testing of the equipment,<sup>64</sup> and NTIA has not explained why a monthly testing interval would be preferable. We believe that, in any event, a relaxation of the testing requirement is beyond the scope of this proceeding. We therefore retain the requirement for weekly testing of the equipment.

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<sup>59</sup> See RTCM Comments at 10-11.

<sup>60</sup> See *Third Further Notice*, 21 FCC Rcd at 10321 ¶ 75. The Commission explained that it had not intended to relieve GMDSS vessels of the daily testing requirement, but that the rule that formerly imposed that requirement on GMDSS vessels, 47 C.F.R. § 80.869, had been shifted to Subpart R during a restructuring of the Part 80 rules. See *Third Further Notice*, 21 FCC Rcd at 10321 ¶ 75. Subpart R now applies only to compulsory vessels that have been exempted from GMDSS requirements. See 47 C.F.R. § 80.851.

<sup>61</sup> See NTIA Comments at 6; Task Force Comments at 5; RTCM Comments at 11; Andersons Comments at 2.

<sup>62</sup> We do not address Sea Tow’s recommendation “that the Commission develop a policy and procedure to allow for the testing of VHF-DSC installations by mariners and radio service personnel,” see Sea Tow Comments at 3, because we find it to be outside the scope of the *Third Further Notice*.

<sup>63</sup> See NTIA Comments at 6.

<sup>64</sup> See 47 C.F.R. § 80.409(b)(5)(ii).

## H. Other Matters

20. We take this opportunity to remove obsolete provisions and correct typographical errors in Part 80.<sup>65</sup> These are non-controversial rule amendments that the Commission may adopt without notice and comment.<sup>66</sup> Specifically, we remove obsolete provisions from Sections 80.205, 80.207, 80.209,<sup>67</sup> and 80.375(d),<sup>68</sup> remove obsolete references to Class A and Class B EPIRBs from Sections 80.15(e), 80.310, and 80.905(a)(3)(iii)(B),<sup>69</sup> update the cross-reference in the Section 80.5 definition of “navigable waters,”<sup>70</sup> conform the commercial radio operator license codes referenced in the Part 80 rules to the codes actually used for such licenses in the Commission’s Universal Licensing System (ULS) database,<sup>71</sup>

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<sup>65</sup> In the *Third Report and Order*, in conjunction with a general updating of Part 80 references to international standards, the Commission stated that it would, *inter alia*, amend Section 80.1101(c)(7), 47 C.F.R. § 80.1101(c)(7) to specify IMO Resolution A.762(18) as the pertinent IMO standard for two-way VHF radiotelephones. *See Third Report and Order*, 21 FCC Rcd at 10307 n.196. In fact, the IMO standard already referenced in Section 80.101(c)(7)(i), IMO Resolution A.809(19), was, and remains, the correct standard. Accordingly, the Commission did not amend Section 80.1107(c)(7) as stated in the footnote text, but instead left Section 80.1101(c)(7) unchanged, revising the Rules Appendix of the *Third Report and Order* to remove the amendment of Section 80.1101(c)(7)(i) prior to its publication in the Federal Register.

<sup>66</sup> These are minor, non-controversial amendments in which the public is not likely to be interested, and we therefore find good cause for concluding that compliance with the notice and comment provisions of the Administrative Procedure Act is unnecessary with respect to these amendments. *See* 5 U.S.C. § 553(b)(3)(B).

<sup>67</sup> Sections 80.205(a), 80.207(d), and 80.209(a) each contain a note stating that Class C EPIRB stations may not be used after February 1, 1999. *See* 47 C.F.R. §§ 80.205(a) n.13, 80.207(d) n.13, 80.209(a) n.6. Given the passage of time, we believe it is no longer necessary to retain those notes.

<sup>68</sup> We remove references to the 14.0-14.5 GHz band from Section 80.375(d)(1) and Section 80.375(d)(2)(vi), 47 C.F.R. § 80.375(d)(1), (2)(vi), because the radionavigation allocation in this band has been deleted in its entirety. *See Review of Part 87 of the Commission’s Rules Concerning the Aviation Radio Service, Second Report and Order and Further Notice of Proposed Rule Making*, WT Docket No. 01-289, 21 FCC Rcd 11582, 11595-96 ¶ 19 (2006).

<sup>69</sup> *See* 47 C.F.R. §§ 80.15(e), 80.310, 80.905(a)(3)(iii)(B). These references are obsolete because, under Section 80.1053 of the Commission’s Rules, the domestic manufacture, importation, or sale of Class A or Class B EPIRBs was prohibited as of February 1, 2003, and the operation of such EPIRBs was prohibited as of December 31, 2006. *See* 47 C.F.R. §§ 80.1053, 80.1055 (2008). In the instant *Fourth Report and Order*, we have amended Section 80.1053 to consolidate in that rule the prohibitions on the use of Class A, Class B, Class S, and INMARSAT-E EPIRBs, and to remove references to implementation dates occurring in the past, while eliminating Section 80.1055. *See* n.12, *supra*; Section 80.1053 (Appendix B), *infra*. Finally, we also amend Section 80.1061(c) of the Rules, 47 C.F.R. § 80.1061(c) to update the mail and e-mail addresses at which interested parties can obtain information from the Coast Guard regarding 406.0-406.1 MHz EPIRB test facilities.

<sup>70</sup> In Section 80.5, 47 C.F.R. § 80.5, in the definition of “navigable waters,” the cross-reference to the rule codifying the Coast Guard’s definition of that term should be 33 C.F.R. § 2.36, and we revise the definition accordingly.

<sup>71</sup> Specifically, we amend Sections 80.151, 80.165 and 80.1074, 47 C.F.R. §§ 80.151, 80.165, 80.1074, to associate the code “PG” with the General Radiotelephone Operator License, the code “DO” with the GMDSS Radio Operator License, the code “RG” with the Restricted GMDSS Radio Operator License, the code “DM” with the GMDSS Radio Maintainer’s License, and the code “DB” with the GMDSS Radio Operator/Maintainer License, consistent with the code designations for those licenses in the ULS. In addition, Section 80.151 currently fails to list three types of commercial radio operator licenses issued by the Commission – the aforementioned GMDSS Radio Operator/Maintainer License, as well as the Restricted Radiotelephone Operator Permit (“RR”) and the Restricted Radiotelephone Operator Permit-Limited Use (“RL”), and we correct that omission here. Conforming the Part 80 code designations for commercial radio operator licenses with those used in ULS will avoid confusion.

and correct typographical errors in Sections 80.5,<sup>72</sup> 80.371,<sup>73</sup> 80.605,<sup>74</sup> 80.373,<sup>75</sup> and 80.1065.<sup>76</sup> We also make minor changes to the Section 80.373(f) listing of frequencies in the 156-162 MHz band,<sup>77</sup> and correct the inadvertent removal of a table of frequencies from Section 80.373(g) when that rule was amended in the *Third R&O*.<sup>78</sup> In addition, we remove the remaining references in Part 80 to 2182 kHz watch receivers, which are in Sections 80.251(a), 80.305(b)(1), 80.854(c), and 80.905(a)(4)(vii) of the

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<sup>72</sup> In Section 80.5, 47 C.F.R. § 80.5, we correct the spelling of the word “life-rafts.”

<sup>73</sup> In Section 80.371(a), 47 C.F.R. § 80.371(a), we revise the second entry in the table of working frequency pairs in the 2000-4000 kHz band so that the frequency 2514.0 kHz (not 12514.0 kHz) is listed as the coast transmit frequency associated with the ship transmit frequency 2118.0 kHz in the East Coast region. In Section 80.371(e), 47 C.F.R. § 80.371(e), we capitalize the reference to the state of Washington and correct the spelling of the word “pursuant.”

<sup>74</sup> In Section 80.605(c), 47 C.F.R. § 80.605(c), we change the first cross-referenced rule from § 80.1065(a)(3) to the correct § 80.1085(a)(3).

<sup>75</sup> In Section 80.373(b), 47 C.F.R. § 80.373(b), we correct the spelling of the word “limitations.” In Section 80.373(b)(1), 47 C.F.R. § 80.373(b)(1), we correct the spelling of the word “available.” In Section 80.373(b)(3) and 80.373(b)(6), 47 C.F.R. § 80.373(b)(1), (6), we correct the references to “kHz.”

<sup>76</sup> In Section 80.1065(b)(6), 47 C.F.R. § 80.1065(b)(6), we remove an extraneous quotation mark, correct the spelling of the word “identifiable,” and correct a misspelling in the reference to “the estimated mass of all structural material.”

<sup>77</sup> See 47 C.F.R. § 80.373(f). First, we revise footnote 8 to the table, which pertains to VHF maritime channel 88A (157.425 MHz), so that it conforms to footnote 3 to the Section 80.371(c)(1)(i) table of working carrier frequency pairs in the 156-162 MHz band. See 47 C.F.R. § 80.371(c)(1)(i) n.3. In 2006, the Commission adopted rules designating the paired maritime Channel 88B (162.025 MHz) for exclusive use in Automatic Identification Systems (AIS). See Amendment of the Commission’s Rules Regarding Maritime Automatic Identification Systems, *Report and Order and Further Notice of Proposed Rule Making and Fourth Memorandum Opinion and Order*, WT Docket No. 04-344 & PR Docket No. 92-257, 21 FCC Rcd 8892 (2006) (*AIS Report and Order*). In the *AIS Report and Order*, the Commission amended footnote 3 to Section 80.371(c)(1)(i) to reflect the exclusive AIS designation of Channel 88B, and to also provide that the use of Channel 88A for public correspondence communications in specified areas within 75 miles of the United States/Canada border must first be coordinated with Canada. *Id.* at 8948 (Appendix B). The Commission inadvertently neglected to make corresponding changes to the language of footnote 8 to Section 80.373(f), however, and as a consequence footnote 8 now omits the Canadian coordination requirement for public correspondence use of Channel 88A within 75 miles of the United States/Canada border, but it also suggests that Channel 88B, as well as Channel 88A, may still be used for public correspondence communications. See, e.g., 47 C.F.R. 80.373(f) n.8 (2007) (stating that, in the relevant border areas, “Channel 88 is available to ship stations for communications with public coast stations ....”). We correct that inconsistency, and clarify the permissible uses of Channel 88A as intended by the Commission, by revising footnote 8 to Section 80.373(f) to comport with the language in footnote 3 to Section 80.371(c)(1)(i). Relatedly, we remove the erroneous “intership only” limitations associated with Section 88A in the Section 373(f) table. Both footnote 3 to Section 80.371(c)(1)(i) and footnote 8 to Section 80.373(f) (even prior to its amendment here) indicate that Channel 88A may be used for communications between ships and coast stations or aircraft, as well as intership communications, are permissible. Finally, we reorganize the Section 80.373(f) table so that all frequencies are properly listed in ascending order, which will make the table easier to use.

<sup>78</sup> See 47 C.F.R. § 80.373(g). Section 80.373(g) describes the frequencies that may be assigned for on-board mobile communications. In the *Third R&O*, the Commission amended Section 80.373(g) to provide for narrowband operations on those frequencies. See *Third R&O*, 21 FCC Rcd at 10307 ¶ 45. In the course of reflecting that amendment, and despite the accurate publication of the *Third R&O* rules appendix in the Federal Register, see 73 Fed. Reg. 4486 (Jan. 25, 2008), the table of frequencies for on-board communications was mistakenly removed from the rule, notwithstanding the Commission’s intent to retain the table. We correct that error here by restoring the table of frequencies to what is now Section 80.373(g)(1).

Rules.<sup>79</sup> In the *Third R&O*, the Commission eliminated the requirement to carry a 2182 kHz watch receiver for all vessels,<sup>80</sup> and amended a number of rules accordingly. It inadvertently neglected to remove the references to 2182 kHz watch receivers in the aforementioned rules, however, and we now rectify that omission. We also take this opportunity to correct the inadvertent removal of the qualifying parenthetical phrase “(ship earth station devices only)” from Section 2.1093(c) of the Rules<sup>81</sup> in the Federal Register summary of the rule amendments adopted in 2003 in the *Memorandum Opinion and Third Report and Order* in WT Docket No. 00-32.<sup>82</sup> In addition, to both streamline Part 80 and facilitate the future incorporation by reference in Part 80 of additional or updated international standards, in accord with the policies of the Office of the Federal Register,<sup>83</sup> we adopt new Section 80.7 as a centralized incorporation-by-reference section for Part 80.<sup>84</sup>

21. Finally, we deny a petition for reconsideration of the *MO&O* and the *Third Report and*

<sup>79</sup> See 47 C.F.R. §§ 80.251(a), 80.305(b)(1), 80.854(c), 80.905(a)(4)(vii).

<sup>80</sup> See *Third R&O*, 21 FCC Rcd at 10291-92 ¶ 16. The Commission did not eliminate the requirement to maintain a 2182 kHz watch for vessels that have not upgraded to MF-DSC equipment. It determined only that such vessels that remain obligated to maintain a 2182 kHz watch do not have to carry a 2182 kHz watch receiver for that purpose. *Id.* at 10292-93 ¶ 17.

<sup>81</sup> See 47 C.F.R. § 2.1093(c).

<sup>82</sup> See *The 4.9 GHz Band Transferred from Federal Government Use, Memorandum Opinion and Order and Third Report and Order*, WT Docket No. 00-32, 18 FCC Rcd 9152 (2003) (*4.9 GHz Band Third R&O*). Section 2.1093 of the Rules mandates that specified types of portable transmitters are subject to routine environmental evaluation for radiofrequency radiation exposure. See 47 C.F.R. § 2.1093. Prior to the effective date of the rules adopted in the *4.9 GHz Band Third R&O*, Section 2.1093(c) specified that, among the portable devices subject to routine environmental evaluation are “devices that operate in ... the Maritime Services ... authorized under ... part 80 of this chapter (ship earth station devices only).” See 47 C.F.R. § 2.1093(c) (2002). In the *4.9 GHz Band Third R&O*, the Commission determined that portable devices in the 4940-4990 MHz frequency band should be added to the list of devices subject to routine evaluation for radiofrequency radiation exposure. See *4.9 GHz Band Third R&O*, 18 FCC Rcd at 9173-74 ¶ 53. The Commission amended Section 2.1093 accordingly, but did not intend to otherwise modify the rule, and it retained in the rule all of the existing portable devices without modification, including portable maritime radio transmitters authorized under “part 80 of the chapter (ship earth station devices only).” *Id.* at 9178, Appendix A: Final Rules. When a summary of the *4.9 GHz Band Third R&O* was published in the Federal Register, however, the parenthetical modifier “(ship earth station devices only)” was omitted inadvertently. See 68 Fed. Reg. 38638-39 (June 30, 2003). We take this opportunity to correct that mistake by adding the parenthetical phrase back into Section 2.1093(c).

<sup>83</sup> The Director of the Federal Register has established regulations for incorporating standards and other documents by reference into the Code of Federal Regulations. See 1 C.F.R. §§ 51.1-51.11.

<sup>84</sup> See Appendix B, Section 80.7, *infra*. In keeping with Office of Federal Register policy, and for convenience of reference, we also more clearly identify the most recent versions of the relevant standards that are incorporated by reference, consolidate amendatory standards with the antecedent standards that they revise, and make corresponding changes to the individual rules which incorporate one or more of those standards by reference. As the Commission has repeatedly stated, a primary goal of this rulemaking proceeding is to ensure that the Part 80 rules are consistent, to the extent feasible and appropriate, with the most up-to-date international standards. See, e.g., *Second Further Notice*, 19 FCC Rcd at 3164 ¶ 86; *MO&O, Third Report and Order*, and *Third Further Notice*, 21 FCC Rcd at 10287 ¶ 6. We therefore take this opportunity to revise the incorporations by reference in Part 80 to reference the most recent versions of the relevant standards, and we find good cause for adoption of these changes without further notice and comment proceedings. See 5 U.S.C. § 553(b); see also, e.g., *Third Report and Order*, 21 FCC Rcd at 10824 n.5.

*Order* filed by the Andersons (*Andersons Petition*).<sup>85</sup> The *Andersons Petition* principally addresses the Part 80 maritime equipment testing and logging requirements. Although the Coast Guard and the Task Force commented in support of the petition, we conclude that these issues (which were raised in the Andersons' comments<sup>86</sup> but not in any of the Notices of Proposed Rule Making in WT Docket No. 00-48) are beyond the scope of this rulemaking.<sup>87</sup> We nonetheless retain discretion to consider the issues raised by the Andersons in a future rulemaking proceeding.

#### IV. CONCLUSION

22. The decisions we have made in this *Fourth Report and Order* will permit the maritime community to make use of the most advanced and reliable communications technologies available for safety of navigation and the alerting of search and rescue authorities when a vessel is in distress. Our decisions herein also further the Commission's goal of ensuring that the spectrum allocated for maritime communications is used effectively and efficiently.

#### V. PROCEDURAL MATTERS

##### A. Regulatory Flexibility Act

23. As required by the Regulatory Flexibility Act (RFA),<sup>88</sup> the Commission has prepared a Final Regulatory Flexibility Analysis (FRFA) of the rules adopted in this *Fourth Report and Order*. The FRFA for the *Fourth Report and Order* is contained in Appendix C. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, will send a copy of the *Fourth Report and Order*, including the FRFA, to the Chief Counsel for Advocacy of the Small Business Administration. In addition, the Commission will send a copy of the *Fourth Report and Order*, including the FRFA, in a report to Congress pursuant to the Congressional Review Act.<sup>89</sup>

##### B. Congressional Review Act

24. The Commission will send a copy of this *Fourth Report and Order* in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act, see 5 U.S.C. 801(a)(1)(A).

##### C. Paperwork Reduction Act

25. This document does not contain proposed information collection(s) subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. In addition, therefore, it does not contain any new or modified "information collection burden for small business concerns with fewer than 25 employees," pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, see 44 U.S.C. 3506(c)(4).

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<sup>85</sup> See "'Petition to Reconsider' Memorandum Opinion and Order and Third Report and Order: Comments by: Owen Anderson and Kurt Anderson, GMDSS Instructors and Consultants," filed Feb. 25, 2008.

<sup>86</sup> See Andersons Comments at 2-8.

<sup>87</sup> See, e.g., Revision of Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission Systems, *Memorandum Opinion and Order and Further Notice of Proposed Rule Making*, ET Docket No. 98-153, 18 FCC Rcd 3857, 3875-76 ¶ 48 (2003).

<sup>88</sup> See 5 U.S.C. § 604.

<sup>89</sup> See 5 U.S.C. § 801(a)(1)(A).

**D. Further Information**

26. For further information, contact Jeffrey Tobias, Mobility Division, Wireless Telecommunications Bureau, (202) 418-1617, or TTY (202) 418-7233, or via electronic mail at [jeff.tobias@fcc.gov](mailto:jeff.tobias@fcc.gov).

27. To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format), send an e-mail to [fcc504@fcc.gov](mailto:fcc504@fcc.gov) or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (tty). This *Report and Order* can also be downloaded at: <http://www.fcc.gov/>.

**VI. ORDERING CLAUSES**

28. Accordingly, IT IS ORDERED, pursuant to Sections 4(i), 303(r), and 332(a)(2) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(r), 332(a)(2), Part 80 of the Commission's Rules IS AMENDED as set forth in the attached Appendix B, effective sixty days after publication in the Federal Register.

29. IT IS FURTHER ORDERED that, pursuant to Sections 4(i), 303(r), and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(r) and 403, this *Fourth Report and Order* IS HEREBY ADOPTED.

30. IT IS FURTHER ORDERED that the late-filed comments of Icom, Inc. and the National Telecommunications and Information Administration ARE ACCEPTED.

31. IT IS FURTHER ORDERED that, pursuant to Sections 4(i) and 405 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 405, and Section 1.106 of the Commission's Rules, 47 C.F.R. § 1.106, the petition for reconsideration filed by Owen Anderson and Kurt Anderson on February 25, 2008, IS DENIED.

32. IT IS FURTHER ORDERED that the Commission's Consumer Information Bureau, Reference Information Center, SHALL SEND a copy of this *Fourth Report and Order*, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch  
Secretary

**APPENDIX A**

**Commenting Parties**

Comments:

Anderson, Owen, and Anderson, Kurt (Andersons)  
GMDSS Implementation Task Force (Task Force)  
Icom America, Inc. (Icom)  
National Telecommunications and Information Administration (NTIA)  
National Transportation Safety Board (NTSB)  
Radio Technical Commission for Maritime Services (RTCM)  
Sea Tow Services International, Inc. (Sea Tow)

Reply Comments:

Embassy of Canada (Canada)  
Inmarsat Ventures Limited (Inmarsat)  
Uniden American Corporation (Uniden)  
United States Coast Guard (Coast Guard or USCG)



## APPENDIX B

## Final Rules

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 C.F.R. parts 2 and 80 as follows:

**I. PART 2 – FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS**

1. The authority citation for part 2 continues to read as follows:

**AUTHORITY:** Secs. 4, 302 303, and 336, 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

2. Section 2.1093 is amended by revising paragraph (c) to read as follows:

**§ 2.1093 Radiofrequency radiation exposure evaluation: portable devices.**

\* \* \* \* \*

(c) Portable devices that operate in the Cellular Radiotelephone Service, the Personal Communications Service (PCS), the Satellite Communications Services, the General Wireless Communications Service, the Wireless Communications Service, the Maritime Services, the Specialized Mobile Radio Service, the 4.9 GHz Band Service, the Wireless Medical Telemetry Service (WMTS) and the Medical Implant Communications Service (MICS), authorized under subpart H of part 22 of this chapter, part 24 of this chapter, part 25 of this chapter, part 26 of this chapter, part 27 of this chapter, part 80 of this chapter(ship earth station devices only) part 90 of this chapter, subparts H and I of part 95 of this chapter, and unlicensed personal communication service, unlicensed NII devices and millimeter wave devices authorized under subparts D and E, §§15.253, 15.255 and 15.257 of this chapter are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use. All other portable transmitting devices are categorically excluded from routine environmental evaluation for RF exposure prior to equipment authorization or use, except as specified in §§1.1307(c) and 1.1307(d) of this chapter. Applications for equipment authorization of portable transmitting devices subject to routine environmental evaluation must contain a statement confirming compliance with the limits specified in paragraph (d) of this section as part of their application. Technical information showing the basis for this statement must be submitted to the Commission upon request.

**II. PART 80 – STATIONS IN THE MARITIME SERVICES**

3. The authority citation for part 80 continues to read as follows:

**AUTHORITY:** Secs. 4, 303, 307(e), 309, and 332, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303, 307(e), 309, and 332, unless otherwise noted. Interpret or apply 48 Stat. 1064-1068, 1081-1105, as amended; 47 U.S.C. 151-155, 301-609; 3 UST 3450, 3 UST 4726, 12 UST 2377.

4. Section 80.5 is amended by revising the entries for Digital selective calling (DSC), Navigable waters, and On-board communication station to read as follows:

**§ 80.5 Definitions.**

\* \* \* \* \*

Digital selective calling (DSC). A synchronous system developed by the International Telecommunication Union Radiocommunication (ITU-R) Sector, used to establish contact with a station or group of stations automatically by means of radio. The operational and technical characteristics of this

system are contained in Recommendations ITU-R M.493-13, "Digital Selective-calling System for Use in the Maritime Mobile Service," with Annexes 1, 2, 3, and 4 (10/2009) (incorporated by reference, see § 80.7), and ITU-R M.541-9, "Operational Procedures for the Use of Digital Selective-Calling Equipment in the Maritime Mobile Service," with Annexes 1 through 5, 2004 (incorporated by reference, see § 80.7) ( *see* subpart W of this part.)

\* \* \* \* \*

Navigable waters. This term, as used in reference to waters of the United States, its territories and possessions, means the waters shoreward of the baseline of its territorial sea and internal waters as contained in 33 CFR 2.36.

\* \* \* \* \*

On-board communication station. A low-powered mobile station in the maritime mobile service intended for use for internal communications on board a ship, or between a ship and its lifeboats and life-rafts during lifeboat drills or operations, or for communication within a group of vessels being towed or pushed, as well as for line handling and mooring instructions.

\* \* \* \* \*

5. Section 80.7 is added to read as follows:

**§ 80.7 Incorporation by reference.**

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the Federal Communications Commission must publish notice of the change in the Federal Register and the material must be available to the public. All approved material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030 or go to [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html). Also it is available for inspection at the Federal Communications Commission, 445 12th Street, S.W., Washington, DC (Reference Information Center), and is available from the sources listed below.

(b) The International Maritime Organization (IMO), 4 Albert Embankment, London SE1 7SR, United Kingdom.

(1) IMO Resolution A.525(13), "Performance Standards for Narrow-band Direct Printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships," including Annex, adopted 17 November 1983, as revised by IMO Maritime Safety Committee (MSC) Resolution MSC.148(77), "Adoption of the Revised Performance Standards for Narrow-band Direct Printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships (NAVTEX)," adopted on 3 June 2003, IBR approved for §§ 80.905, 80.1101.

(2) IMO Assembly Resolution A.662(16), "Performance Standards for Float-free Release and Activation Arrangements for Emergency Radio Equipment," adopted 19 October 1989, IBR approved for § 80.1101.

(3) IMO Assembly Resolution A.664(16), "Performance Standards for Enhanced Group Call Equipment," adopted 19 October 1989, IBR approved for § 80.1101.

(4) IMO Resolution A.694(17), "Recommendation on General Requirements for Shipborne Radio Equipment Forming Part of the Global Maritime Distress and Safety System (GMDSS) and for Electronic Navigational Aids," adopted 6 November 1991, as revised by IMO Resolution MSC.149(77), "Adoption of the Revised Performance Standards for Survival Craft Two-Way VHF Radiotelephone Apparatus," adopted on 3 June 2003, IBR approved for §§ 80.273, 80.1101.

(5) IMO Assembly Resolution A.700(17), "Performance Standards for Narrow-band Direct-printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships (MSI) by HF," adopted 6 November 1991, IBR approved for § 80.1101.

(6) IMO Assembly Resolution A.801(19) Appendix 13, Annex 5, "Criteria for Use When Providing Inmarsat Shore-Based Facilities for Use in the GMDSS," adopted 23 November 1995, IBR approved for § 80.1091.

(7) IMO Assembly Resolution A.802(19), "Performance Standards for Survival Craft Radar Transponders for Use in Search and Rescue Operations," with Annex, adopted 23 November 1995, as amended by IMO Resolution MSC.247(83), "Adoption of Amendments to Performance Standards for Survival Craft Radar Transponders for Use in Search and Rescue Operations," adopted on 8 October 2007, IBR approved for § 80.1101.

(8) IMO Assembly Resolution A.803(19), "Performance Standards for Shipborne VHF Radio Installations Capable of Voice Communication and Digital Selective Calling," with Annex, adopted 23 November 1995, as amended by IMO Resolution MSC.68(68), "Adoption of Amendments to Performance Standards for Shipborne Radiocommunications Equipment," adopted on 6 June 1997, IBR approved for § 80.1101.

(9) IMO Assembly Resolution A.804(19), "Performance Standards for Shipborne MF Radio Installations Capable of Voice Communication and Digital Selective Calling," with Annex, adopted 23 November 1995, as amended by IMO Resolution MSC.68(68), "Adoption of Amendments to Performance Standards for Shipborne Radiocommunications Equipment," adopted on 6 June 1997, IBR approved for § 80.1101.

(10) IMO Assembly Resolution A.806(19), "Performance Standards for Shipborne MF/HF Radio Installations Capable of Voice Communication, Narrow-Band Direct Printing and Digital Selective Calling," with Annex, adopted 23 November 1995, as amended by IMO Resolution MSC.68(68), "Adoption of Amendments to Performance Standards for Shipborne Radiocommunications Equipment," adopted on 6 June 1997, IBR approved for § 80.1101.

(11) IMO Assembly Resolution A.807(19), "Performance Standards for INMARSAT-C Ship Earth Stations Capable of Transmitting and Receiving Direct-Printing Communications," with Annex, adopted 23 November 1995, as amended by IMO Resolution MSC.68(68), "Adoption of Amendments to Performance Standards for Shipborne Radiocommunications Equipment," adopted on 6 June 1997, IBR approved for § 80.1101.

(12) IMO Assembly Resolution A.808(19), "Performance Standards for Ship Earth Stations Capable of Two-Way Communications," with Annex, adopted 23 November 1995, IBR approved for § 80.1101.

(13) IMO Assembly Resolution A.809(19), "Performance Standards for Survival Craft Two-Way VHF Radiotelephone Apparatus," including Annexes 1 and 2, adopted 23 November 1995, as revised by IMO Resolution MSC.149(77), "Adoption of the Revised Performance Standards for Survival Craft Two-Way VHF Radiotelephone Apparatus," adopted on June 3 2003, IBR approved for § 80.1101.

(14) IMO Assembly Resolution A.810(19), "Performance Standards for Float-free Satellite Emergency Position-indicating Radio Beacons (EPIRBs) Operating on 406 MHz," with Annex, adopted 23 November 1995, as amended by IMO Resolution MSC.56(66), "Adoption of Amendments to Recommendations on Performance Standards for Float-free Satellite Emergency Position-indicating Radio Beacons (EPIRBs) Operating on 406 MHz," adopted on 3 June 1996, and IMO Resolution MSC.120(74), "Adoption of Amendments to Performance Standards for Float-free Satellite Emergency Position-indicating Radio Beacons (EPIRBs) Operating on 406 MHz," adopted on 31 May 2001, IBR approved for § 80.1101.

(15) IMO Assembly Resolution A.811(19), “Performance Standards for a Shipborne Integrated Radiocommunication System (IRCS) When Used in the GMDSS,” with Annex, adopted 23 November 1995, IBR approved for § 80.1083.

(16) IMO Assembly Resolution A.1001(25), “Criteria for the Provision of Mobile Satellite Communication Systems in the Global Maritime Distress and Safety System (GMDSS),” with Annex, adopted 29 November 2007, IBR approved for § 80.1091.

(17) IMO Resolution MSC.74(69), “Adoption of New and Amended Performance Standards, Annex 3 Recommendation on Performance Standards for an Universal Shipborne Automatic Identification System (AIS),” adopted 12 May 1998, IBR approved for § 80.1101.

(18) IMO Resolution MSC.80(70), “Adoption of New Performance Standards for Radiocommunication Equipment,” with Annexes, adopted 8 December 1998, IBR approved for § 80.1101.

(19) IMO Resolution MSC.191(79), “Performance Standards for the Presentation of Navigation-Related Information on Shipborne Navigational Displays,” adopted 6 December 2004, IBR approved for §§ 80.273, 80.1101.

(20) IMO Resolution MSC.192(79), “Revised Recommendation on Performance Standards for Radar Equipment,” adopted 6 December 2004, IBR approved for §§ 80.273, 80.1101.

(21) IMO Circular MSC/Circ.1040, “Guidelines on annual testing of 406 MHz satellite EPIRBs” adopted 28 May 2002, IBR approved for § 80.1085.

(c) The International Telecommunication Union (ITU), Place des Nations, CH-1211, Geneva 20, Switzerland.

(1) ITU-R Recommendation M.476-5, “Direct-Printing Telegraph Equipment in the Maritime Mobile Service,” with Annex, 1995, IBR approved for §§ 80.219, 80.225.

(2) ITU-R Recommendation M.492-6, “Operational Procedures for the use of Direct-Printing Telegraph Equipment in the Maritime Mobile Service,” with Annex, 1995, IBR approved for § 80.142.

(3) ITU-R Recommendation ITU-R M.493-13, “Digital Selective-calling System for Use in the Maritime Mobile Service,” with Annexes 1, 2, 3, and 4 (10/2009), IBR approved for §§ 80.5, 80.179, 80.225, 80.1101, 80.1113.

(4) ITU-R Recommendation M.540-2, “Operational and Technical Characteristics for an Automated Direct-printing Telegraph System for Promulgation of Navigational and Meteorological Warnings and Urgent Information to Ships,” including Annexes, 1990, IBR approved for §§ 80.905, 80.1101, 80.1135.

(5) ITU-R Recommendation M.541-9, “Operational Procedures for the Use of Digital Selective-Calling Equipment in the Maritime Mobile Service,” with Annexes 1 through 5, 2004, IBR approved for §§ 80.5, 80.103, 80.179, 80.225, 80.359, 80.1101, 80.1113, 80.1117.

(6) ITU-R Recommendation M.625-3, “Direct-Printing Telegraph Equipment Employing Automatic Identification in the Maritime Mobile Service,” with Annex, 1995, IBR approved for §§ 80.219, 80.225, 80.1125, 80.1127, 80.1131, 80.1133.

(7) ITU-R Recommendation M.628-4, “Technical Characteristics for Search and Rescue Radar Transponders,” with Annexes, 1986-1990-1992-1994-2006, IBR approved for §§ 80.1101, 80.1129.

(8) ITU-R Recommendation M.633-3, “Transmission characteristics of a satellite emergency position-indicating radiobeacon (satellite EPIRB) system operating through a low polar-orbiting satellite system in the 406 MHz band,” 1986-1990-2000-2004, IBR approved for § 80.1101.

(9) ITU-R Recommendation M.824-3, “Technical Parameters of Radar Beacons (RACONS),” with Annexes, 1992-1994-1995-2007, IBR approved for § 80.605.

(10) ITU-R Recommendation M.1177-3, “Techniques for measurement of unwanted emissions of radar systems,” June 2003, IBR approved for §§ 80.273, 80.1101.

(11) ITU-R Recommendation M.1371-3, “Technical characteristics for a universal shipborne automatic identification system using time division multiple access in the VHF maritime mobile band,” with Annexes, 1992-1994-1995-2007, IBR approved for § 80.1101.

(12) ITU-T Recommendation E.161, “Arrangement of Digits, Letters and Symbols on Telephones and Other Devices that Can Be Used for Gaining Access to a Telephone Network” (02/2001), IBR approved for § 80.1101.

(13) ITU-T Recommendation E.164.1, “Series E: Overall Network Operation, Telephone Service, Service Operation and Human Factors; Operation, Numbering, Routing and Mobile Services—International Operation—Numbering Plan of the International Telephone Service: Criteria and Procedures for the Reservation, Assignment, and Reclamation of E.164 Country Codes and Associated Identification Codes (ICs)” (09/2008), IBR approved for § 80.1101.

(d) The International Electrotechnical Commission (IEC), 3 Rue de Varembe, CH-1211, Geneva 20, Switzerland. (IEC publications can also be purchased from the American National Standards Institute (ANSI) through its NSSN operation ([www.nssn.org](http://www.nssn.org)), at Customer Service, American National Standards Institute, 25 West 43<sup>rd</sup> Street, New York NY 10036, telephone (212) 642-4900.)

(1) IEC 60092-101, Edition 4.1 (2002-08), “Electrical installations in ships—Part 101: Definitions and general requirements,” IBR approved for § 80.1101.

(2) IEC 60533, Second edition (1999-11), “Electrical and electronic installations in ships—Electromagnetic compatibility,” IBR approved for § 80.1101.

(3) IEC 60945, Fourth edition (2002-08), “Maritime navigation and radiocommunication equipment and systems—General requirements—Methods of testing and required test results,” with Annexes, IBR approved for §§ 80.273, 80.1101.

(4) IEC 61097-1, Second edition (2007-06), “Global maritime distress and safety system (GMDSS)—Part 1: Radar transponder—Marine search and rescue (SART)—Operational and performance requirements, methods of testing and required test results,” with Annexes, IBR approved for § 80.1101.

(5) IEC 61097-3, First edition (1994-06), “Global maritime distress and safety system (GMDSS)—Part 3: Digital selective calling (DSC) equipment—Operational and performance requirements, methods of testing and required testing results,” with Annexes, IBR approved for § 80.1101.

(6) IEC 61097-4, Edition 2.0 (2007-10), “Global maritime distress and safety system (GMDSS)—Part 4: INMARSAT-C ship earth station and INMARSAT enhanced group call (EGC) equipment—Operational and performance requirements, methods of testing and required test results,” IBR approved for § 80.1101.

(7) IEC 61097-6, Second edition (2005-12), “Global maritime distress and safety system (GMDSS)—Part 6: Narrowband direct-printing telegraph equipment for the reception of navigational and meteorological warnings and urgent information to ships (NAVTEX),” IBR approved for § 80.1101.

(8) IEC 61097-7, First edition (1996-10), “Global maritime distress and safety system (GMDSS)—Part 7: Shipborne VHF radiotelephone transmitter and receiver—Operational and performance requirements, methods of testing and required test results,” IBR approved for § 80.1101.

(9) IEC 61097-8, First edition (1998-09), “Global maritime distress and safety system (GMDSS)—Part 8: Shipborne watchkeeping receivers for the reception of digital selective calling (DSC) in the maritime MF, MF/HF, and VHF bands—Operational and Performance Requirements, Methods of Testing and Required Test Results,” with Annexes, IBR approved for § 80.1101.

(10) IEC 61097-9, First edition (1997-12), “Global maritime distress and safety system (GMDSS)—Part 9: Shipborne transmitters and receivers for use in the MF and HF bands suitable for telephony, digital selective calling (DSC) and narrow band direct printing (NBDP)—Operational and performance requirements, methods of testing and required test results,” with Annexes, IBR approved for § 80.1101.

(11) IEC 61097-10, First edition (1999-06), “Global maritime distress and safety system (GMDSS)—Part 10: INMARSAT-B ship earth station equipment—Operational and performance requirements, methods of testing and required test results,” with Annexes, IBR approved for § 80.1101.

(12) IEC 61097-12, First edition (1996-11), “Global maritime distress and safety system (GMDSS)—Part 12: Survival craft portable two-way VHF radiotelephone apparatus—Operational and performance requirements, methods of testing and required test results,” IBR approved for § 80.1101.

(13) IEC 61097-13, First edition (2003-05), “Global maritime distress and safety system (GMDSS)—Part 13: INMARSAT F77 ship earth station equipment—Operational and performance requirements, methods of testing and required test results,” IBR approved for § 80.1101.

(14) IEC 61162-1, Third edition (2007-04) “Maritime navigation and radiocommunication equipment and systems—Digital interfaces—Part 1: Single talker and multiple listeners,” IBR approved for § 80.1101.

(15) IEC 61993-2, First edition (2001-12) “Maritime navigation and radiocommunication equipment and systems—Automatic identification systems (AIS)—Part 2: Class A shipborne equipment of the universal automatic identification system (AIS)—Operational and performance requirements, methods of test and required test results,” with Annexes, IBR approved for § 80.1101.

(16) IEC 62238, First edition (2003-03) “Maritime navigation and radiocommunication equipment and systems—VHF radiotelephone equipment incorporating Class “D” Digital Selective Calling (DSC)—Methods of testing and required test results,” IBR approved for § 80.225.

(17) IEC 62252, First edition (2004-07) “Maritime navigation and radiocommunication equipment and systems—Radar for craft not in compliance with IMO SOLAS Chapter V—Performance requirements, methods of test and required test results,” IBR approved for § 80.273.

(18) IEC 62287-1, First edition (2006-03) “Maritime navigation and radiocommunication equipment and systems—Class B shipborne equipment of the Automatic Identification System—Part 1: Carrier-sense time division multiple access (CSTDMA) techniques,” IBR approved for § 80.231.

(19) IEC 62388, Edition 1.0 (2007-12), “Maritime navigation and radiocommunication equipment and systems—Shipborne radar—Performance requirements, methods of testing and required test results,” IBR approved for §§ 80.273, 80.1101.

(e) The International Organization for Standardization (ISO), 1 Rue de Varembe, CH-1211, Geneva 20, Switzerland. (ISO publications can also be purchased from the American National Standards Institute (ANSI) through its NSSN operation ([www.nssn.org](http://www.nssn.org)), at Customer Service, American National Standards Institute, 25 West 43<sup>rd</sup> Street, New York NY 10036, telephone (212) 642-4900.)

(1) ISO Standard 3791, “Office Machines and Data Processing Equipment—Keyboard Layouts for Numeric Applications,” First Edition 1976(E), IBR approved for § 80.1101.

(f) The Radio Technical Commission for Maritime Services (RTCM), 1800 N. Kent Street, Suite 1060, Arlington, VA 22209, telephone 703-527-2000, <http://www.rtcn.org>, e-mail [pubs@rtcn.org](mailto:pubs@rtcn.org).

(1) RTCM Paper 56-95/SC101-STD, "RTCM Recommended Minimum Standards for Digital Selective Calling (DSC) Equipment Providing Minimum Distress and Safety Capability," Version 1.0, August 10, 1995, IBR approved for § 80.225.

(2) RTCM 11000.1, "RTCM Recommended Standards for 406 MHz Satellite Emergency Position-Indicating Radiobeacons (EPIRBs)," Version 2.1, dated June 20, 2002, IBR approved for § 80.1061.

(3) RTCM 11020.1 (RTCM Paper 110-2004/SC110-STD), "RTCM Standard 11020.0—Ship Security Alert Systems (SSAS) using the Cospas-Sarsat System," Version 1.0, October 9, 2009, IBR approved for § 80.277.

(g) COSPAS-SARSAT – International Satellite System for Search and Rescue, 700 de la Gauchetiere West, Suite 2450, Montreal, Quebec H3B 5 M2, Canada, telephone +1-514-954-6761, [www.cospas-sarsat.org](http://www.cospas-sarsat.org).

(1) COSPAS-SARSAT Standard C/S T.001, "Specification for COSPAS-SARSAT 406 MHz Distress Beacons," Issue 4—Revision 10, October 2009, IBR approved for § 80.1061.

(2) COSPAS-SARSAT Standard C/S T.007, "COSPAS-SARSAT 406 MHz Distress Beacon Type Approval Standard," Issue 4—Revision 4, October 2009, IBR approved for § 80.1061.

6. Section 80.15 is amended by revising paragraph (e) to read as follows:

**§ 80.15 Eligibility for station license.**

\* \* \* \* \*

(e) A 406.0–406.1 MHz EPIRB may be used by any ship required by U.S. Coast Guard regulations to carry an EPIRB or by any ship that is equipped with a VHF ship radio station.

\* \* \* \* \*

7. Section 80.103 is amended by removing paragraph (e) and revising paragraphs (a) and (c) to read as follows:

**§ 80.103 Digital selective calling (DSC) operating procedures.**

(a) Operating procedures for the use of DSC equipment in the maritime mobile service are as contained in ITU-R M.541-9, "Operational Procedures for the Use of Digital Selective-Calling Equipment in the Maritime Mobile Service," with Annexes 1 through 5, 2004 (incorporated by reference, see § 80.7), and subpart W of this part.

\* \* \* \* \*

(c) DSC acknowledgment of DSC distress and safety calls must be made by designated coast stations and such acknowledgment must be in accordance with procedures contained in ITU-R M.541-9, "Operational Procedures for the Use of Digital Selective-Calling Equipment in the Maritime Mobile Service," with Annexes 1 through 5, 2004 (incorporated by reference, see § 80.7). Nondesignated public and private coast stations must follow the guidance provided for ship stations in ITU-R M.541-9, "Operational Procedures for the Use of Digital Selective-Calling Equipment in the Maritime Mobile Service," with Annexes 1 through 5, 2004 (incorporated by reference, see § 80.7), with respect to DSC "Acknowledgment of distress calls" and "Distress relays." ( *See* subpart W of this part.)

\* \* \* \* \*

8. Section 80.142 is amended by revising paragraph (b) to read as follows:

**§ 80.142 Ships using radiotelegraphy.**

\* \* \* \* \*

(b) NB-DP operating procedure. The operation of NB-DP equipment in the maritime mobile service must be in accordance with the operating procedures contained in ITU-R Recommendation M.492-6, "Operational Procedures for the use of Direct-Printing Telegraph Equipment in the Maritime Mobile Service," with Annex, 1995 (incorporated by reference, see § 80.7).

\* \* \* \* \*

9. Section 80.148 is amended by revising paragraphs (a) and (b) to read as follows:

**§ 80.148 Watch on 156.8 MHz (Channel 16).**

\* \* \* \* \*

(a) Where a ship station is operating only with handheld bridge-to-bridge VHF radio equipment under § 80.143(c) of this part; or

(b) For vessels subject to the Bridge-to-Bridge Act and participating in a Vessel Traffic Service (VTS) system when the watch is maintained on both the bridge-to-bridge frequency and a separately assigned VTS frequency.

\* \* \* \* \*

10. Section 80.151 is amended by revising paragraph (b) to read as follows:

**§ 80.151 Classification of operator licenses and endorsements.**

\* \* \* \* \*

(b) The following licenses are issued by the Commission. The international classification of each license, if different from the license name, is given in parentheses. The listed alphanumeric designators are the codes by which the licenses are identified in the Commission's Universal Licensing System.

- (1) RR. Restricted Radiotelephone Operator Permit (radiotelephone operator's restricted certificate).
- (2) RL. Restricted Radiotelephone Operator Permit-Limited Use.
- (3) MP. Marine Radio Operator Permit (radiotelephone operator's restricted certificate).
- (4) PG. General Radiotelephone Operator License (radiotelephone operator's general certificate).
- (5) DO. GMDSS Radio Operator's License (General Operator's Certificate).
- (6) RG. Restricted GMDSS Radio Operator's License (Restricted Operator's Certificate).
- (7) DM. GMDSS Radio Maintainer's License.
- (8) DB. GMDSS Radio Operator/Maintainer License.
- (9) T3. Third Class Radiotelegraph Operator's Certificate (radiotelegraph operator's special certificate).
- (10) T2. Second Class Radiotelegraph Operator's Certificate.
- (11) T1. First Class Radiotelegraph Operator's Certificate.

\* \* \* \* \*

11. Section 80.165 is amended to read as follows:

**§ 80.165 Operator requirements for voluntary stations.**



Minimum Operator License	
Ship Morse telegraph	T2.
Ship direct-printing telegraph	MP.
Ship telephone, with or without DSC, more than 250 watts carrier power or 1,000 watts peak envelope power	PG.
Ship telephone, with or without DSC, not more than 250 watts carrier power or 1,000 watts peak envelope power	MP.
Ship telephone, with or without DSC, not more than 100 watts carrier power or 400 watts peak envelope power:	
Above 30 MHz	None. <sup>1</sup>
Below 30 MHz	RP.
Ship earth station	RP.

<sup>1</sup>RP required for compulsory ships and international voyages.

\* \* \* \* \*

12. Section 80.179 is amended by revising paragraph (e)(1) to read as follows:

**§ 80.179 Unattended operation.**

\* \* \* \* \*

(e) \* \* \*

(1) The equipment must be using DSC in accordance with ITU-R Recommendation M.493-11, "Digital Selective-calling System for Use in the Maritime Mobile Service," with Annexes 1 and 2, 2004 (incorporated by reference, see § 80.7), and ITU-R Recommendation M.541-9, "Operational Procedures for the Use of Digital Selective-Calling Equipment in the Maritime Mobile Service," with Annexes 1 through 5, 2004 (incorporated by reference, see § 80.7), as modified by this section.

\* \* \* \* \*

13. Section 80.205 is amended by revising paragraph (a) to remove footnote 13 from the table.

14. Section 80.207 is amended by revising paragraph (d) to remove footnote 13 from the table.

15. Section 80.209 is amended by revising paragraph (a) to remove footnote 6 from the table.

\* \* \* \* \*

16. Section 80.219 is revised to read as follows:

**§ 80.219 Special requirements for narrow-band direct-printing (NB-DP) equipment.**

NB-DP and data transmission equipment installed in ship and coast stations before October 1,

1990, that operates on the frequencies in the 4,000–27,500 kHz bands must be capable of operation in accordance with the technical requirements of either ITU-R Recommendation M.476–5, “Direct-Printing Telegraph Equipment in the Maritime Mobile Service,” with Annex, 1995 (incorporated by reference, see § 80.7), or ITU-R Recommendation M.625–3, “Direct-Printing Telegraph Equipment Employing Automatic Identification in the Maritime Mobile Service,” with Annex, 1995 (incorporated by reference, see § 80.7), and may be used indefinitely. Equipment installed on or after October 1, 1990, must be capable of operation in accordance with the technical requirements of ITU-R Recommendation M.625–3, “Direct-Printing Telegraph Equipment Employing Automatic Identification in the Maritime Mobile Service,” with Annex, 1995. NB-DP and data transmission equipment are additionally permitted to utilize any modulation, so long as emissions are within the limits set forth in § 80.211(f) and the equipment is also capable of operation in accordance with ITU-R Recommendation M.625–3, “Direct-Printing Telegraph Equipment Employing Automatic Identification in the Maritime Mobile Service,” with Annex, 1995.

\* \* \* \* \*

17. Section 80.225 is amended by revising the introductory paragraph and paragraphs (a)(1)(i), (a)(1)(ii), (a)(2), (a)(3) and (c)(2) to read as follows:

**§ 80.225 Requirements for selective calling equipment.**

This section specifies the requirements for voluntary digital selective calling (DSC) equipment and selective calling equipment installed in ship and coast stations, and incorporates by reference ITU-R Recommendation M.476–5, “Direct-Printing Telegraph Equipment in the Maritime Mobile Service,” with Annex, 1995 (incorporated by reference, see § 80.7); ITU-R Recommendation ITU-R M.493–13, “Digital Selective-calling System for Use in the Maritime Mobile Service,” with Annexes 1, 2, 3, and 4 (10/2009) (incorporated by reference, see § 80.7); ITU-R Recommendation M.541–9, “Operational Procedures for the Use of Digital Selective-Calling Equipment in the Maritime Mobile Service,” with Annexes 1 through 5, 2004 (incorporated by reference, see § 80.7); ITU-R Recommendation M.625–3, “Direct-Printing Telegraph Equipment Employing Automatic Identification in the Maritime Mobile Service,” with Annex, 1995 (incorporated by reference, see § 80.7); RTCM Paper 56–95/SC101–STD, “RTCM Recommended Minimum Standards for Digital Selective Calling (DSC) Equipment Providing Minimum Distress and Safety Capability,” Version 1.0, August 10, 1995 (incorporated by reference, see § 80.7); and IEC 62238, First edition (2003-03) “Maritime navigation and radiocommunication equipment and systems—VHF radiotelephone equipment incorporating Class ‘D’ Digital Selective Calling (DSC)—Methods of testing and required test results,” (incorporated by reference, see § 80.7).

(a) \* \* \*

(1) \* \* \*

(i) RTCM Paper 56–95/SC101–STD, RTCM Recommended Minimum Standards for Digital Selective Calling (DSC) Equipment Providing Minimum Distress and Safety Capability,” Version 1.0, August 10, 1995 (incorporated by reference, see § 80.7), and ITU-R Recommendation M.493–10, “Digital Selective-calling System for Use in the Maritime Mobile Service,” with Annexes 1 and 2, 2000 (incorporated by reference, see § 80.7) (including only equipment classes A, B, D, and E); or

(ii) ITU-R Recommendation ITU-R M.493–13, “Digital Selective-calling System for Use in the Maritime Mobile Service,” with Annexes 1, 2, 3, and 4 (10/2009) (incorporated by reference, see § 80.7), and, in the case of Class D DSC equipment only, IEC 62238, First edition, “Maritime navigation and radiocommunication equipment and systems—VHF radiotelephone equipment incorporating Class “D” Digital Selective Calling (DSC)—Methods of testing and required test results,” March 2003 (incorporated by reference, see § 80.7).

(2) Beginning March 25, 2009, the Commission will not accept new applications (but will

continue to process then-pending applications) for certification of non-portable DSC equipment that does not meet the requirements of ITU-R Recommendation ITU-R M.493-13, "Digital Selective-calling System for Use in the Maritime Mobile Service," with Annexes 1, 2, 3, and 4 (10/2009) (incorporated by reference, see § 80.7), and, in the case of Class D DSC equipment only, IEC 62238, First edition, "Maritime navigation and radiocommunication equipment and systems—VHF radiotelephone equipment incorporating Class 'D' Digital Selective Calling (DSC)—Methods of testing and required test results," March 2003 (incorporated by reference, see § 80.7).

(3) Beginning March 25, 2012, the Commission will not accept new applications (but will continue to process then-pending applications) for certification of handheld, portable DSC equipment that does not meet the requirements of ITU-R Recommendation ITU-R M.493-13, "Digital Selective-calling System for Use in the Maritime Mobile Service," with Annexes 1, 2, 3, and 4 (10/2009) (incorporated by reference, see § 80.7), and, in the case of Class D DSC equipment only, IEC 62238, First edition, "Maritime navigation and radiocommunication equipment and systems—VHF radiotelephone equipment incorporating Class 'D' Digital Selective Calling (DSC)—Methods of testing and required test results," March 2003 (incorporated by reference, see § 80.7).

\* \* \* \* \*

(c) \* \* \*

(2) Equipment used to perform a selective calling function during narrow-band direct-printing (NB-DP) operations in accordance with ITU-R Recommendation M.476-5, "Direct-Printing Telegraph Equipment in the Maritime Mobile Service," with Annex, 1995 (incorporated by reference, see § 80.7), or ITU-R Recommendation M.625-3, "Direct-Printing Telegraph Equipment Employing Automatic Identification in the Maritime Mobile Service," with Annex, 1995, ITU-R Recommendation ITU-R M.493-13, "Digital Selective-calling System for Use in the Maritime Mobile Service," with Annexes 1, 2, 3, and 4 (10/2009) (incorporated by reference, see § 80.7), and

\* \* \* \* \*

18. Section 80.231 is amended by revising paragraph (a) to read as follows:

**§ 80.231 Technical Requirements for Class B Automatic Identification System (AIS).**

(a) Class B Automatic Identification System (AIS) equipment must meet the technical requirements of the International Electro-technical Commission (IEC) 62287-1, First edition (2006-03) "Maritime navigation and radiocommunication equipment and systems—Class B shipborne equipment of the Automatic Identification System—Part 1: Carrier-sense time division multiple access (CSTDMA) techniques" (incorporated by reference, see § 80.7).

\* \* \* \* \*

19. Section 80.251 is amended by revising paragraph (a) to read as follows:

**§ 80.251 Scope.**

(a) This subpart gives the general technical requirements for certification of equipment used on compulsory ships. Such equipment includes automatic-alarm-signal keying devices, survival craft radio equipment, radar equipment and Ship Security Alert System (SSAS) equipment.

\* \* \* \* \*

20. Section 80.271 is amended by revising paragraph (a)(2) to read as follows:

**§ 80.271 Technical requirements for portable survival craft radiotelephone transceivers.**

(a) \* \* \*

(2) The receiver must comply with the requirements in part 15, subpart B of this chapter and

must have a sensitivity of not more than 2 microvolts;

\* \* \* \* \*

21. Section 80.273 is revised to read as follows:

**§ 80.273 Radar standards.**

(a) Radar installations on board ships that are required by the Safety Convention or the U.S. Coast Guard to be equipped with radar must comply with:

(1) IEC 60945, Fourth edition (2002-08), “Maritime navigation and radiocommunication equipment and systems—General requirements—Methods of testing and required test results,” with Annexes (incorporated by reference, see § 80.7);

(2) IEC 62388 Edition 1.0 (2007-12), “Maritime navigation and radiocommunication equipment and systems—Shipborne radar—Performance requirements, methods of testing and required test results” (incorporated by reference, see § 80.7);

(3) IMO Resolution A.694(17), “Recommendation on General Requirements for Shipborne Radio Equipment Forming Part of the Global Maritime Distress and Safety System (GMDSS) and for Electronic Navigational Aids,” adopted 6 November 1991, as revised by IMO Resolution MSC.149(77), “Adoption of the Revised Performance Standards for Survival Craft Two-Way VHF Radiotelephone Apparatus,” adopted on 3 June 2003 (incorporated by reference, see § 80.7);

(4) IMO Resolution MSC.191(79), “Performance Standards for the Presentation of Navigation-Related Information on Shipborne Navigational Displays,” adopted 6 December 2004 (incorporated by reference, see § 80.7);

(5) IMO Resolution MSC.192(79), “Revised Recommendation on Performance Standards for Radar Equipment” (incorporated by reference, see § 80.7); and

(6) ITU-R Recommendation M.1177-3, “Techniques for measurement of unwanted emissions of radar systems,” June 2003 (incorporated by reference, see § 80.7).

(b) Radar equipment installed on voluntarily equipped vessels must comply with IEC 62252, First edition (2004-07) “Maritime navigation and radiocommunication equipment and systems—Radar for craft not in compliance with IMO SOLAS Chapter V—Performance requirements, methods of test and required test results,” (incorporated by reference, see § 80.7).

\* \* \* \* \*

22. Section 80.277 is amended by removing paragraph (b) and revising paragraph (a)(1) to read as follows:

**§ 80.277 Ship Security Alert System (SSAS).**

(a) \* \* \*

(1) Equipment that complies with RTCM 11020.1 (RTCM Paper 110–2004/SC110–STD), “RTCM Standard 11020.0—Ship Security Alert Systems (SSAS) using the Cospas-Sarsat System,” Version 1.0, October 9, 2009, (incorporated by reference, see § 80.7); or

\* \* \* \* \*

23. Section 80.305 is amended by revising paragraph (b)(1) to read as follows:

**§ 80.305 Watch requirements of the Communications Act and the Safety Convention.**

\* \* \* \* \*

(b) \* \* \*

(1) If it is not carrying MF-DSC radio equipment, keep a continuous watch on 2182 kHz in the room from which the vessel is normally steered while at sea, whenever such station is not being used for authorized traffic. Such watch must be maintained by at least one officer or crewmember who may perform other duties relating to the operation or navigation of the vessel, provided such other duties do not interfere with the watch.

\* \* \* \* \*

24. Section 80.310 is amended to read as follows:

**§ 80.310 Watch required by voluntary vessels.**

Voluntary vessels not equipped with DSC must maintain a watch on 2182 kHz and on 156.800 MHz (Channel 16) whenever the vessel is underway and the radio is not being used to communicate. Noncommercial vessels, such as recreational boats, may alternatively maintain a watch on 156.450 MHz (Channel 9) in lieu of VHF Channel 16 for call and reply purposes. Voluntary vessels equipped with VHF-DSC equipment must maintain a watch on 2182 kHz and on either 156.525 MHz (Channel 70) or VHF Channel 16 aurally whenever the vessel is underway and the radio is not being used to communicate. Voluntary vessels equipped with MF-HF DSC equipment must have the radio turned on and set to an appropriate DSC distress calling channel or one of the radiotelephone distress channels whenever the vessel is underway and the radio is not being used to communicate. Voluntary vessels equipped with a GMDSS-approved Inmarsat system must have the unit turned on and set to receive calls whenever the vessel is underway and the radio is not being used to communicate.

\* \* \* \* \*

25. Section 80.359 is amended by revising paragraph (b) to read as follows:

**§ 80.359 Frequencies for digital selective calling (DSC).**

\* \* \* \* \*

(b) Distress and safety calling. The frequencies 2187.5 kHz, 4207.5 kHz, 6312.0 kHz, 8414.5 kHz, 12577.0 kHz, 16804.5 kHz and 156.525 MHz may be used for DSC by coast and ship stations on a simplex basis for distress and safety purposes, and may also be used for routine ship-to-ship communications provided that priority is accorded to distress and safety communications. The provisions and procedures for distress and safety calling are contained in ITU-R Recommendation M.541-9, "Operational Procedures for the Use of Digital Selective-Calling Equipment in the Maritime Mobile Service," with Annexes 1 through 5, 2004 (incorporated by reference, see § 80.7), and §80.103(c).

\* \* \* \* \*

26. Section 80.371 is amended by revising paragraph (a) to change the second entry in the Coast transmit column from "1 12514.0" to "1 2514.0" and revising paragraph (e) to read as follows:

**§ 80.371 Public correspondence frequencies.**

\* \* \* \* \*

(e) Canada/U.S.A. channeling arrangement frequencies. The VHF frequencies assignable to ship and coast stations in the State of Washington and their usage limitations pursuant to the Canada/U.S.A. channeling arrangement are described in subpart B of this part.

27. Section 80.373 is amended by revising paragraphs (b), (b)(1), (b)(3), (b)(6), (f) and (g)(1) to read as follows:

**§ 80.373 Private communications frequencies.**

\* \* \* \* \*

(b) Frequencies in the 2000–27500 kHz band for intership safety and other communications. This paragraph describes the geographic areas of operation and the frequencies and limitations in the band available for assignment for intership safety and operational simplex radiotelephone communications.

(1) Frequencies available. \* \* \*

\* \* \*

(3) Except for the frequencies 2093.0 kHz, 2214.0 kHz and 2670.0 kHz, the frequencies shown in paragraph (b)(1) of this section may be used on a non-interference basis to safety communications, for operational communications and, in the case of commercial transport ships and ships of municipal and state governments, for business communications.

\* \* \*

(6) Navigational communications between ships and private coast stations may be exchanged on 2738.0 kHz and 2830.0 kHz. The frequencies 2214.0 kHz, 2738.0 kHz and 2830.0 kHz are assignable to private coast stations upon a showing that they need to communicate with commercial transport or Government ships. Private coast station applicants must show that public coast stations do not provide the required communications and harmful interference will not be caused to the intership use of these frequencies. The transmitter power must not exceed 150 watts. If 2214.0 kHz is authorized for ships, intership communication is also authorized. The geographic limitations to the frequencies 2738.0 kHz and 2830.0 kHz do not prohibit intership communication of less than 320 km (200 statute miles) when only one of the ship stations is within a permitted use geographic area.

\* \* \* \* \*

(f) Frequencies in the 156–162 MHz band. The following tables describe the carrier frequencies available in the 156–162 MHz band for radiotelephone communications between ship and private coast stations. (Note: the letter “A” following the channel designator indicates simplex operation on a channel designated internationally as a duplex channel.)

**Frequencies in the 156–162 MHz Band**

Channel designator	Carrier frequency (MHz) ship transmit	Carrier frequency (MHz) coast transmit	Points of communication (intership and between coast and ship unless otherwise indicated)
<b>Port Operations</b>			
01A <sup>1</sup>	156.050	156.050	
63A <sup>1</sup>	156.175	156.175	

05A <sup>2</sup>	156.250	156.250	
65A	156.275	156.275	
66A	156.325	156.325	
12 <sup>3</sup>	156.600	156.600	
73	156.675	156.675	
14 <sup>3</sup>	156.700	156.700	
74	156.725	156.725	
75 <sup>18</sup>	156.775	156.775	
76 <sup>18</sup>	156.825	156.825	
77 <sup>4</sup>	156.875		Internship only.
20A <sup>12</sup>	157.000		Internship only.
<b>Navigational (Bridge-to-Bridge)<sup>5</sup></b>			
67 <sup>7</sup>	156.375	156.375	
13 <sup>6</sup>	156.650	156.650	
<b>Commercial</b>			
01A <sup>1</sup>	156.050	156.050	
63A <sup>1</sup>	156.175	156.175	
07A	156.350	156.350	
67 <sup>7</sup>	156.375		Internship only.
08	156.400		Do.
09	156.450	156.450	
10	156.500	156.500	
11 <sup>3</sup>	156.550	156.550	
72 <sup>14</sup>	156.625		Internship only.
18A	156.900	156.900	
19A	156.950	156.950	
79A	156.975	156.975	
80A	157.025	157.025	
88A <sup>8</sup>	157.425	157.425	
<b>Digital Selective Calling</b>			
70 <sup>15</sup>	156.525	156.525	
<b>Noncommercial</b>			

67 <sup>14</sup>	156.375		Intership only.
68 <sup>17</sup>	156.425	156.425	
09 <sup>16</sup>	156.450	156.450	
69	156.475	156.475	
71 <sup>19</sup>	156.575	156.575	
72	156.625		Intership only.
78A	156.925	156.925	
79A	156.975	156.975	Great Lakes only.
80A	157.025	157.025	Do.
<b>Distress, Safety and Calling</b>			
16	156.800	156.800	
<b>Intership Safety</b>			
06	156.300		a. Intership, or b. For SAR: Ship and aircraft for the U.S. Coast Guard.
<b>Environmental</b>			
15 <sup>13</sup>		156.750	Coast to ship only.



<b>Maritime Control</b>			
17 <sup>9,10</sup>	156.850	156.850	
<b>Liaison and Safety Broadcasts, U.S. Coast Guard</b>			
22A <sup>11</sup>	157.100	157.100	Ship, aircraft, and coast stations of the U.S. Coast Guard and at Lake Mead, Nev., ship and coast stations of the National Park Service, U.S. Department of the Interior.

<sup>1</sup>156.050 MHz and 156.175 MHz are available for port operations and commercial communications purposes when used only within the U.S. Coast Guard designated Vessel Traffic Services (VTS) area of New Orleans, on the lower Mississippi River from the various pass entrances in the Gulf of Mexico to Devil's Swamp Light at River Mile 242.4 above head of passes near Baton Rouge.

<sup>2</sup>156.250 MHz is available for port operations communications use only within the U.S. Coast Guard designated VTS radio protection areas of New Orleans and Houston described in §80.383. 156.250 MHz is available for intership port operations communications used only within the area of Los Angeles and Long Beach harbors, within a 25-nautical mile radius of Point Fermin, California.

<sup>3</sup>156.550 MHz, 156.600 MHz and 156.700 MHz are available in the U.S. Coast Guard designated port areas only for VTS communications and in the Great Lakes available primarily for communications relating to the movement of ships in sectors designated by the St. Lawrence Seaway Development Corporation or the U.S. Coast Guard. The use of these frequencies outside VTS and ship movement sector protected areas is permitted provided they cause no interference to VTS and ship movement communications in their respective designated sectors.

<sup>4</sup>Use of 156.875 MHz is limited to communications with pilots regarding the movement and docking of ships. Normal output power must not exceed 1 watt.

<sup>5</sup>156.375 MHz and 156.650 MHz are available primarily for intership navigational communications. These frequencies are available between coast and ship on a secondary basis when used on or in the vicinity of locks or drawbridges. Normal output power must not exceed 1 watt. Maximum output power must not exceed 10 watts for coast stations or 25 watts for ship stations.

<sup>6</sup>On the Great Lakes, in addition to bridge-to-bridge communications, 156.650 MHz is available for vessel control purposes in established vessel traffic systems. 156.650 MHz is not available for use in the Mississippi River from South Pass Lighted Whistle Buoy "2" and Southwest Pass entrance Mid-channel Lighted Whistle Buoy to mile 242.4 above Head of Passes near Baton Rouge. Additionally it is not available for use in the Mississippi River-Gulf Outlet, the Mississippi River-Gulf Outlet Canal, and the Inner Harbor Navigational Canal, except to aid the transition from these areas.

<sup>7</sup>Use of 156.375 MHz is available for navigational communications only in the Mississippi River from South Pass Lighted Whistle Buoy "2" and Southwest Pass entrance Mid-channel Lighted Whistle Buoy to mile 242.4 above Head of Passes near Baton Rouge, and in addition over the full length of the Mississippi River-Gulf Outlet Canal from entrance to its junction with the Inner Harbor Navigational Canal, and over the full length of the Inner Harbor Navigational Canal from its junction with the Mississippi River to its entry to Lake Pontchartrain at the New Seabrook vehicular bridge.

<sup>8</sup>Within that portion of VHF Public Coast Station Areas (VPCSA) 1 through 9 listed in the table in Section 80.371(c)(1)(ii) within 120 km (75 miles) of the United States/Canada border, in the area of the Great Lakes, the Saint Lawrence Seaway, and the Puget Sound and the Strait of Juan de Fuca and its approaches, Maritime VHF Channel 88A (157.425 MHz) is available for use for public correspondence communications, subject to prior coordination with Canada. Maritime VHF Channel 88B (162.025 MHz) is available only for Automatic Identification System communications. One hundred twenty kilometers (75 miles) from the United States/Canada border, 157.425 MHz is available for intership and commercial communications. Outside the Puget Sound area and its approaches and the Great Lakes, 157.425 MHz is available for communications between commercial fishing vessels and associated aircraft while engaged in commercial fishing activities.

<sup>9</sup>When the frequency 156.850 MHz is authorized, it may be used additionally for search and rescue training exercises conducted by state or local governments.

<sup>10</sup>The frequency 156.850 MHz is additionally available to coast stations on the Great Lakes for transmission of scheduled Coded Marine Weather Forecasts (MAFOR), Great Lakes Weather Broadcast (LAWEB) and unscheduled Notices to Mariners or Bulletins. F3C and J3C emissions are permitted. Coast stations on the Great Lakes must cease weather broadcasts which cause interference to stations operating on 156.800 MHz until the interference problem is resolved.

<sup>11</sup>The frequency 157.100 MHz is authorized for search and rescue training exercises by state or local government in conjunction with U.S. Coast Guard stations. Prior U.S. Coast Guard approval is required. Use must cease immediately on U.S. Coast Guard request.

<sup>12</sup>The duplex pair for channel 20 (157.000/161.600 MHz) may be used for ship to coast station communications.

<sup>13</sup>Available for assignment to coast stations, the use of which is in accord with an agreed program, for the broadcast of information to ship stations concerning the environmental conditions in which vessels operate, *i.e.* , weather; sea conditions; time signals; notices to mariners; and hazards to navigation.

<sup>14</sup>Available only in the Puget Sound and the Strait of Juan de Fuca.

<sup>15</sup>The frequency 156.525 MHz is to be used exclusively for distress, safety and calling using digital selective calling techniques. No other uses are permitted.

<sup>16</sup>The frequency 156.450 MHz is available for intership, ship and coast general purpose calling by noncommercial vessels, such as recreational boats and private coast stations.

<sup>17</sup>The frequency 156.425 MHz is assigned by rule to private coast stations in Alaska for facsimile transmissions as well as voice communications.

<sup>18</sup>The frequencies 156.775 and 156.825 MHz are available for navigation-related port operations or ship movement only, and all precautions must be taken to avoid harmful interference to channel 16. Transmitter output power is limited to 1 watt for ship stations, and 10 watts for coast stations.

<sup>19</sup>156.575 MHz is available for port operations communications use only within the U.S. Coast Guard designated VTS radio protection area of Seattle (Puget Sound) described in §80.383. Normal output power must not exceed 1 watt. Maximum output power must not exceed 10 watts.

(g)(1) On-board communications: This section describes the carrier frequency pairs assignable for on-board mobile radiotelephony communications. The center of the on-board repeater antenna must not be located more than 3 meters (10 feet) above the ship's working deck. These frequencies are available on a shared basis with stations in the Industrial/Business Radio Pool.

FREQUENCIES FOR ON-BOARD COMMUNICATIONS

Channel	Carrier frequency (MHz)	
	On-board mobile station	On-board repeater station <sup>1</sup>
1.....	467.750	457.525
2.....	467.775	457.550
3.....	467.800	457.575
4.....	467.825	457.600

<sup>1</sup> These frequencies may also be assigned to mobile stations for single frequency simplex operation.  
\* \* \* \* \*

28. Section 80.375 is amended by removing paragraph (d)(2)(vi) and revising paragraphs (d)(1) and (d)(2)(v) to read as follows

**§ 80.375 Radiodetermination frequencies.**

\* \* \* \* \*

(d) Radiodetermination frequency bands above 2400 MHz. (1) The radiodetermination frequency bands assignable to ship and shore stations including ship and shore radar and transponder stations are as follows: 2450–2500 MHz; 2900–3100 MHz; 5460–5650 MHz; and 9300–9500 MHz.

\* \* \*

(2) \* \* \*

(v) The use of the 5460–5650 MHz band for radionavigation is limited to shipborne radar.

\* \* \* \* \*

29. Section 80.511 is removed.

\* \* \* \* \*

30. Section 80.605 is amended by revising paragraphs (b) and (c) to read as follows:

**§ 80.605 U.S. Coast Guard coordination.**

\* \* \* \* \*

(b) Coast station transponders (*i.e.*, radar beacons, or racons) operating in the band 2900–3100 or 9300–9500 MHz shall meet the requirements of ITU-R Recommendation M.824–3, “Technical Parameters of Radar Beacons (RACONS),” with Annexes, 1992-1994-1995-2007 (incorporated by reference, see § 80.7). Applications for certification of these transponders must include a description of the technical characteristics of the equipment including the scheme of interrogation and the characteristics of the transponder response, and test results demonstrating the device meets each applicable requirement of this ITU-R recommendation.

(c) The use of ship station transponders in the band 2900–3100 or 9300–9500 MHz other than those described in § 80.1085(a)(3) and § 80.1095(b) is prohibited.

\* \* \* \* \*

31. Section 80.854 is amended by removing paragraph (c) and redesignating paragraphs (d), (e), and (f) as paragraphs (c), (d), and (e).

\* \* \* \* \*

32. Section 80.905 is amended by removing paragraph (a)(4)(vii), redesignating paragraphs (a)(4)(viii) and (a)(4)(ix) as paragraphs (a)(4)(vii) and (a)(4)(viii), and revising paragraphs (a)(3)(iii)(B), (a)(3)(v), (a)(3)(vi), (a)(4)(v), (a)(4)(vi), and (a)(4)(vii) to read as follows:

**§ 80.905 Vessel radio equipment.**

(a) \* \* \*

(3) \* \* \*

(iii) \* \* \*

(b) If operated in an area within the coverage of an INMARSAT maritime mobile geostationary satellite in which continuous alerting is available, a GMDSS-approved Inmarsat ship earth station.

\* \* \*

(v) Be equipped with a NAVTEX receiver conforming to the following performance standards: IMO Resolution A.525(13), "Performance Standards for Narrow-band Direct Printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships," including Annex, adopted 17 November 1983, as revised by IMO Maritime Safety Committee (MSC) Resolution MSC.148(77), "Adoption of the Revised Performance Standards for Narrow-band Direct Printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships (NAVTEX)," adopted on 3 June 2003 (incorporated by reference, see § 80.7), and ITU-R Recommendation M.540-2, "Operational and Technical Characteristics for an Automated Direct-printing Telegraph System for Promulgation of Navigational and Meteorological Warnings and Urgent Information to Ships," including Annexes, 1990 (incorporated by reference, see § 80.7);

(vi) Be equipped with a Category I 406-406.1 MHz satellite emergency position-indicating radiobeacon (EPIRB) meeting the requirements of § 80.1061; and

\* \* \* \* \*

(4) \* \* \*

(v) Be equipped with a NAVTEX receiver conforming to the following performance standards: IMO Resolution A.525(13), "Performance Standards for Narrow-band Direct Printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships," including Annex, adopted 17 November 1983, as revised by IMO Maritime Safety Committee (MSC) Resolution MSC.148(77), "Adoption of the Revised Performance Standards for Narrow-band Direct Printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships (NAVTEX)," adopted on 3 June 2003 (incorporated by reference, see § 80.7), and ITU-R Recommendation M.540-2, "Operational and Technical Characteristics for an Automated Direct-printing Telegraph System for Promulgation of Navigational and Meteorological Warnings and Urgent Information to Ships," including Annexes, 1990 (incorporated by reference, see § 80.7);

(vi) Be equipped with a Category I 406-406.1 MHz satellite emergency position-indicating radiobeacon (EPIRB) meeting the requirements of § 80.1061;

\* \* \* \* \*

33. Section 80.917 is amended by revising paragraph (a) and adding paragraph (h) to read as follows:

**§ 80.917 Reserve power supply.**

(a) Any small passenger vessel the keel of which was laid after March 1, 1957, must have a reserve power supply located on the same deck as the main wheel house or at least one deck above the vessel's main deck, unless the main power supply is so situated, if (1) the vessel is of more than 100 gross tons; or if (2) beginning March 25, 2009, (i) the vessel carries more than 150 passengers or has overnight accommodations for more than 49 persons, or (ii) the vessel operates on the high seas or more than three miles from shore on Great Lakes voyages.

\* \* \* \* \*

(h) Beginning [one year after the effective date], any small passenger vessel that does not carry a reserve power supply must carry at least one VHF handheld radiotelephone.

\* \* \* \* \*

34. Section 80.1053 is revised to read as follows:

**§ 80.1053 Prohibition on certification, manufacture, importation, sale or use of Class A, Class B,**

**Class S, and INMARSAT-E EPIRBs.**

The manufacture, importation, or sale in the United States of Class A, Class B, Class S, or INMARSAT-E EPIRBs is prohibited. New Class A, Class B, Class S, or INMARSAT-E EPIRBs will no longer be certified by the Commission.

35. Section 80.1055 is removed.

36. Section 80.1057 is removed.

37. Section 80.1059 is removed.

38. Section 80.1061 is amended by revising paragraphs (a), (c) and (c)(1)(ii) to read as follows:

**§ 80.1061 Special requirements for 406.0-406.1 MHz EPIRB stations.**

(a) Notwithstanding the provisions in paragraph (b) of this section, 406.0-406.1 MHz EPIRBs must meet all the technical and performance standards contained in the Radio Technical Commission for Maritime Services document entitled RTCM 11000.1, "RTCM Recommended Standards for 406 MHz Satellite Emergency Position-Indicating Radiobeacons (EPIRBs)," Version 2.1, dated June 20, 2002 (incorporated by reference, see § 80.7), and must also comply with the standards specified in § 80.1101(c)(5) of this part.

\* \* \* \* \*

(c) Prior to submitting a certification application for a 406.0-406.1 MHz radiobeacon, the radiobeacon must be certified by a test facility recognized by one of the COSPAS-SARSAT Partners that the equipment satisfies the design characteristics associated with the measurement methods described in COSPAS-SARSAT Standards C/S T.001, "Specification for COSPAS-SARSAT 406 MHz Distress Beacons," Issue 4—Revision 10, October 2009 (incorporated by reference, see § 80.7), and C/S T.007, "COSPAS-SARSAT 406 MHz Distress Beacon Type Approval Standard," Issue 4—Revision 4, October 2009 (incorporated by reference, see § 80.7). Additionally, the radiobeacon must be subjected to the environmental and operational tests associated with the test procedures described in Appendix A of RTCM Standard 11000.2 (RTCM 11000.1, Version 2.1) for 406 MHz Satellite Emergency Position-Indicating Radiobeacons (EPIRBs), June 20, 2002 (incorporated by reference, see § 80.7), by a test facility accepted by the U.S. Coast Guard for this purpose. Information regarding accepted test facilities may be obtained from Commandant (CG-5214), U.S. Coast Guard, 2100 2nd St., S.W., Mail Stop 7126, Washington, DC 20593-7126, <http://cgmix.uscg.mil/EQLabs/EQLabsSearch.aspx>.

(1) \* \* \*

(i) \* \* \*

(ii) Copies of the certificate and test data obtained from the test facility recognized by a COSPAS/SARSAT Partner showing that the radiobeacon complies with the COSPAS/SARSAT design characteristics associated with the measurement methods described in the COSPAS-SARSAT Standards C/S T.001, "Specification for COSPAS-SARSAT 406 MHz Distress Beacons," Issue 4—Revision 10, October 2009 (incorporated by reference, see § 80.7), and T.007, "COSPAS-SARSAT 406 MHz Distress Beacon Type Approval Standard," Issue 4—Revision 4, October 2009 (incorporated by reference, see § 80.7), and RTCM 11000.1, "RTCM Recommended Standards for 406 MHz Satellite Emergency Position-Indicating Radiobeacons (EPIRBs)," Version 2.1, June 20, 2002 (incorporated by reference, see § 80.7);

\* \* \* \* \*

39. Section 80.1063 is removed.

40. Section 80.1065 is amended by revising paragraph (b)(6) to read as follows:

**§ 80.1065 Applicability.**

\* \* \* \* \*

(b) \* \* \*

(6) The expression “ships constructed” means ships the keels of which are laid, or construction identifiable with a specific ship begins and assembly of that ship has commenced comprising at least 50 tons gross tonnage or 1% of the estimated mass of all structural material, whichever is less.

\* \* \* \* \*

41. Section 80.1077 is amended by removing the entry in the table for INMARSAT-E EPIRBs and deleting footnote 12.

\* \* \* \* \*

42. Section 80.1074 is amended by revising paragraph (b) to read as follows:

**§ 80.1074 Radio maintenance personnel for at-sea maintenance.**

\* \* \* \* \*

(b) The following licenses qualify personnel as GMDSS radio maintainers to perform at-sea maintenance of equipment specified in this subpart. For the purposes of this subpart, no order is intended by this listing or the alphanumeric designator.

(1) DM: GMDSS Maintainer's License;

(2) DB: GMDSS Operator's/Maintainer's License.

\* \* \* \* \*

43. Section 80.1083 is amended by revising paragraph (d) to read as follows:

**§ 80.1083 Ship radio installations.**

\* \* \* \* \*

(d) Shipborne Integrated Radiocommunication System (IRCS) may be utilized to integrate all GMDSS equipment into a standard operator's console. Such installation must be certified in accordance with §80.1103 and meet the requirements of IMO Assembly Resolution A.811(19), “Performance Standards for a Shipborne Integrated Radiocommunication System (IRCS) When Used in the GMDSS,” with Annex, adopted 23 November 1995 (incorporated by reference, see § 80.7).

\* \* \* \* \*

44. Section 80.1085 is amended by revising paragraphs (a)(6)(i) and (a)(6)(iii) to read as follows:

**§ 80.1085 Ship radio equipment—General.**

(a) \* \* \*

(6) \* \* \*

(i) Capable of transmitting a distress alert through the polar orbiting satellite service operating in the 406.0–406.1 MHz band (406.0–406.1 MHz EPIRB); and

\* \* \* \* \*

(iii) Examined and tested annually in accordance with the IMO standard, Circular MSC/Circ.1040, "Guidelines on annual testing of 406 MHz satellite EPIRBs," adopted 28 May 2002 (incorporated by reference, see § 80.7). See §80.1105(k).

\* \* \* \* \*

45. Section 80.1087 is amended by revising paragraph (a)(2) to read as follows:

**§ 80.1087 Ship radio equipment—Sea Area A1.**

(a) \* \* \*

(2) Through the polar orbiting satellite service on 406.0–406.1 MHz (this requirement may be fulfilled by the EPIRB required by § 80.1085(a)(6), either by installing the EPIRB close to, or by allowing remote activation from, the position from which the ship is normally navigated); or

\* \* \* \* \*

46. Section 80.1089 is amended by revising paragraph (a)(3)(i) to read as follows:

**§ 80.1089 Ship radio equipment—Sea Areas A1 and A2.**

(a) \* \* \*

(3) \* \* \*

(i) Through the polar orbiting satellite service on 406.0–406.1 MHz (this requirement may be fulfilled by the EPIRB required by § 80.1085(a)(6), either by installing the EPIRB close to, or by allowing remote activation from, the position from which the ship is normally navigated); or

\* \* \* \* \*

47. Section 80.1091 is amended by removing paragraph (b)(3)(ii), redesignating paragraph (b)(3)(iii) as (b)(3)(ii), and revising paragraphs (a)(4)(i) and (a)(4)(iii) to read as follows:

**§ 80.1091 Ship radio equipment—Sea Areas A1, A2, and A3.**

(a) \* \* \*

(4) \* \* \*

(i) Through the polar orbiting satellite service on 406.0–406.1 MHz (this requirement may be fulfilled by the EPIRB required by § 80.1085(a)(6), either by installing the EPIRB close to, or by allowing remote activation from, the position from which the ship is normally navigated); or

\* \* \* \* \*

(iii) Through the INMARSAT geostationary satellite service, by an additional ship earth station.

Note to paragraph(a)(4)(iii). For ships subject to this subpart, sailing only in domestic waters, alternative satellite system fitting may be considered. However, the satellite system fitted must comply with all features of the INMARSAT system for its intended function. These are shown in IMO Assembly Resolution A.801(19) Appendix 13, Annex 5, "Criteria for Use When Providing Inmarsat Shore-Based Facilities for Use in the GMDSS," adopted 23 November 1995 (incorporated by reference, see § 80.7), and in IMO Assembly Resolution A.1001(25), "Criteria for the Provision of Mobile Satellite Communication Systems in the Global Maritime Distress and Safety System (GMDSS)," with Annex, adopted 29 November 2007 (incorporated by reference, see § 80.7). In any case, the alternative satellite system must provide continuous coverage for all sea areas in which the ship intends to sail.

\* \* \* \* \*

48. Section 80.1101 is amended by removing paragraph (d) and revising paragraphs (b), (b)(1)-(7), (c), (c)(1)-(13), and (d)(1)(ii) to read as follows

**§ 80.1101 Performance standards.**

\* \* \* \* \*

(b) All equipment specified in this subpart must meet the general requirements for shipboard equipment in conformity with performance specifications listed in this paragraph, which are incorporated by reference. (See § 80.7).

1) IMO Resolution A.694(17), "Recommendation on General Requirements for Shipborne Radio Equipment Forming Part of the Global Maritime Distress and Safety System (GMDSS) and for Electronic Navigational Aids," adopted 6 November 1991, as revised by IMO Resolution MSC.149(77), "Adoption of the Revised Performance Standards for Survival Craft Two-Way VHF Radiotelephone Apparatus," adopted on 3 June 2003 (incorporated by reference, see § 80.7).

(2) ITU-T Recommendation E.161, "Arrangement of Digits, Letters and Symbols on Telephones and Other Devices that Can Be Used for Gaining Access to a Telephone Network" (02/2001) (incorporated by reference, see § 80.7).

(3) ITU-T Recommendation E.164.1, "Series E: Overall Network Operation, Telephone Service, Service Operation and Human Factors; Operation, Numbering, Routing and Mobile Services—International Operation—Numbering Plan of the International Telephone Service: Criteria and Procedures for the Reservation, Assignment, and Reclamation of E.164 Country Codes and Associated Identification Codes (ICs)" (09/2008) (incorporated by reference, see § 80.7).

(4) IEC 60092–101, Edition 4.1 (2002-08), "Electrical installations in ships—Part 101: Definitions and general requirements," (incorporated by reference, see § 80.7).

(5) IEC 60533, Second Edition (1999-11), "Electrical and electronic installations in ships—Electromagnetic compatibility," (incorporated by reference, see § 80.7).

(6) IEC 60945, Fourth edition (2002-08), "Maritime navigation and radiocommunication equipment and systems—General requirements—Methods of testing and required test results," with Annexes (incorporated by reference, see § 80.7).

(7) ISO Standard 3791, "Office Machines and Data Processing Equipment—Keyboard Layouts for Numeric Applications," First Edition 1976(E) (incorporated by reference, see § 80.7).

(c) The equipment specified in this subpart must also conform to the appropriate performance standards listed in paragraphs (c)(1) through (12) of this section, which are incorporated by reference, and must be tested in accordance with the applicable IEC testing standards listed in paragraph (c)(13) of this section, which are also incorporated by reference. (See § 80.7).

(1) NAVTEX receivers: (i) IMO Resolution A.525(13), "Performance Standards for Narrow-band Direct Printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships," including Annex, adopted 17 November 1983, as revised by IMO Maritime Safety Committee (MSC) Resolution MSC.148(77), "Adoption of the Revised Performance Standards for Narrow-band Direct Printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships (NAVTEX)," adopted on 3 June 2003 (incorporated by reference, see § 80.7).

(ii) ITU-R Recommendation M.540–2, "Operational and Technical Characteristics for an Automated Direct-printing Telegraph System for Promulgation of Navigational and Meteorological



Warnings and Urgent Information to Ships,” including Annexes, 1990 (incorporated by reference, see § 80.7).

(2) VHF radio equipment: (i) IMO Resolution A.803(19), “Performance Standards for Shipborne VHF Radio Installations Capable of Voice Communication and Digital Selective Calling,” with Annex, adopted 23 November 1995, as amended by IMO Resolution MSC.68(68), “Adoption of Amendments to Performance Standards for Shipborne Radiocommunications Equipment,” adopted on 6 June 1997 (incorporated by reference, see § 80.7).

(ii) ITU-R Recommendation ITU-R M.493-13, “Digital Selective-calling System for Use in the Maritime Mobile Service,” with Annexes 1, 2, 3, and 4 (10/2009) (incorporated by reference, see § 80.7).

(iii) ITU-R Recommendation M.541-9, “Operational Procedures for the Use of Digital Selective-Calling Equipment in the Maritime Mobile Service,” with Annexes 1 through 5, 2004 (incorporated by reference, see § 80.7).

(3) MF radio equipment: (i) IMO Assembly Resolution A.804(19), “Performance Standards for Shipborne MF Radio Installations Capable of Voice Communication and Digital Selective Calling,” with Annex, adopted 23 November 1995, as amended by IMO Resolution MSC.68(68), “Adoption of Amendments to Performance Standards for Shipborne Radiocommunications Equipment,” adopted on 6 June 1997 (incorporated by reference, see § 80.7).

(ii) ITU-R Recommendation ITU-R M.493-13, “Digital Selective-calling System for Use in the Maritime Mobile Service,” with Annexes 1, 2, 3, and 4 (10/2009) (incorporated by reference, see § 80.7).

(iii) ITU-R Recommendation M.541-9, “Operational Procedures for the Use of Digital Selective-Calling Equipment in the Maritime Mobile Service,” with Annexes 1 through 5, 2004 (incorporated by reference, see § 80.7).

(4) MF/HF radio equipment: (i) IMO Assembly Resolution A.806(19), “Performance Standards for Shipborne MF/HF Radio Installations Capable of Voice Communication, Narrow-Band Direct Printing and Digital Selective Calling,” with Annex, adopted 23 November 1995, as amended by IMO Resolution MSC.68(68), “Adoption of Amendments to Performance Standards for Shipborne Radiocommunications Equipment,” adopted on 6 June 1997 (incorporated by reference, see § 80.7).

(ii) ITU-R Recommendation ITU-R M.493-13, “Digital Selective-calling System for Use in the Maritime Mobile Service,” with Annexes 1, 2, 3, and 4 (10/2009) (incorporated by reference, see § 80.7).

(iii) ITU-R Recommendation M.541-9, “Operational Procedures for the Use of Digital Selective-Calling Equipment in the Maritime Mobile Service,” with Annexes 1 through 5, 2004 (incorporated by reference, see § 80.7).

(iv) IMO Assembly Resolution A.700(17), “Performance Standards for Narrow-band Direct-printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships (MSI) by HF,” adopted 6 November 1991 (incorporated by reference, see § 80.7).

(5) 406.0-406.1 MHz EPIRBs: (i) IMO Assembly Resolution A.810(19), “Performance Standards for Float-free Satellite Emergency Position-indicating Radio Beacons (EPIRBs) Operating on 406 MHz,” with Annex, adopted 23 November 1995, as amended by IMO Resolution MSC.56(66), “Adoption of Amendments to Recommendations on Performance Standards for Float-free Satellite Emergency Position-indicating Radio Beacons (EPIRBs) Operating on 406 MHz,” adopted on 3 June 1996, and IMO Resolution MSC.120(74), “Adoption of Amendments to Performance Standards for Float-free Satellite Emergency Position-indicating Radio Beacons (EPIRBs) Operating on 406 MHz,” adopted on 31 May 2001 (incorporated by reference, see § 80.7).

(ii) IMO Assembly Resolution A.662(16), “Performance Standards for Float-free Release and

Activation Arrangements for Emergency Radio Equipment,” adopted 19 October 1989 (incorporated by reference, see § 80.7).

(iii) ITU–R Recommendation M.633–3, “Transmission characteristics of a satellite emergency position-indicating radiobeacon (satellite EPIRB) system operating through a low polar-orbiting satellite system in the 406 MHz band,” 1986-1990-2000-2004 (incorporated by reference, see § 80.7).

(iv) The 406.0–406.1 MHz EPIRBs must also comply with § 80.1061.

(6) 9 GHz radar transponders: (i) IMO Assembly Resolution A.802(19), “Performance Standards for Survival Craft Radar Transponders for Use in Search and Rescue Operations,” with Annex, adopted 23 November 1995, as amended by IMO Resolution MSC.247(83), “Adoption of Amendments to Performance Standards for Survival Craft Radar Transponders for Use in Search and Rescue Operations,” adopted on 8 October 2007, IBR approved for § 80.1101 (incorporated by reference, see § 80.7).

(ii) ITU-R Recommendation M.628–4, “Technical Characteristics for Search and Rescue Radar Transponders,” with Annexes, 1986-1990-1992-1994-2006 (incorporated by reference, see § 80.7).

(7) Two-Way VHF radiotelephone: (i) IMO Assembly Resolution A.809(19), “Performance Standards for Survival Craft Two-Way VHF Radiotelephone Apparatus,” including Annexes 1 and 2, adopted 23 November 1995, as revised by IMO Resolution MSC.149(77), “Adoption of the Revised Performance Standards for Survival Craft Two-Way VHF Radiotelephone Apparatus,” adopted on June 3 2003 (incorporated by reference, see § 80.7).

(ii) IMO Resolution MSC.80(70), “Adoption of New Performance Standards for Radiocommunication Equipment,” with Annexes, adopted 8 December 1998 (incorporated by reference, see § 80.7).

(8) INMARSAT Ship Earth Station Capable of Two-Way Communications: IMO Assembly Resolution A.808(19), “Performance Standards for Ship Earth Stations Capable of Two-Way Communications,” with Annex, adopted 23 November 1995 (incorporated by reference, see § 80.7).

(9) INMARSAT-C SES: IMO Assembly Resolution A.807(19), “Performance Standards for INMARSAT-C Ship Earth Stations Capable of Transmitting and Receiving Direct-Printing Communications,” with Annex, adopted 23 November 1995, as amended by IMO Resolution MSC.68(68), “Adoption of Amendments to Performance Standards for Shipborne Radiocommunications Equipment,” adopted on 6 June 1997 (incorporated by reference, see § 80.7).

(10) INMARSAT EGC: IMO Assembly Resolution A.664(16), “Performance Standards for Enhanced Group Call Equipment,” adopted 19 October 1989 (incorporated by reference, see § 80.7).

(11) Shipboard radar: (i) IEC 60945, Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results, August 14, 2002 (incorporated by reference, see § 80.7).

(ii) IEC 62388 Edition 1.0 (2007-12), “Maritime navigation and radiocommunication equipment and systems–Shipborne radar–Performance requirements, methods of testing and required test results” (incorporated by reference, see § 80.7).

(iii) IMO Resolution A.694(17), “Recommendation on General Requirements for Shipborne Radio Equipment Forming Part of the Global Maritime Distress and Safety System (GMDSS) and for Electronic Navigational Aids,” November 6, 1991 (incorporated by reference, see § 80.7).

(iv) IMO Resolution MSC.191(79), “Performance Standards for the Presentation of Navigation-Related Information on Shipborne Navigational Displays,” adopted 6 December 2004 (incorporated by reference, see § 80.7).

(v) IMO Resolution MSC.192(79), “Revised Recommendation on Performance Standards for Radar Equipment,” adopted 6 December 2004 (incorporated by reference, see § 80.7).

(vi) ITU-R Recommendation M.1177-3, Techniques for measurement of unwanted emissions of radar systems, June 2003 (incorporated by reference, see § 80.7).

12) Automatic Identification Systems (AIS): (i) ITU-R Recommendation M.1371-3, “Technical characteristics for a universal shipborne automatic identification system using time division multiple access in the VHF maritime mobile band,” with Annexes, 1992-1994-1995-2007 (incorporated by reference, see § 80.7).

(ii) IMO Resolution MSC.74(69), “Adoption of New and Amended Performance Standards, Annex 3 Recommendation on Performance Standards for a Universal Shipborne Automatic Identification Systems (AIS),” adopted 12 May 1998 (incorporated by reference, see § 80.7).

(iii) IEC 61162-1, Third edition (2007-04) “Maritime navigation and radiocommunication equipment and systems—Digital interfaces—Part 1: Single talker and multiple listeners,” (incorporated by reference, see § 80.7).

(iv) IEC 61993-2, First edition (2001-12) “Maritime navigation and radiocommunication equipment and systems—Automatic identification systems (AIS)—Part 2: Class A shipborne equipment of the universal automatic identification system (AIS)—Operational and performance requirements, methods of test and required test results,” with Annexes (incorporated by reference, see § 80.7).

(13) Standards for testing GMDSS equipment:

(i) IEC 61097-1, Second edition (2007-06), “Global maritime distress and safety system (GMDSS)—Part 1: Radar transponder—Marine search and rescue (SART)—Operational and performance requirements, methods of testing and required test results,” with Annexes (incorporated by reference, see § 80.7).

(ii) IEC 61097-3, First edition (1994-06), “Global maritime distress and safety system (GMDSS)—Part 3: Digital selective calling (DSC) equipment—Operational and performance requirements, methods of testing and required testing results,” with Annexes (incorporated by reference, see § 80.7).

(iii) IEC 61097-4, Edition 2.0 (2007-10), “Global maritime distress and safety system (GMDSS)—Part 4: INMARSAT-C ship earth station and INMARSAT enhanced group call (EGC) equipment—Operational and performance requirements, methods of testing and required test results” (incorporated by reference, see § 80.7).

(iv) IEC 61097-6, Second edition (2005-12), “Global maritime distress and safety system (GMDSS)—Part 6: Narrowband direct-printing telegraph equipment for the reception of navigational and meteorological warnings and urgent information to ships (NAVTEX)” (incorporated by reference, see § 80.7).

(v) IEC 61097-7, First edition (1996-10), “Global maritime distress and safety system (GMDSS)—Part 7: Shipborne VHF radiotelephone transmitter and receiver—Operational and performance requirements, methods of testing and required test results” (incorporated by reference, see § 80.7).

(vi) IEC 61097-8, First edition (1998-09), “Global maritime distress and safety system (GMDSS)—Part 8: Shipborne watchkeeping receivers for the reception of digital selective calling (DSC) in the maritime MF, MF/HF, and VHF bands—Operational and Performance Requirements, Methods of

Testing and Required Test Results,” with Annexes (incorporated by reference, see § 80.7).

(vii) IEC 61097-9, First edition (1997-12), “Global maritime distress and safety system (GMDSS)—Part 9: Shipborne transmitters and receivers for use in the MF and HF bands suitable for telephony, digital selective calling (DSC) and narrow band direct printing (NBDP)—Operational and performance requirements, methods of testing and required test results,” with Annexes (incorporated by reference, see § 80.7).

(viii) IEC 61097-10, First edition (1999-06), “Global maritime distress and safety system (GMDSS)—Part 10: INMARSAT-B ship earth station equipment—Operational and performance requirements, methods of testing and required test results,” with Annexes (incorporated by reference, see § 80.7).

(ix) IEC 61097-12, First edition (1996-11), “Global maritime distress and safety system (GMDSS)—Part 12: Survival craft portable two-way VHF radiotelephone apparatus—Operational and performance requirements, methods of testing and required test results” (incorporated by reference, see § 80.7).

(x) IEC 61097-13, First edition (2003-05), “Global maritime distress and safety system (GMDSS)—Part 13: INMARSAT F77 ship earth station equipment—Operational and performance requirements, methods of testing and required test results” (incorporated by reference, see § 80.7).

(d) \* \* \*

(1) \* \* \*

(i) \* \* \*

(ii) IMO Resolutions A.802(19), A.803(19), A.804(19), A.806(19), A.807(19), A.808(19), A.810(19), and A.811(19) are contained in the Resolutions and Other Decisions of the Assembly of the International Maritime Organization, 19th Session, 1995, (IMO, London, 1988), Sales Number IMO-194E ISBN No. 91-801-1416-6.

\* \* \* \* \*

49. Section 80.1107 is added, under the heading Equipment Requirements for Ship Stations, to read as follows:

**§ 80.1107 Test of radiotelephone station.**

Unless the normal use of the required radiotelephone station demonstrates that the equipment is operating, a test communication on a required or working frequency must be made each day the ship is navigated. When this test is performed by a person other than the master and the equipment is found to be defective, the master must be promptly notified.

50. Section 80.1113 is amended by revising paragraph (b) to read as follows:

**§ 80.1113 Transmission of a distress alert.**

\* \* \* \* \*

(b) The format of distress calls and distress messages must be in accordance with ITU-R Recommendation ITU-R M.493-13, “Digital Selective-calling System for Use in the Maritime Mobile Service,” with Annexes 1, 2, 3, and 4 (10/2009) (incorporated by reference, see § 80.7), and ITU-R Recommendation M.541-9, “Operational Procedures for the Use of Digital Selective-Calling Equipment in the Maritime Mobile Service,” with Annexes 1 through 5, 2004 (incorporated by reference, see § 80.7), as specified in § 80.1101.

\* \* \* \* \*

51. Section 80.1117 is amended by revising paragraph (a) to read as follows:

**§ 80.1117 Procedure for receipt and acknowledgement of distress alerts.**

(a) Normally, distress calls received using digital selective calling are only acknowledged using a DSC acknowledgement by a coast station. Ships should delay any acknowledgement in order to give sufficient time for a coast station to acknowledge the call. In cases where no acknowledgement has been heard and no distress traffic has been heard, the ship should transmit a distress alert relay to the coast station. Upon advice from the Rescue Coordination Center, the ship may transmit a DSC acknowledgement call to stop it from being repeated. Acknowledgement by digital selective calling of receipt of a distress alert in the terrestrial services must comply with ITU-R Recommendation M.541-9, "Operational Procedures for the Use of Digital Selective-Calling Equipment in the Maritime Mobile Service," with Annexes 1 through 5, 2004 (incorporated by reference, see § 80.7).

\* \* \* \* \*

52. Section 80.1125 is amended by revising paragraph (b) to read as follows:

**§ 80.1125 Search and rescue coordinating communications.**

\* \* \* \* \*

(b) Error correction techniques, in accordance with ITU-R Recommendation M.625-3, "Direct-printing Telegraph Equipment Employing Automatic Identification in the Maritime Mobile Service," with Annex, 1995 (incorporated by reference, see § 80.7), as specified in § 80.1101, must be used for distress traffic by direct-printing telegraphy. All messages must be preceded by at least one carriage return, a line feed signal, a letter shift signal and the distress signal MAYDAY.

\* \* \* \* \*

53. Section 80.1127 is amended by revising paragraph (c) to read as follows:

**§ 80.1127 On-scene communications.**

\* \* \* \* \*

(c) The preferred frequencies in radiotelephony for on-scene communications are 156.8 MHz and 2182 kHz. The frequency 2174.5 kHz may also be used for ship-to-ship on-scene communications using narrow-band direct-printing telegraphy in the forward error correcting mode in accordance with ITU-R Recommendation M.625-3, "Direct-printing Telegraph Equipment Employing Automatic Identification in the Maritime Mobile Service," with Annex, 1995 (incorporated by reference, see § 80.7), as specified in § 80.1101.

\* \* \* \* \*

54. Section 80.1129 is amended by revising paragraph (d) to read as follows:

**§ 80.1129 Locating and homing signals.**

\* \* \* \* \*

(d) The 9 GHz locating signals must be in accordance with ITU-R Recommendation M.628-4, "Technical Characteristics for Search and Rescue Radar Transponders," with Annexes, 1986-1990-1992-1994-2006 (incorporated by reference, see § 80.7), as specified in § 80.1101.

55. Section 80.1131 is amended by revising paragraph (j) to read as follows:

**§ 80.1131 Transmissions of urgency communications.**

\* \* \* \* \*

(j) Error correction techniques, in accordance with ITU-R Recommendation M.625-3, "Direct-printing Telegraph Equipment Employing Automatic Identification in the Maritime Mobile Service," with Annex, 1995 (incorporated by reference, see § 80.7), as specified in § 80.1101, must be used for urgency messages by direct-printing telegraphy. All messages must be preceded by at least one carriage return, a line feed signal, a letter shift signal and the urgency signal PAN PAN.

\* \* \* \* \*

56. Section 80.1133 is amended by revising paragraph (g) to read as follows:

**§ 80.1133 Transmission of safety communications.**

\* \* \* \* \*

(g) Error correction techniques, in accordance with ITU-R Recommendation M.625-3, "Direct-printing Telegraph Equipment Employing Automatic Identification in the Maritime Mobile Service," with Annex, 1995 (incorporated by reference, see § 80.7), as specified in § 80.1101, must be used for safety messages by direct-printing telegraphy. All messages must be preceded by at least one carriage return, a line feed signal, a letter shift signal and the safety signal SECURITE.

\* \* \* \* \*

57. Section 80.1135 is amended by revising paragraph (b) to read as follows:

**§ 80.1135 Transmission of maritime safety information.**

\* \* \* \* \*

(b) The mode and format of the transmissions mentioned in this section is in accordance with ITU-R Recommendation M.540-2, "Operational and Technical Characteristics for an Automated Direct-printing Telegraph System for Promulgation of Navigational and Meteorological Warnings and Urgent Information to Ships," including Annexes, 1990 (incorporated by reference, see § 80.7) as specified in § 80.1101.

\* \* \* \* \*

## APPENDIX C

## Final Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act of 1980, as amended (RFA),<sup>1</sup> an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Third Further Notice of Proposed Rule Making (Third Further Notice)* in this proceeding.<sup>2</sup> The Commission sought written public comment on the proposals in the *Third Further Notice*, including comment on the IRFA. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.<sup>3</sup>

**A. Need for, and Objectives of, the Fourth Report and Order**

The rules adopted in the *Fourth Report and Order* are intended to promote maritime safety, maximize effective and efficient use of the spectrum available for maritime communications, accommodate technological innovation, avoid unnecessary regulatory burdens, maintain consistency with international maritime standards to the extent consistent with the United States public interest, and regulate the Maritime Radio Services in a manner that advances our nation's homeland security. Specifically, in the *Fourth Report and Order* the Commission (a) prohibits the certification, manufacture, importation, installation, or continued use of INMARSAT-E emergency position indicating radiobeacons (EPIRBs);<sup>4</sup> (b) concludes that VHF-DSC handheld radiotelephones should include integrated Global Positioning System (GPS) capability, but defers adopting such a requirement until the Radio Technical Commission for Maritime Services (RTCM) completes work on GPS performance standards;<sup>5</sup> (c) requires carriage of at least one VHF handheld radio transceiver on all small passenger vessels that do not carry a reserve power supply;<sup>6</sup> (d) declines to take any immediate action to provide additional spectrum for ship station facsimile communications or to permit the transmission of data on maritime voice channels;<sup>7</sup> (e) removes limits on the number of frequencies that can be assigned to a private coast station or marine utility station;<sup>8</sup> (f) revises the Part 80 rules to incorporate by reference the latest international standards for radar equipment;<sup>9</sup> and (f) clarifies that vessels subject to the GMDSS requirements are required to test their radiotelephone equipment on a daily basis.<sup>10</sup>

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<sup>1</sup> See 5 U.S.C. § 603. The RFA, see 5 U.S.C. §§ 601–612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

<sup>2</sup> See Amendment of Parts 13 and 80 of the Commission's Rules Concerning Maritime Communications, *Memorandum Opinion and Order, Third Report and Order, and Third Further Notice of Proposed Rule Making*, WT Docket No. 00-48, 21 FCC Rcd 10282, 10362 (2006) (*Third Further Notice*).

<sup>3</sup> See 5 U.S.C. § 604.

<sup>4</sup> See para. 4, *supra*.

<sup>5</sup> See paras. 5-6, *supra*.

<sup>6</sup> See paras. 7-11, *supra*.

<sup>7</sup> See para. 12, *supra*.

<sup>8</sup> See para. 13, *supra*.

<sup>9</sup> See paras. 14-17, *supra*.

<sup>10</sup> See paras. 18-19, *supra*.

**B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA**

No comments were submitted specifically in response to the IRFA. We nonetheless considered the potential economic impact on small entities of the rules discussed in the IRFA, and we have considered alternatives that would reduce the potential economic impact on small entities of the rules adopted herein, regardless of whether the potential economic impact was discussed in any comments.

**C. Description and Estimate of the Number of Small Entities to Which Rules Will Apply**

The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.<sup>11</sup> The RFA defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”<sup>12</sup> In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.<sup>13</sup> A small business concern is one which (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).<sup>14</sup>

Small businesses in the aviation and marine radio services use a marine very high frequency (VHF), medium frequency (MF), or high frequency (HF) radio, any type of emergency position indicating radio beacon (EPIRB) and/or radar, an aircraft radio, and/or any type of emergency locator transmitter (ELT). The Commission has not developed a definition of small entities specifically applicable to these small businesses. For purposes of this FRFA, therefore, the applicable definition of small entity is the definition under the SBA rules applicable to wireless telecommunications. Pursuant to this definition, a “small entity” for purposes of the ship station licensees, public coast station licensees, or other marine radio users that may be affected by these rules, is any entity employing 1,500 or fewer persons. 13 C.F.R. § 121.201 (NAICS Code 517212).

Nationwide, there are a total of approximately 29.6 million small businesses, according to the SBA.<sup>15</sup> A “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”<sup>16</sup> Nationwide, as of 2002, there were approximately 1.6 million small organizations.<sup>17</sup> The term “small governmental jurisdiction” is defined generally as “governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.”<sup>18</sup> Census Bureau data for 2002 indicate that there were 87,525 local

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<sup>11</sup> 5 U.S.C. § 603(b)(3).

<sup>12</sup> *Id.* § 601(6).

<sup>13</sup> *Id.* § 601(3) (incorporating by reference the definition of “small business concern” in 15 U.S.C. § 632). Pursuant to the RFA, the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.” *Id.* § 601(3).

<sup>14</sup> Small Business Act, 15 U.S.C. § 632 (1996).

<sup>15</sup> See SBA, Office of Advocacy, “Frequently Asked Questions,” <http://web.sba.gov/faqs> (accessed Jan. 2009).

<sup>16</sup> 5 U.S.C. § 601(4).

<sup>17</sup> Independent Sector, *The New Nonprofit Almanac & Desk Reference* (2002).

<sup>18</sup> 5 U.S.C. § 601(5).



governmental jurisdictions in the United States.<sup>19</sup> We estimate that, of this total, 84,377 entities were “small governmental jurisdictions.”<sup>20</sup> Thus, we estimate that most governmental jurisdictions are small.

*Wireless Service Providers.* Since 2007, the Census Bureau has placed wireless firms within the, broad, economic census category of Wireless Telecommunications Categories (Except Satellite).<sup>21</sup> Prior to that time, such firms were within the now-superseded categories of “Paging” and “Cellular and Other Wireless Telecommunications.”<sup>22</sup> Under the present and prior categories, the SBA has deemed a wireless business to be small if it has 1,500 or fewer employees.<sup>23</sup> Because Census Bureau data are not yet available for the new category, we will estimate small business prevalence using the prior categories and associated data. For the category of Paging, data for 2002 show that there were 807 firms that operated for the entire year.<sup>24</sup> Of this total, 804 firms had employment of 999 or fewer employees, and three firms had employment of 1,000 employees or more.<sup>25</sup> For the category of Cellular and Other Wireless Telecommunications, data for 2002 show that there were 1,397 firms that operated for the entire year.<sup>26</sup> Of this total, 1,378 firms had employment of 999 or fewer employees, and 19 firms had employment of 1,000 employees or more.<sup>27</sup> Thus, we estimate that the majority of wireless firms are small.

*Aviation and Marine Services.* Small businesses in the aviation and marine radio services use a very high frequency (“VHF”) marine or aircraft radio and, as appropriate, an emergency position-indicating radio beacon (and/or radar) or an emergency locator transmitter. The Commission has not developed a small business size standard specifically applicable to these small businesses. For purposes of this analysis, the Commission uses the SBA small business size standard for the category Wireless Telecommunications Carriers (except Satellite), which is 1,500 or fewer employees.<sup>28</sup> Most applicants for recreational licenses are individuals. Approximately 581,000 ship station licensees and 131,000 aircraft station licensees operate domestically and are not subject to the radio carriage requirements of any

<sup>19</sup> U.S. Census Bureau, Statistical Abstract of the United States: 2006, Section 8, page 272, Table 415.

<sup>20</sup> We assume that the villages, school districts, and special districts are small, and total 48,558. See U.S. Census Bureau, Statistical Abstract of the United States: 2006, section 8, page 273, Table 417. For 2002, Census Bureau data indicate that the total number of county, municipal, and township governments nationwide was 38,967, of which 35,819 were small. *Id.*

<sup>21</sup> U.S. Census Bureau, 2007 NAICS Definitions, “517210 Wireless Telecommunications Categories (Except Satellite)”; <http://www.census.gov/naics/2007/def/ND517210.HTM#N517210>.

<sup>22</sup> U.S. Census Bureau, 2002 NAICS Definitions, “517211 Paging”; <http://www.census.gov/epcd/naics02/def/NDEF517.HTM>; U.S. Census Bureau, 2002 NAICS Definitions, “517212 Cellular and Other Wireless Telecommunications”; <http://www.census.gov/epcd/naics02/def/NDEF517.HTM>.

<sup>23</sup> 13 C.F.R. § 121.201, NAICS code 517210 (2007 NAICS). The now-superseded, pre-2007 C.F.R. citations were 13 C.F.R. § 121.201, NAICS codes 517211 and 517212 (referring to the 2002 NAICS).

<sup>24</sup> U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization,” Table 5, NAICS code 517211 (issued Nov. 2005).

<sup>25</sup> *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with “1000 employees or more.”

<sup>26</sup> U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization,” Table 5, NAICS code 517212 (issued Nov. 2005).

<sup>27</sup> *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with “1000 employees or more.”

<sup>28</sup> 13 C.F.R. § 121.201, NAICS code 517210.

statute or treaty. For purposes of our evaluations in this analysis, we estimate that there are up to approximately 712,000 licensees that are small businesses (or individuals) under the SBA standard. In addition, between December 3, 1998 and December 14, 1998, the Commission held an auction of 42 VHF Public Coast licenses in the 157.1875-157.4500 MHz (ship transmit) and 161.775-162.0125 MHz (coast transmit) bands. For purposes of the auction, the Commission defined a “small” business as an entity that, together with controlling interests and affiliates, has average gross revenues for the preceding three years not to exceed \$15 million dollars. In addition, a “very small” business is one that, together with controlling interests and affiliates, has average gross revenues for the preceding three years not to exceed \$3 million dollars.<sup>29</sup> There are approximately 10,672 licensees in the Marine Coast Service, and the Commission estimates that almost all of them qualify as “small” businesses under the above special small business size standards.

*Marine Radio Equipment Manufacturers.* Some of the rules adopted herein may also affect small businesses that manufacture marine radio equipment. The Commission has not developed a definition of small entities applicable to marine radio equipment manufacturers. Therefore, the applicable definition is that for Wireless Communications Equipment Manufacturers. The Census Bureau defines this category as follows: “This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment. Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment.”<sup>30</sup> The SBA has developed a small business size standard for Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing, which is: all such firms having 750 or fewer employees.<sup>31</sup> According to Census Bureau data for 2002, there were a total of 1,041 establishments in this category that operated for the entire year.<sup>32</sup> Of this total, 1,010 had employment of under 500, and an additional 13 had employment of 500 to 999.<sup>33</sup> Thus, under this size standard, the majority of firms can be considered small.

#### **D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities**

In the *Fourth Report and Order*, we adopt two rule amendments that could potentially have a direct, significant economic impact on a substantial number of small entities.<sup>34</sup> First, we amend Section

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29 *Amendment of the Commission’s Rules Concerning Maritime Communications*, Third Report and Order and Memorandum Opinion and Order, 13 FCC Rcd 19853 (1998).

<sup>30</sup> U.S. Census Bureau, 2002 NAICS Definitions, “334220 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing”; <http://www.census.gov/epcd/naics02/def/NDEF334.HTM#N3342>.

<sup>31</sup> 13 C.F.R. § 121.201, NAICS code 334220.

<sup>32</sup> U.S. Census Bureau, American FactFinder, 2002 Economic Census, Industry Series, Industry Statistics by Employment Size, NAICS code 334220 (released May 26, 2005); <http://factfinder.census.gov>. The number of “establishments” is a less helpful indicator of small business prevalence in this context than would be the number of “firms” or “companies,” because the latter take into account the concept of common ownership or control. Any single physical location for an entity is an establishment, even though that location may be owned by a different establishment. Thus, the numbers given may reflect inflated numbers of businesses in this category, including the numbers of small businesses. In this category, the Census breaks-out data for firms or companies only to give the total number of such entities for 2002, which was 929.

<sup>33</sup> *Id.* An additional eighteen establishments had employment of 1,000 or more.

<sup>34</sup> Although we have determined that VHF-DSC handheld radiotelephones should include integrated GPS capability, we also have deferred adopting such a requirement. It is our intent to adopt a rule requiring integrated GPS (continued....)

80.917 of the Commission's Rules<sup>35</sup> to require carriage of at least one VHF handheld marine radio by any small passenger vessel that does not carry a reserve power supply.<sup>36</sup> This requirement could affect small entities that own or operate small passenger vessels which do not carry a reserve power supply either in compliance with a pre-existing Commission requirement or voluntarily. Second, we amend Sections 80.273 and 80.1101 of the Commission's Rules<sup>37</sup> to incorporate by reference the currently applicable international standards for marine radar.<sup>38</sup> This could affect small entities that manufacture or use marine radar equipment.

In the IRFA accompanying the *Third Further Notice*, we specifically identified each of the above rule amendments as potentially affecting reporting, recordkeeping and other compliance requirements, and specifically requested comment on the economic impact of these changes.<sup>39</sup>

#### **E. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered**

The RFA requires an agency to describe any significant alternatives that it has considered in developing its approach, which may include the following four alternatives (among others): “(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities.”<sup>40</sup>

Although we received no comments specifically addressed to the IRFA for the *Third Further Notice*, we have considered all comments to the *Third Further Notice* addressing the impact of any proposed change on small entities and all suggestions for alternative measures that would have a less significant impact on small entities. Moreover, even where we received no comments of this nature with regard to a particular new requirement, we considered the potential impact of the requirement on small entities, and considered alternatives. As noted above, we have identified two new requirements that may affect reporting, recordkeeping and other compliance requirements for small entities. We discuss both of these new requirements adopted in the *Fourth Report and Order*, and relevant alternatives, below.

In determining to require the carriage of a VHF handheld radio transceiver on all small passenger vessels that do not carry a reserve power supply, we found that such a requirement, which was supported by all commenters who addressed it, would enhance the safety of passengers and crew on such vessels by providing a means of communicating with search and rescue personnel in the event that an emergency

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capability in VHF-DSC handheld radiotelephones after RTCM completes work on GPS performance standards. *See* para. 6, *supra*. The Commission will undertake a Final Regulatory Flexibility Analysis of that requirement when it is adopted. We note, moreover, that the rule we adopt regarding daily testing of GMDSS radiotelephones simply clarifies an existing requirement, and therefore does not impose a new compliance burden on any entity. *See* para. 18 & n.60, *supra*.

<sup>35</sup> *See* 47 C.F.R. § 80.917.

<sup>36</sup> *See* para. 9, *supra*.

<sup>37</sup> *See* 47 C.F.R. §§ 80.273, 80.1101.

<sup>38</sup> *See* paras. 14-17, *supra*.

<sup>39</sup> *See Third Further Notice*, 21 FCC Rcd at 10365-66.

<sup>40</sup> 5 U.S.C. § 603(c)(1)-(4).

situation, such as an on-board fire or the taking on of water, disrupts or disables the main power supply.<sup>41</sup> We also determined that there is no basis to exempt any class of small passenger vessel from the requirement to carry either a reserve power supply or at least one VHF handheld marine radio transceiver, or to otherwise take additional action to minimize the compliance costs of this requirement.<sup>42</sup> In the IRFA accompanying the *Third Further Notice*, the Commission said that its “understanding [was] that such handheld radio equipment can be purchased for under fifty dollars at retail, making it a far less expensive proposition for small vessel owners and operators than would expanding the reserve power supply requirement to all small passenger vessels, regardless of size.”<sup>43</sup> The Commission also said that, “[n]otwithstanding the relative inexpensiveness of VHF handheld marine radios, and the important safety benefits that would accrue from imposing such a carriage requirement, we request that interested parties . . . address whether the costs of such a requirement would outweigh the safety benefits, and . . . suggest any alternatives, exemptions or phased-in implementation schedules that the Commission might adopt to reduce the compliance burden of such a requirement on small entities.”<sup>44</sup> No commenter has suggested that the Commission was incorrect in estimating the retail cost of VHF handheld marine radio transceivers as under fifty dollars. In fact, no commenter has suggested that the compliance costs of this new requirement would be onerous. Indeed, coupled with our earlier determination in the *Third Report and Order* regarding the appropriate scope of the reserve power supply requirement, we believe our action here benefits the small passenger vessel owners and operators that are subject to this new requirement to carry a VHF handheld marine radio transceiver insofar as it accords them a significantly less-costly alternative to carriage of a reserve power supply in order to meet their obligation to passengers and crew to have a means of maintaining communication with search and rescue personnel in the event of a disruption to the main power supply during a distress situation. We are requiring compliance with the requirement for carriage of a VHF handheld marine radio transceiver (or a reserve power supply for those small passenger vessels that elect to install a reserve power supply voluntarily as an alternative) within one year after the effective date of this rule amendment, in keeping with the one-year transition period the Commission adopted in the *Third Report and Order* with respect to the reserve power supply requirement.<sup>45</sup>

We have also carefully considered the impact on small entities of our decision to incorporate by reference in Part 80 the currently applicable international standards for radar equipment.<sup>46</sup> In the IRFA accompanying the *Third Further Notice*, the Commission stated

We seek comment on the impact of such a revision on radar equipment manufacturers and on the owners and operators of vessels required to be fitted with radar equipment. Given that we contemplate amending our rules only to reflect the most up-to-date international standards for ship radar equipment, we question whether such an amendment would impose any new compliance burden on small entities, since they may already be required to, or have decided it is prudent to, manufacture and use equipment that conforms to those international standards. To the extent such an amendment would be deemed to create a new compliance burden, we ask interested parties whether and how that burden can be eliminated or

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<sup>41</sup> See paras. 8-9, *supra*.

<sup>42</sup> See paras. 9-10, *supra*.

<sup>43</sup> See *Third Further Notice*, 21 FCC Rcd at 10366.

<sup>44</sup> *Id.*

<sup>45</sup> See *Third Report and Order*, 21 FCC Rcd at 10303-04 ¶ 38.

<sup>46</sup> See paras. 14-17, *supra*.

mitigated for small entities, both small manufacturers and small owners and operators of vessels fitted with radar equipment. Commenters should consider the possibility of retaining the existing Part 80 radar standards, incorporating by reference only some of the newer international radar standards, exempting certain entities from the requirement to comply with the newer international radar standards, and/or providing transition periods before compliance is required (so that, *e.g.*, radar equipment can still be certified based on compliance with the current standards for a specified period of time) and grandfathering protection (to permit the continued manufacture, sale, importation, and use of radar equipment certified under the old standards, either for a specified period of years or indefinitely). Commenters are also invited to suggest alternatives other than those discussed here.<sup>47</sup>

No commenter opposed this proposed rule amendment, and no commenter suggested that there was any need for the Commission to carve out any special provisions for small entities. In fact, nothing in the record suggests that this rule change will impose significant compliance costs on any entity. Instead, it appears that, although the incorporation by reference of the international radar standards will impose new Part 80 requirements on certain vessels which have not been subject to Commission radar standards to date, such vessels would have to meet the international radar requirements when operating in international waters, irrespective of the Part 80 rules, so the incorporation by reference of the international radar standards should not create a new compliance burden on the owners and operators of those vessels. Indeed, the commenters addressing this issue believe that the adoption of the international radar standards for domestic use will actually benefit manufacturers and users of radar equipment because they will need to meet only a single set of radar standards, irrespective of where they operate. The absence of any comments opposing the incorporation by reference of any of these standards, or seeking relief for any small entities that may be newly subject to a requirement to comply with any of the standards, lends credence to the view that this rule change will not be burdensome to either vessel owners and operators or to manufacturers of radar equipment, whether or not they are small entities. In addition, we have accorded considerable flexibility to users of marine radar equipment, including small entities, by grandfathering all certified radar equipment installed prior to the effective date of these rule amendments, for the remainder of its useful life.

#### **F. Report to Congress**

The Commission will send a copy of the *Fourth Report and Order* in WT Docket No. 00-48, including the Final Regulatory Flexibility Analysis, in a report to be sent to Congress and the Congressional Budget Office pursuant to the Congressional Review Act.<sup>48</sup> In addition, the Commission will send a copy of the *Fourth Report and Order* in WT Docket No. 00-48, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the SBA. A copy of the *Fourth Report and Order* in WT Docket No. 00-48 and the Final Regulatory Flexibility Analysis (or summaries thereof) will also be published in the Federal Register.<sup>49</sup>

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<sup>47</sup> See *Third Report and Order*, 21 FCC Rcd at 10366-67.

<sup>48</sup> See 5 U.S.C. § 801(a)(1)(A).

<sup>49</sup> See *id.* § 604(b).