

Appendix 3 to the report of the 11<sup>th</sup> meeting of the Joint IMO/ITU Experts Group (5 to 9 October 2015)

## REVIEW AND MODERNIZATION OF THE GMDSS

## PRELIMINARY DRAFT OF REVISED SOLAS CHAPTER IV (INCLUDING PART OF CHAPTER III)

**SOLAS**  
**CHAPTER III**  
**Life-saving Appliances and Arrangements**

TEXT	Comment
<p style="text-align: center;"><b>PART B</b></p> <p style="text-align: center;">Requirements For Ships and Life-Saving Appliances</p> <p>Section I - Passenger Ships and Cargo Ships</p> <p style="text-align: center;">Regulation 6</p> <p style="text-align: center;">Communications</p>	
<p><del>1 — Paragraph 2 applies to all passenger ships and to all cargo ships of 300 tons gross tonnage and upwards.</del></p> <p><del>2 — Radio life-saving appliances</del></p> <p><del>2.1 — Two-way VHF radiotelephone apparatus</del></p>	<p>SOLAS requirements for Two Way VHF radiotelephone apparatus and search and rescue locating devices (originally Search and Rescue Transponders (SART)) were part of the 1983 SOLAS Amendments and placed in Chapter III, which came into force in 1986 in advance of the GMDSS. Since these requirements form part of the GMDSS as they address some of the functional requirements they would be more naturally located in Chapter IV.</p>

TEXT	Comment
<p>2.1.1 <del>At least three two-way VHF radiotelephone apparatus shall be provided on every passenger ship and on every cargo ship of 500 gross tonnage and upwards. At least two two-way VHF radio-telephone apparatus shall be provided on every cargo ship of 300 tons gross tonnage and upwards but less than 500 gross tonnage. Such apparatus shall conform to performance standards not inferior to those adopted by the Organization. If a fixed two-way VHF radiotelephone apparatus is fitted in a survival craft it shall conform to performance standards not inferior to those adopted by Organization.</del></p>	<p>Moved to regulation IV/7.1.9</p>
<p>2.1.2 <del>Two-way VHF radiotelephone apparatus provided on board ships prior to 1 February 1992 and not complying fully with the performance standards adopted by the Organization may be accepted by the Administration until 1 February 1999 provided the Administration is satisfied that they are compatible with approved two-way VHF radiotelephone apparatus.</del></p>	<p>Obsolete provision</p>
<p><del>.2 — Search and rescue locating devices</del></p> <p><del>At least one search and rescue locating device shall be carried on each side of every passenger ship and of every cargo ship of 500 tons gross tonnage and upwards. At least one search and rescue locating device shall be carried on every cargo ship of 300 tons gross tonnage and upwards but less than 500 tons gross tonnage. Such search and rescue locating devices shall conform to performance standards not inferior to those adopted by the Organization. The search and rescue locating devices shall be stowed in such locations that they can be rapidly placed in any survival craft other than the liferaft or liferafts required by regulation 31.1.4. Alternatively one search and rescue locating device shall be stowed in each survival craft other than those required by regulation 31.1.4. On ships carrying at least two search and rescue locating devices and equipped with free-fall lifeboats one of the search and rescue locating devices shall be stowed in a free-fall lifeboat and the other located in the immediate vicinity of the navigating bridge so that it can be utilized on board and ready for transfer to any of the other survival craft.</del></p> <p style="text-align: center;"><del>* * * * *</del></p>	<p>Moved to regulation IV/7.1.10</p>

**SOLAS**  
**CHAPTER IV**  
**Radiocommunications**

TEXT	Comment
<p style="text-align: center;"><b>PART A</b> General</p> <p><b>Regulation 1</b> <i>Application</i></p> <p>1 Unless expressly provided otherwise, this chapter applies to all ships <u>as provided in Chapter I to which the present regulations apply and to including</u> cargo ships of 300 gross tonnage and upwards <u>engaged on international voyages</u>.</p> <p>2 This chapter does not apply to ships to which the present regulations would otherwise apply while such ships are being navigated within the Great Lakes of North America and their connecting and tributary water as far east as the lower exit of the St. Lambert Lock at Montreal in the Province of Quebec, Canada.<sup>1</sup></p> <p>3 No provision in this chapter shall prevent the use by any ship, survival craft or person in distress, of any means at their disposal to attract attention, make known their position and obtain help.</p>	<p>Clearer definition of the application, in accordance with MSC.1/Circ.1500, paragraph 4.2.2</p>
<p><b>Regulation 2</b> <i>Terms and definitions</i></p> <p>1 For the purpose of this chapter, the following terms shall have the meanings defined below:</p>	

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<sup>1</sup> Such ships are subject to special requirements relative to radio for safety purposes, as contained in the relevant agreement between Canada and the United States of America.

TEXT	Comment
<p>.1 <i>Bridge-to-bridge communications</i> means safety communications between ships from the position from which the ships are normally navigated.</p> <p>.2 <i>Continuous watch</i> means that the radio watch concerned shall not be interrupted other than for brief intervals when the ship's receiving capability is impaired or blocked by its own communications or when the facilities are under periodical maintenance or checks.</p> <p>.3 <i>Digital selective calling (DSC)</i> means a technique using digital codes which enables a radio station to establish contact with, and transfer information to, another station or group of stations, and complying with the relevant recommendations of the International <del>Radio Consultative Committee (CCIR)</del> <u>Telecommunication Union Radiocommunication Sector (ITU-R)</u>.<sup>2</sup></p> <p>.4 <i>Direct-printing telegraphy</i> means automated telegraphy techniques which comply with the relevant recommendations of the International <del>Radio Consultative Committee (CCIR)</del> <u>Telecommunication Union Radiocommunication Sector (ITU-R)</u>.<sup>2</sup></p> <p><u>.4bis <i>Enhanced Group Call (EGC)</i> means a system capable of sending co-ordinated broadcast Maritime Safety Information, including distress relays, in text format to a shipboard EGC receiver from the satellite service provider supporting the ship earth station carried on board.</u></p> <p>.5 <i>General <del>radio</del> communications</i> means operational <del>communications and public correspondence traffic</del>, other than distress, <del>urgency and safety messages</del>, conducted by radio.</p>	<p>Update to reference</p> <p>Update to reference</p> <p>New definition to support regulation 7.5</p> <p>This aligns the definition with the ITU Radio Regulations</p>

<sup>2</sup> ~~The name of the Committee was changed to "ITU Radiocommunication Sector" (ITU-R) due to Article 1 of the International Telecommunication Constitution, Geneva 1992.~~

TEXT	Comment
<p><del>6 Inmarsat<sup>3</sup> means the Organization established by the Convention on the International Maritime Satellite Organization adopted on 3 September 1976.</del></p>	<p>No longer needed as there is no reference to "Inmarsat"</p>
<p>.7 <i>International NAVTEX service</i> means the co-ordinated broadcast and automatic reception on 518 KHz of maritime safety information by means of narrow-band direct-printing telegraphy using the English language.<sup>4</sup></p>	
<p>.8 <i>Locating</i> means the finding of ships, aircraft, <del>units</del> <u>survival craft</u> or persons in distress.</p>	<p>Update to terminology</p>
<p>.9 <i>Maritime <del>S</del>safety <del>I</del>information</i> <u>(MSI)</u><sup>5</sup> means navigational and meteorological warnings, meteorological forecasts and other urgent safety related messages broadcast to ships.</p>	<p>Alignment with the Joint IMO/IHO/WMO Manual on Maritime Safety Information (MSI) published by the Organization</p>
<p><del>.10 <i>Polar orbiting satellite service on 406 MHz</i> means a service which is based on polar orbiting satellites a satellite system designed to detect distress beacons transmitting in the frequency band from 406.0 to 406.1 MHz. operating in the 406 MHz band which receive and relay distress alerts from satellite EPIRBs and which provides their position.</del></p>	<p>Update since the Cospas-Sarsat system now uses satellites in other orbits than polar</p>
<p>.11 <i>Radio Regulations</i> means the Radio Regulations <del>annexed to, or regarded as being annexed to, the most recent International Telecommunication Convention complementing the Constitution and the Convention of the International Telecommunication Union</del> which is in force at any time.</p>	<p>Update to ITU definition</p>
<p><u>11 bis <i>Recognized mobile-satellite service</i> means the communication service provided by a satellite system recognized by the Organization.</u><sup>6</sup></p>	<p>New definition</p>
<p><u>.11 ter <i>Other communications</i> means any telecommunication other than distress, urgency, safety, general or security related communications.</u></p>	<p>New definition</p>

<sup>3</sup> ~~The name of the Organization was changed to "International Mobile Satellite Organization" (Inmarsat) by virtue of amendments to its Convention and Operating agreement adopted by 10<sup>th</sup> (extraordinary) Assembly (5-9 December 1994).~~

<sup>4</sup> Refer to the NAVTEX Manual approved by the Organization.

<sup>5</sup> Refer to the Joint IMO/IHO/WMO Manual on Maritime Safety Information (MSI)

<sup>6</sup> Refer to resolution A.1001(25) concerning criteria for the provision of mobile satellite communication systems in the global maritime distress and safety system (GMDSS).

TEXT	Comment
<p>.12 <i>Sea area A1</i> means an area within the radiotelephone coverage of at least one VHF coast station in which continuous DSC alerting is available, as may be defined by a Contracting Government.<sup>7</sup></p> <p>.13 <i>Sea area A2</i> means an area, excluding sea area A1, within the radiotelephone coverage of at least one MF coast station in which continuous DSC alerting is available, as may be defined by a Contracting Government.<sup>7</sup></p> <p>.14 <i>Sea area A3</i> means an area, excluding sea areas A1 and A2, within the coverage of <del>an Inmarsat geostationary satellite</del> <u>a recognized mobile-satellite communication service supported by the ship earth station carried on board</u> in which continuous alerting is available.</p> <p>15 <i>Sea area A4</i> means an area outside <del>of</del> sea areas A1, A2 and A3.</p> <p><u>15 bis <i>Security related communications</i> means communications associated with the update of security levels, security incidents or threat thereof and security-related information prior to the entry of a ship into a port.</u></p> <p>.16 <i>Global Maritime Distress and Safety System (GMDSS) identities</i> means maritime mobile services identity (<u>MMSI</u>), the ship's call sign, <del>Inmarsat</del> <u>mobile satellite service</u> identities and serial number identity which may be transmitted by the ship's equipment and used to identify the ship.</p> <p>2 All other terms and abbreviations which are used in this chapter and which are defined in the Radio Regulations and in the International Convention on Maritime Search and Rescue (SAR), 1979, as may be amended, shall have the meanings as defined in those Regulations and the SAR Convention.</p>	<p></p> <p></p> <p>Revised definition</p> <p>Revised definition</p> <p>New definition</p> <p>Update to terminology</p>

<sup>7</sup> Refer to resolution A.801(19) concerning the provision of radio services for the global maritime distress and safety system, (GMDSS).

TEXT	Comment
<p><b>Regulation 3</b> <i>Exemptions</i></p> <p>1 The Contracting Governments consider it highly desirable not to deviate from the requirements of this chapter; nevertheless the Administration may grant partial or conditional exemptions to individual ships from the requirements of regulations 7 to 11 provided:</p> <p>.1 such ships comply with the functional requirements of regulation 4; and</p> <p>.2 the Administration has taken into account the effect such exemptions may have upon the general efficiency of the service for the safety of all ships.</p> <p>2 An exemption may be granted under paragraph 1 only:</p> <p>.1 if the conditions affecting safety are such as to render the full application of regulations 7 to 11 unreasonable or unnecessary;</p> <p>.2 in exceptional circumstances, for a single voyage outside the sea area or sea areas for which the ship is equipped.</p> <p>3 Each Administration shall submit to the Organization, as soon as possible after the first of January in each year, a report showing all exemptions granted under paragraphs 1 and 2 during the previous calendar year and giving the reasons for granting such exemptions.</p>	
<p><b>Regulation 4</b> <i>Functional requirements</i></p> <p>1 Every ship, while at sea, shall be capable <u>of</u>:</p> <p>.1 <u>performing the global maritime distress and safety system (GMDSS) functions as follows:</u><sup>8</sup></p>	

<sup>8</sup> It should be noted that ships performing GMDSS functions should use the Guidance for avoidance of false distress alerts adopted by the Organization by resolution A.814(19).

TEXT	Comment
<p>.1 <del>except as provided in regulations 8.1.1 and 10.1.4.3, of</del> transmitting ship-to-shore distress alerts by at least two separate and independent means, each using a different radiocommunication service;</p> <p>.2 <del>of</del> receiving shore-to-ship distress alerts <u>relays</u>;</p> <p>.3 <del>of</del> transmitting and receiving ship-to-ship distress alerts;</p> <p>.4 <del>of</del> transmitting and receiving search and rescue coordinating communications;</p> <p>.5 <del>of</del> transmitting and receiving on-scene communications;</p> <p>.6 <del>of</del> transmitting and, <del>as required by regulation V/19.2.3.2,</del> receiving signals for locating;<sup>9</sup></p> <p>.7 <del>of</del> transmitting and receiving<sup>10</sup> <del>maritime</del> safety <u>related</u> information;</p> <p>.7 bis <u>receiving Maritime Safety Information (MSI)</u>;</p> <p>.8 <del>of</del> transmitting and receiving general <del>radio</del> communications <del>to and from shore-based radio systems or networks subject to regulation 15.8;</del> and</p> <p>.9 <del>of</del> transmitting and receiving bridge-to-bridge communications.</p> <p>.2 <u>transmitting and receiving security-related communications, in accordance with the requirements of the International Ship and Port Facility Security Code; and</u></p> <p>.3 <u>transmitting and receiving other communications to and from shore-based systems or networks.</u></p>	<p>Redundant references</p> <p>Update to terminology</p> <p>The reference is now obsolete</p> <p>Correction to align the terminology with the definition of MSI given in regulation 2</p> <p>Noting that MSI is a shore based service</p> <p>To align with the definition of general communications given in regulation 2</p> <p>This is a requirement of SOLAS IX-2</p> <p>This replaces the requirement to transmit and receive public correspondence</p>

<sup>9</sup> ~~Refer is to resolution A.614(15) concerning carriage of radar operating in the frequency band 9300-9500 MHz.~~

<sup>10</sup> ~~It should be noted that ships may have a need for reception of certain maritime safety information while in port~~

TEXT	Comment
	previously required under general communications.
<p><b>Regulation 4-1</b>  <i>GMDSS satellite providers</i></p> <p>The Maritime Safety Committee shall determine the criteria, procedures and arrangements for the evaluation, recognition, review and oversight of the provision of mobile satellite communication services in the global maritime distress and safety system (GMDSS) pursuant to the provisions of this chapter.</p>	
<p style="text-align: center;"><b>PART B</b>  Undertakings by Contracting Governments <sup>11</sup></p> <p><b>Regulation 5</b>  <i>Provision of radiocommunication services</i></p> <p>1 Each Contracting Government undertakes to make available, as it deems practical and necessary either individually or in co-operation with other Contracting Governments, appropriate shore-based facilities for space and terrestrial radiocommunication services having due regard to the recommendations of the Organization. <sup>12</sup> These services are:</p> <p>.1 a radiocommunication mobile-satellite service utilizing geostationary satellites in the Maritime Mobile-Satellite Service <u>a recognized satellite system</u>;</p> <p>.2 a radiocommunication service utilizing polar-orbiting satellites in the mobile-satellite service <u>operating on 406 MHz</u>;</p>	<p>Aligning terminology</p> <p>Aligning terminology</p>

<sup>11</sup> 1. Each Contracting Government is not required to provide all radiocommunication services.

2. The requirements should be specified for shore-based facilities to cover the various sea areas.

<sup>12</sup> Refer to resolution A.801(19) concerning provision of radio services for the global maritime distress and safety system (GMDSS).

TEXT	Comment
<p>.3 the maritime mobile service in the bands between 156 MHz and 174 MHz;</p> <p>.4 the maritime mobile service in the bands between 4000 KHz and 27 500 KHz; and</p> <p>.5 the maritime mobile service in the bands between 415 KHz and 535 KHz <sup>13</sup> and between 1605 KHz and 4000 KHz.</p> <p>2 Each Contracting Government undertakes to provide the Organization with pertinent information concerning the shore-based facilities in the maritime mobile service, mobile-satellite service and Maritime Mobile-Satellite Service, established for sea areas which it has designated off its coasts. <sup>14</sup></p>	
<p><b>Regulation 5-1</b>  <i>Global maritime distress and safety system identities</i></p> <p>1 This regulation applies to all ships on all voyages.</p> <p>2 Each Contracting Government undertakes to ensure that suitable arrangements are made for registering global maritime distress and safety system (GMDSS) identities and for making information on these identities available to rescue co-ordination centres on a 24-hour basis. Where appropriate, international organizations maintaining a registry of these identities shall be notified by the Contracting Government of these assignments.</p>	

<sup>13</sup> Refer to resolution A.617(15) concerning implementation of the NAVTEX system as a component of the World-Wide Navigational Warning Service.

<sup>14</sup> The Master Plan of shore-based facilities for the GMDSS based on information provided by Contracting Governments is circulated to all concerned by means of GMDSS circulars.

TEXT	Comment
<p style="text-align: center;"><b>PART C</b> Ship requirements</p> <p><b>Regulation 6</b> <i>Radio installations</i></p> <p>1 Every ship shall be provided with radio installations capable of complying with the functional requirements prescribed by regulation 4 throughout its intended voyage and, unless exempted under regulation 3, complying with the requirements of regulation 7 and, as appropriate for the sea area or areas through which it will pass during its intended voyage, the requirements of either regulation 8, 9, 10 or 11.</p> <p>2 Every radio installation shall:</p> <ul style="list-style-type: none"> <li>.1 be so located that no harmful interference of mechanical, electrical or other origin affects its proper use, and so as to ensure electromagnetic compatibility and avoidance of harmful interaction with other equipment and systems;</li> <li>.2 be so located as to ensure the greatest possible degree of safety and operational availability;</li> <li>.3 be protected against harmful effects of water, extremes of temperature and other adverse environmental conditions;</li> <li>.4 be provided with reliable, permanently arranged electrical lighting independent of the main and emergency sources of electrical power for the adequate illumination of the radio controls for operating the radio installation; and</li> <li>.5 be clearly marked <u>with the call sign, the ship station identity and other codes for the operator with the codes as applicable for the use of the radio installation, such as ship's name, call sign, the maritime mobile service identity (MMSI), mobile-satellite system identities, or serial number identity.</u></li> </ul>	<p>Update to include codes in addition to call signs</p>

TEXT	Comment
<p>3 Control of the VHF radiotelephone channels, required for navigational safety, shall be immediately available on the navigating bridge convenient to the conning position and, where necessary, facilities should be available to permit radiocommunications from the wings of the navigating bridge. Portable VHF equipment may be used to meet the latter provision.</p> <p>4 In passenger ships, a distress panel shall be installed at the conning position. This panel shall contain either one single button which, when pressed, initiates a distress alert using all radiocommunication installations required on board for that purpose or one button for each individual installation. The panel shall clearly and visually indicate whenever any button or buttons have been pressed. Means shall be provided to prevent inadvertent activation of the button or buttons. If the satellite EPIRB is used as the secondary means of distress alerting and is not remotely activated, it shall be acceptable to have an additional EPIRB installed in the wheelhouse near the conning position.</p> <p><del>5 In passenger ships, information on the ship's position shall be continuously and automatically provided to all relevant radiocommunication equipment to be included in the initial distress alert when the button or buttons on the distress panel is pressed.</del></p> <p>6 In passenger ships, a distress alarm panel shall be installed at the conning position. The distress alarm panel shall provide visual and aural indication of any distress alert or alerts received on board and shall also indicate through which radiocommunication service the distress alerts have been received.</p>	<p>Remote activation of EPIRBs was a feature of the Inmarsat E system but is not widely available with 406 MHz EPIRBs</p> <p>This requirement is now included in regulation 18</p>
<p><b>Regulation 7</b>  <i>Radio equipment: General</i></p> <p>1 Every ship shall be provided with:</p> <p>.1 a VHF radio installation capable of transmitting and receiving:</p>	

TEXT	Comment
<p>.1.1 DSC on the frequency 156.525 MHz (channel 70). It shall be possible to initiate the transmission of distress alerts on channel 70 from the position from which the ship is normally navigated;<sup>15</sup> and</p> <p>.1.2 radiotelephony on the frequencies 156.300 MHz (channel 6), 156.650 MHz (channel 13) and 156.800 MHz (channel 16);</p> <p>.2 a radio installation capable of maintaining a continuous DSC watch on VHF channel 70 which may be separate from, or combined with, that required by subparagraph .1.1;<sup>16</sup></p> <p>.3 a search and rescue locating device capable of operating either in the 9 GHz band or on frequencies dedicated for AIS, which:</p> <p>.3.1 shall be so stowed that it can be easily utilized; and</p> <p>.3.2 may be one of those required by <del>regulation III/6.2.2 for a survival craft</del> <u>subparagraph .10</u>;</p> <p>.4 a receiver capable of receiving International NAVTEX service broadcasts if the ship is engaged on voyages in any area in which an International NAVTEX service is provided. <u>However, ships engaged exclusively on voyages in areas where other terrestrial communications for receiving MSI is provided and fitted with equipment capable of receiving such service, may be exempt from this requirement;</u></p> <p>.5 a radio facility for reception of <del>MSI maritime safety information</del> by the <del>Inmarsat</del> enhanced group calling (EGC) system<sup>17</sup> if the ship is engaged on voyages in any area of <del>Inmarsat recognized satellite service</del> coverage <u>supported by the ship earth station installed on board</u> but in which an international NAVTEX service is not provided. However, ships engaged exclusively on voyages in areas where an HF <del>MSI direct-printing telegraphy maritime safety</del></p>	<p>Consequential change arising from moving SOLAS III requirements to SOLAS IV</p> <p>Addition of arrangements for alternative methods to NAVTEX for receiving MSI</p>

<sup>15</sup> ~~Certain ships may be exempted from this requirement (see regulation 9.4).~~

<sup>16</sup> ~~Certain ships may be exempted from this requirement (see regulation 9.4).~~

<sup>17</sup> Refer to resolution A.701(17) concerning carriage of Inmarsat enhanced group call SafetyNET receivers under the GMDSS.

TEXT	Comment
<p><del>information service</del> or other means of receiving MSI is provided and fitted with equipment capable of receiving such service, may be exempt from this requirement. <sup>18</sup></p> <p>.6 <del>subject to the provisions of regulation 8.3,</del> a satellite emergency position-indicating radio beacon (satellite EPIRB) <sup>19</sup> which shall be:</p> <p>.6.1 capable of transmitting a distress alert through the <del>polar orbiting</del> satellite service operating in the <u>on</u> 406 MHz <del>band</del>;</p> <p>.6.2 installed in an easily accessible position;</p> <p>.6.3 ready to be manually released and capable of being carried by one person into a survival craft;</p> <p>.6.4 capable of floating free if the ship sinks and of being automatically activated when afloat; and</p> <p>.6.5 capable of being activated manually.</p> <p><u>.7 a radio installation capable of transmitting and receiving security-related communications. This requirement may be fulfilled by the addition of this capability in the equipment required by regulations 8, 9, 10 or 11 or with that provided for subparagraph .8.</u></p> <p><u>.8 a radio installation capable of transmitting and receiving other communications to and from shore based systems or networks. This requirement may be fulfilled by the addition of this capability in the equipment required by regulations 8, 9, 10 or 11 or with that provided for subparagraph .7</u></p> <p><u>.9 at least two two-way VHF radio-telephone apparatus on every cargo ship of 300 tons gross tonnage and upwards but less than 500 gross tonnage. At least three two-way VHF</u></p>	<p>Update of terminology and addition of arrangements for alternative methods to EGC for receiving MSI</p> <p>Regulation 8.3 (VHF EPIRB) has been deleted</p> <p>Alignment of terminology</p> <p>This is a new requirement resulting from regulation 4</p> <p>This is a new requirement resulting from regulation 4</p> <p>Moved from regulation III/6.2.1.1</p>

<sup>18</sup> Refer to the Recommendation on promulgation of maritime safety information adopted by the Organization by resolution A.705(17),

<sup>19</sup> Refer to resolution A.616(15) concerning search and rescue homing capability.

TEXT	Comment
<p>radiotelephone apparatus on every passenger ship and on every cargo ship of 500 gross tonnage and upwards. <del>At least two two-way VHF radio-telephone apparatus shall be provided on every cargo ship of 300 tons gross tonnage and upwards but less than 500 gross tonnage.</del> <u>The two-way VHF radiotelephone apparatus may be portable or fitted in a survival craft.</u></p> <p>.10 <del>at least one search and rescue locating device on every cargo ship of 300 gross tonnage and upwards but less than 500 gross tonnage.</del> At least one search and rescue locating device on each side of every passenger ship and of every cargo ship of 500 <del>tons</del> gross tonnage and upwards. <del>At least one search and rescue locating device shall be carried on every cargo ship of 300 tons gross tonnage and upwards but less than 500 tons gross tonnage.</del> The search and rescue locating devices shall be stowed in such locations that they can be rapidly placed in any survival craft other than the liferaft or liferafts required by regulation III/31.1.4. Alternatively one search and rescue locating device shall be stowed in each survival craft other than those required by regulation III/31.1.4. On ships carrying at least two search and rescue locating devices and equipped with free-fall lifeboats one of the search and rescue locating devices shall be stowed in a free-fall lifeboat and the other located in the immediate vicinity of the navigating bridge so that it can be utilized on board and ready for transfer to any of the other survival craft.</p> <p>2 Every passenger ship shall be provided with means for two-way on-scene radiocommunications for search and rescue purposes using the aeronautical frequencies 121.5 MHz and 123.1 MHz from the position from which the ship is normally navigated. <u>This two-way on-scene radiocommunication means may be portable.</u></p>	<p>Moved from regulation III/6.2.2</p> <p>Portable equipment is common industry practice</p>
<p><b>Regulation 8</b>  <i>Radio equipment: Sea area A1</i></p> <p>1 In addition to meeting the requirements of regulation 7, every ship engaged on voyages exclusively in sea area A1 shall be provided with a radio installation capable of initiating the</p>	

TEXT	Comment
<p>transmission of ship-to-shore distress alerts from the position from which the ship is normally navigated, operating either:</p> <p>.1 on VHF using DSC; <del>this requirement may be fulfilled by the EPIRB prescribed by paragraph 3, either by installing the EPIRB close to, or by remote activation from, the position from which the ship is normally navigated; or</del></p> <p>.2 through the <del>polar orbiting</del> satellite service on 406 MHz; <del>this requirement may be fulfilled by the satellite EPIRB, required by regulation 7.1.6, either by installing the satellite EPIRB close to, or by remote activation from, the position from which the ship is normally navigated; or</del></p> <p>.3 if the ship is engaged on voyages within coverage of MF coast stations equipped with DSC, on MF using DSC; or</p> <p>.4 on HF using DSC; or</p> <p>.5 through <del>the Inmarsat geostationary</del> a <u>recognized mobile</u>-satellite service; <del>this requirement may be fulfilled by:</del></p> <p><del>.5.1 an Inmarsat ship earth station;<sup>20</sup> or</del></p> <p><del>.5.2 the satellite EPIRB, required by regulation 7.1.6, either by installing the satellite EPIRB close to, or by remote activation from, the position from which the ship is normally navigated.</del></p> <p>2 The VHF radio installation, required by regulation 7.1.1, shall also be capable of transmitting and receiving general <del>radio</del> communications <del>using radiotelephony</del>.</p>	<p>Paragraph 3 has been deleted</p> <p>Remote activation of EPIRBs was a feature of the Inmarsat E system but is not widely available with 406 MHz EPIRBs</p> <p>Update to terminology</p> <p>The options in 5.1 and 5.2 are no longer required because the Inmarsat E EPIRB service has been withdrawn. The option of using an EPIRB has already been given in .2.</p> <p>This is intended to make the requirement more generic</p>

<sup>20</sup> ~~This requirement can be met by Inmarsat ship earth stations capable of two-way communications such as Inmarsat-A, Inmarsat-B (resolution A.808(19)) or Inmarsat-C (resolution A.807(19)) ship earth stations. Unless otherwise specified, this footnote applies to all requirements for an Inmarsat ship earth station prescribed by this chapter.~~

TEXT	Comment
<p>3 Ships engaged on voyages exclusively in sea area A1 may carry, in lieu of the satellite EPIRB required by regulation 7.1.6, an EPIRB which shall be:</p> <ul style="list-style-type: none"> <li>.1 capable of transmitting a distress alert using DSC on VHF channel 70 and providing for locating by means of a radar transponder operating in the 9 GHz band;</li> <li>.2 installed in an easily accessible position;</li> <li>.3 ready to be manually released and capable of being carried by one person into a survival craft;</li> <li>.4 capable of floating free if the ship sinks and being automatically activated when afloat; and</li> <li>.5 capable of being activated manually.</li> </ul>	<p>The VHF EPIRB option has never been implemented</p>
<p><b>Regulation 9</b>  <i>Radio equipment: Sea areas A1 and A2</i></p> <p>1 In addition to meeting the requirements of regulation 7, every ship engaged on voyages beyond sea area A1, but remaining within sea area A2, shall be provided with:</p> <ul style="list-style-type: none"> <li>.1 an MF radio installation capable of <u>maintaining a continuous DSC watch on the frequency 2187.5 kHz</u> and transmitting and receiving, for distress and safety purposes, on the frequencies: <ul style="list-style-type: none"> <li>.1.1 2187.5 kHz using DSC; and</li> <li>.1.2 2182 kHz using radiotelephony; <u>and</u></li> </ul> </li> </ul>	

TEXT	Comment
<p><del>.2 a radio installation capable of maintaining a continuous DSC watch on the frequency 2187.5 kHz which may be separate from, or combined with, that required by subparagraph 1.1; and</del></p> <p>.3 means of initiating the transmission of ship-to-shore distress alerts by a radio service other than MF operating either:</p> <p>.3.1 through the polar orbiting satellite service on 406 MHz; <del>this requirement may be fulfilled by the satellite EPIRB, required by regulation 7.1.6, either by installing the satellite EPIRB close to, or by remote activation from, the position from which the ship is normally navigated; or</del></p> <p>.3.2 on HF using DSC; or</p> <p>.3.3 through <del>the Inmarsat geostationary</del> <u>a recognized mobile-satellite</u> service by a ship earth station.</p> <p>2 It shall be possible to initiate transmission of distress alerts by the radio installations specified in paragraphs 1.1 and 1.3 from the position from which the ship is normally navigated.</p> <p>3 The ship shall, in addition, be capable of transmitting and receiving general <del>radio</del> communications <del>using radiotelephony or direct-printing telegraphy</del> by either:</p> <p>.1 a radio installation operating on working frequencies in the bands between 1605 kHz and 4000 kHz or between 4000 kHz and 27 500 kHz. This requirement may be fulfilled by the addition of this capability in the equipment required by paragraph 1.1; or</p> <p>.2 <del>an Inmarsat</del> ship earth station <u>operating in a recognized mobile-satellite system</u>.</p> <p><del>4 The Administration may exempt ships constructed before 1 February 1997, which are engaged exclusively on voyages within sea area A2, from the requirements of regulations 7.1.1.1 and 7.1.2 provided such ships maintain, when practicable, a continuous listening watch</del></p>	<p>The “separate” option is not now the current practice of equipment design</p> <p>Remote activation of EPIRBs was a feature of the Inmarsat E system but is not widely available with 406 MHz EPIRBs</p> <p>Update to terminology</p> <p>This is intended to make the requirement more generic</p> <p>Update to terminology</p> <p>Deleted because of reference to very old ships and the continuous listening watch</p>

TEXT	Comment
<p>on VHF channel 16. This watch shall be kept at the position from which the ship is normally navigated.</p>	<p>on VHF channel 16 is now required by regulation 12.3</p>
<p><b>Regulation 10</b>  <i>Radio equipment: Sea areas A1, A2 and A3</i></p> <p>1 In addition to meeting the requirements of regulation 7, every ship engaged on voyages beyond sea areas A1 and A2, but remaining within sea area A3, shall, <del>if it does not comply with the requirements of paragraph 2,</del> be provided with:</p> <p>.1 <del>an Inmarsat</del> ship earth station <u>operating in a recognized mobile-satellite service</u> capable of:</p> <p>.1.1 transmitting and receiving distress and safety communications using direct-printing telegraphy;</p> <p>.1.2 initiating and receiving distress priority calls;</p> <p>.1.3 maintaining watch for shore-to-ship distress alerts, including those directed to specifically defined geographical areas;</p> <p>.1.4 transmitting and receiving general <del>radio</del> communications, <del>using either radiotelephony or direct-printing telegraphy;</del> and</p> <p>.2 an MF radio installation capable of <u>maintaining a continuous DSC watch on the frequency 2187.5 kHz</u> and transmitting and receiving, for distress and safety purposes, on the frequencies:</p> <p>.2.1 2187.5 kHz using DSC; and</p> <p>.2.2 2182 kHz using radiotelephony; and</p>	<p>Paragraph 2 has been deleted</p> <p>Update to terminology</p> <p>This is intended to make the requirement more generic</p>

TEXT	Comment
<p><del>.3 a radio installation capable of maintaining a continuous DSC watch on the frequency 2187.5 kHz which may be separate from or combined with that required by subparagraph .2.1; and</del></p> <p>.4 means of initiating the transmission of ship-to-shore distress alerts by a radio service operating either:</p> <p>.4.1 through the polar orbiting satellite service on 406 MHz; <del>this requirement may be fulfilled by the satellite EPIRB, required by regulation 7.1.6, either by installing the satellite EPIRB close to, or by remote activation from, the position from which the ship is normally navigated; or</del></p> <p>.4.2 on HF using DSC; or</p> <p>.4.3 through the Inmarsat geostationary satellite service by an additional ship earth station <u>operating in a recognized mobile-satellite service;</u></p> <p><del>2 In addition to meeting the requirements of regulation 7, every ship engaged on voyages beyond sea areas A1 and A2, but remaining within sea area A3, shall, if it does not comply with the requirements of paragraph 1, be provided with:</del></p> <p><del>.1 an MF/HF radio installation capable of transmitting and receiving, for distress and safety purposes, on all distress and safety frequencies in the bands between 1605 kHz and 4000 kHz and between 4000 kHz and 27 500 kHz:</del></p> <p><del>.1.1 using DSC;</del></p> <p><del>.1.2 using radiotelephony; and</del></p> <p><del>.1.3 using direct-printing telegraphy; and</del></p> <p><del>.2 equipment capable of maintaining DSC watch on 2187.5 kHz, 8414.5 kHz and on at least one of the distress and safety DSC frequencies 4207.5 kHz, 6312 kHz, 12 577 kHz or</del></p>	<p>The “separate” option is not now the current practice of equipment design</p> <p>Remote activation of EPIRBs was a feature of the Inmarsat E system but is not widely available with 406 MHz EPIRBs</p> <p>Update to terminology</p> <p>Paragraph 2 (the MF/HF option) has been removed from regulation 10 and moved to regulation 11</p>

TEXT	Comment
<p><del>16 804.5 kHz; at any time, it shall be possible to select any of these DSC distress and safety frequencies. This equipment may be separate from, or combined with, the equipment required by subparagraph .1; and</del></p> <p><del>.3 means of initiating the transmission of ship-to-shore distress alerts by a radio communication service other than HF operating either:</del></p> <p><del>.3.1 through the polar orbiting satellite service on 406 MHz; this requirement may be fulfilled by the satellite EPIRB, required by regulation 7.1.6, either by installing the satellite EPIRB close to, or by remote activation from, the position from which the ship is normally navigated; or</del></p> <p><del>.3.2 through the Inmarsat geostationary satellite service by a ship earth station; and</del></p> <p><del>.4 in addition, ships shall be capable of transmitting and receiving general radio communications using radiotelephony or direct-printing telegraphy by an MF/HF radio installation operating on working frequencies in the bands between 1605 kHz and 4000 kHz and between 4000 kHz and 27 500 kHz. This requirement may be fulfilled by the addition of this capability in the equipment required by subparagraph .1</del></p> <p>3 It shall be possible to initiate transmission of distress alerts by the radio installations specified in paragraphs 1.1, 1.2, 1.4, <del>2.1 and 2.3</del> from the position from which the ship is normally navigated.</p> <p><del>4 The Administration may exempt ships constructed before 1 February 1997, and engaged exclusively on voyages within sea areas A2 and A3, from the requirements of regulations 7.1.1.1 and 7.1.2 provided such ships maintain, when practicable, a continuous listening watch on VHF channel 16. This watch shall be kept at the position from which the ship is normally navigated.</del></p>	<p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p>Deleted because of reference to very old ships and the continuous listening watch on VHF channel 16 is now required by regulation 12.3</p>

TEXT	Comment
<p><b>Regulation 11</b>  <i>Radio equipment: Sea areas A1, A2, <del>A3</del> and A4</i></p> <p><del>1 In addition to meeting the requirements of regulation 7, ships engaged on voyages in all sea areas shall be provided with the radio installations and equipment required by regulation 10.2, except that the equipment required by regulation 10.2.3.2 shall not be accepted as an alternative to that required by regulation 10.2.3.1, which shall always be provided. In addition, ships engaged on voyages in all sea areas shall comply with the requirements of regulation 10.3.</del></p>	<p>This is deleted and replaced with the text of paragraph 10.2.2 (the MF/HF option)</p>
<p>1 In addition to meeting the requirements of regulation 7, every ship engaged on voyages beyond sea areas A1 and A2 <del>and A3</del>, but remaining within sea area A4, shall, <del>if it does not comply with the requirements of paragraph 1,</del> be provided with:</p> <p>.1 an MF/HF radio installation capable of transmitting and receiving, for distress and safety purposes, on all distress and safety frequencies in the bands between 1605 kHz and 4000 kHz and between 4000 kHz and 27 500 kHz:</p> <p>.1.1 using DSC; <del>and</del></p> <p>.1.2 using radiotelephony; <del>and</del></p> <p><del>.1.3 using direct printing telegraphy; and</del></p> <p>.2 equipment capable of maintaining DSC watch on 2187.5 kHz, 8414.5 kHz and on at least one of the distress and safety DSC frequencies 4207.5 kHz, 6312 kHz, 12 577 kHz or 16 804.5 kHz; at any time, it shall be possible to select any of these DSC distress and safety frequencies. This equipment may be separate from, or combined with, the equipment required by subparagraph .1; and</p> <p>.3 means of initiating the transmission of ship-to-shore distress alerts by a radio communication service other than HF operating <del>either</del>:</p>	<p>Redundant reference</p> <p>The use of direct printing telegraphy in distress messages is reported by Administrations to be negligible. It is unlikely today that any crew in distress would initiate a follow-up communication via direct printing telegraphy</p>

TEXT	Comment
<p><del>.3.1 through the polar orbiting satellite service on 406 MHz; this requirement may be fulfilled by the satellite EPIRB, required by regulation 7.1.6, either by installing the satellite EPIRB close to, or by remote activation from, the position from which the ship is normally navigated; or</del></p> <p><del>.3.2 through the Inmarsat geostationary satellite service by a ship earth station; and</del></p> <p>.4 in addition, ships shall be capable of transmitting and receiving general radio communications using radiotelephony or direct-printing telegraphy by an MF/HF radio installation operating on working frequencies in the bands between 1605 kHz and 4000 kHz and between 4000 kHz and 27 500 kHz. This requirement may be fulfilled by the addition of this capability in the equipment required by subparagraph .1</p>	<p>Remote activation of EPIRBs was a feature of the Inmarsat E system but is not widely available with 406 MHz EPIRBs</p>
<p>3 It shall be possible to initiate transmission of distress alerts by the radio installations specified in paragraphs 1.1, <u>and 1.3</u> <del>1.2, 1.4, 2.1 and 2.3</del> from the position from which the ship is normally navigated.</p> <p><del>2 The Administration may exempt ships constructed before 1 February 1997, and engaged exclusively on voyages within sea areas A2, A3 and A4, from the requirements of regulations 7.1.1 and 7.1.2 provided such ships maintain, when practicable, a continuous listening watch on VHF channel 16. This watch shall be kept at the position from which the ship is normally navigated.</del></p>	<p>Deleted because of reference to very old ships and the continuous listening watch on VHF channel 16 is now required by regulation 12.3</p>
<p><b>Regulation 12</b> <i>Watches</i></p> <p>1 Every ship, while at sea, shall maintain a continuous <u>radio</u> watch:</p> <p>.1 on VHF DSC channel 70, if the ship, in accordance with the requirements of regulation 7.1.2, is fitted with a VHF radio installation;</p>	<p>Update to terminology</p>

TEXT	Comment
<p>.2 on the distress and safety DSC frequency 2,187.5 kHz, if the ship, in accordance with the requirements of regulation 9.1.2 or 10.1.3, is fitted with an MF radio installation;</p> <p>.3 on the distress and safety DSC frequencies 2,187.5 kHz and 8,414.5 kHz and also on at least one of the distress and safety DSC frequencies 4,207.5 kHz, 6,312 kHz, 12,577 kHz or 16,804.5 kHz, appropriate to the time of day and the geographical position of the ship, if the ship, in accordance with the requirements of regulation <del>10.2.2</del> or 11.1, is fitted with an MF/HF radio installation. This watch may be kept by means of a scanning receiver;</p> <p>.4 for satellite shore-to-ship distress <del>alerts</del> <u>relays</u>, if the ship, in accordance with the requirements of regulation 10.1.1, is fitted with an <del>Inmarsat</del> ship earth station.</p> <p>2 Every ship, while at sea, shall maintain a radio watch for broadcasts of maritime safety information on the appropriate frequency or frequencies on which such information is broadcast for the area in which the ship is navigating.</p> <p><del>3 Until 1 February 1999 or until such other date as may be determined by the Maritime Safety Committee,</del><sup>21</sup> Every ship while at sea shall maintain, when practicable, a continuous listening watch on VHF channel 16. This watch <u>which</u> shall be kept at the position from which the ship is normally navigated <u>on</u>;</p> <p><u>.1 VHF channel 16, and:</u></p> <p><u>.2 appropriate frequency or frequencies for general communications for the area in which the ship is navigating.</u></p>	<p>Update to terminology</p> <p>The Maritime Safety Committee decided (resolution MSC.131(75)) that all GMDSS ships, while at sea, shall continue to maintain, when practicable, continuous listening watch on VHF channel 16.</p> <p>The addition adds a requirement for VTS etc.</p>
<p><b>Regulation 13</b> <i>Sources of energy</i></p>	

<sup>21</sup> ~~The maritime Safety Committee decided (resolution MSC.131(75)) and all GMDSS ships, while at sea, shall continue to maintain, when practicable, continuous listening watch on VHF channel 16.~~

TEXT	Comment
<p>1 There shall be available at all times, while the ship is at sea, a supply of electrical energy sufficient to operate the radio installations and to charge any batteries used as part of a reserve source or sources of energy for the radio installations.</p> <p>2 A reserve source or sources of energy shall be provided on every ship, to supply radio installations, for the purpose of conducting distress and safety radio communications, in the event of failure of the ship's main and emergency sources of electrical power. The reserve source or sources of energy shall be capable of simultaneously operating the VHF radio installation required by regulation 7.1.1 and, as appropriate for the sea area or sea areas for which the ship is equipped, either the MF radio installation required by regulation 9.1.1, the MF/HF radio installation required by regulation 10.2.1 or 11.1, or the <del>Inmarsat</del> ship earth station required by regulation 10.1.1 and any of the additional loads mentioned in paragraphs 4, 5 and 8 for a period of at least:</p> <p>.1 1 h on ships provided with an emergency source of electrical power, if such source of power complies fully with all relevant provisions of regulation II-1/42 or 43, including the supply of such power to the radio installations; and</p> <p>.2 6 h on ships not provided with an emergency source of electrical power complying fully with all relevant provisions of regulation II-1/42 or 43, including the supply of such power to the radio installations <sup>22</sup>.</p> <p>3 The reserve source or sources of energy shall be independent of the propelling power of the ship and the ship's electrical system.</p> <p>4 Where, in addition to the VHF radio installation, two or more of the other radio installations, referred to in paragraph 2, can be connected to the reserve source or sources of energy, they shall be capable of simultaneously supplying, for the period specified, as appropriate, in paragraph 2.1 or 2.2, the VHF radio installation and:</p>	

<sup>22</sup> For guidance the following formula is recommended for determining the electrical load to be supplied by the reserve source of energy for each radio installation required for distress conditions: 1/2 of the current consumption necessary for transmission + the current consumption necessary for reception + the current consumption of any additional loads.

TEXT	Comment
<p>.1 all other radio installations which can be connected to the reserve source or sources of energy at the same time; or</p> <p>.2 whichever of the other radio installations will consume the most power, if only one of the other radio installations can be connected to the reserve source or sources of energy at the same time as the VHF radio installation.</p> <p>5 The reserve source or sources of energy may be used to supply the electrical lighting required by regulation 6.2.4.</p> <p>6 Where a reserve source of energy consists of a rechargeable accumulator battery or batteries:</p> <p>.1 a means of automatically charging such batteries shall be provided which shall be capable of recharging them to minimum capacity requirements within 10 h; and</p> <p>.2 the capacity of the battery or batteries shall be checked, using an appropriate method,<sup>23</sup> at intervals not exceeding 12 months, when the ship is not at sea.</p> <p>7 The siting and installation of accumulator batteries which provide a reserve energy shall be such as to ensure:</p> <p>.1 the highest degree of service;</p> <p>.2 a reasonable lifetime;</p> <p>.3 reasonable safety;</p>	

<sup>23</sup> One method of checking the capacity of an accumulator battery is to fully discharge and recharge the battery, using normal operating current and period (e.g. 10 h). Assessment of the charge condition can be made at any time, but it should be done without significant discharge of the battery when the ship is at sea.

TEXT	Comment
<p>.4 that battery temperatures remain within the manufacturer's specifications whether under charge or idle; and</p> <p>.5 that when fully charged, the batteries will provide at least the minimum required hours of operation under all weather conditions.</p> <p>8 If an uninterrupted input of information from the ship's navigational or other equipment to a radio installation required by this chapter, including the navigation receiver referred to regulation 18, is needed to ensure its proper performance, means shall be provided to ensure the continuous supply of such information in the event of failure of the ship's main or emergency source of electrical power</p>	
<p><b>Regulation 14</b> <i>Performance standards</i></p> <p>1 All equipment to which this chapter applies shall be of a type approved by the Administration. Such equipment shall conform to appropriate performance standards not inferior to those adopted by the Organization.<sup>24</sup></p>	

<sup>24</sup> Refer to the following resolutions adopted by the Assembly of the Organization:

- .1 Resolution A.523(13) MSC.148(77): Performance standards for narrow-band direct-printing telegraph equipment for the reception of navigational and meteorological warnings and urgent information to ships (NAVTEX) (valid for equipment installed on or after 1 July 2005).
- .2 Resolution A.694(17): General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids.
- .3 Resolution A.808(19): Performance standards for ship earth stations capable of two-way communications and resolution A.570(14): Type approval of ship earth stations.
- .4 Resolution A.803(19): Performance standards for shipborne VHF radio installations capable of voice communication and digital selective calling as amended, and resolution MSC.68(68), annex 1 (valid for equipment installed on or after 1 January 2000).
- .5 Resolution A.804(19): Performance standards for shipborne MF radio installations capable of voice communication and digital selective calling as amended, and resolution MSC.68(68), annex 2 (valid for equipment installed on or after 1 January 2000).

TEXT	Comment
<p><b>Regulation 15</b>  <i>Maintenance requirements</i></p> <p>1 Equipment shall be so designed that the main units can be replaced readily, without elaborate recalibration or readjustment.</p> <p>2 Where applicable, equipment shall be so constructed and installed that it is readily accessible for inspection and on-board maintenance purposes.</p>	

.6 Resolution A.806(19): Performance standards for shipborne MF/HF radio installations capable of voice communication, narrow-band direct-printing and digital selective calling as amended, and resolution MSC.68(68), annex 3 (valid for equipment installed on or after 1 January 2000).

.7 Resolution A.810(19): Performance standards for float-free satellite emergency position-indicating radio beacons (EPIRBs) operating on 406 MHz (see also Assembly resolution A.696(17): Type approval of satellite emergency position-indicating radio beacons (EPIRBs) operating in the Cospas-Sarsat system).

.8 Resolution A.802(19): Performance standards for survival craft radar transponders for use in search and rescue operations.

.9 Resolution MSC.246(83): Performance standards for survival craft AIS search and rescue transmitters (AIS-SART) for use in search and rescue operations.

~~.9 Resolution A.612(15): Performance standards for float-free VHF emergency position-indicating radio beacons.~~

.10 Resolution A.807(19): Performance standards for Inmarsat-C ship earth stations capable of transmitting and receiving direct-printing communications as amended, and resolution MSC.68(68), annex 4 (valid for equipment installed on or after 1 January 2000) and resolution A.570(14): Type approval of ship earth stations.

.11 Resolution ~~A.664(16)~~ MSC.306(87): Performance standards for enhanced group call (EGC) equipment.

~~.12 Resolution A.821(19): Performance standards for float-free satellite emergency position-indicating radio beacons operating through the geostationary INMARSAT satellite system on 1.6 GHz.~~

.13 Resolution A.662(16): Performance standards for float-free release and activation arrangements for emergency radio equipment.

.14 Resolution A.699(17): System performance standard for the promulgation and co-ordination of maritime safety information using high-frequency narrow-band direct-printing.

.15 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.

.16 Resolution A.811(19): Performance standards for a shipborne integrated radiocommunication system (IRCS) when used in the GMDSS.

.17 Resolution MSC.80(70), annex 1: Performance standards for on-scene (aeronautical) two-way portable VHF radiotelephone apparatus.

.18 Resolution XXX MSC Performance standards for data structure and presentation of MSI information.

TEXT	Comment
<p>3 Adequate information shall be provided to enable the equipment to be properly operated and maintained, taking into account the recommendations of the Organization.<sup>25</sup></p> <p>4 Adequate tools and spares shall be provided to enable the equipment to be maintained.</p> <p>5 The Administration shall ensure that radio equipment required by this chapter is maintained to provide the availability of the functional requirements specified in regulation 4 and to meet the recommended performance standards of such equipment.</p> <p>6 On ships engaged on voyages in sea areas A1 <del>and</del> <u>or</u> A2, the availability shall be ensured by using such methods as duplication of equipment, shore-based maintenance or at-sea electronic maintenance capability, or a combination of these, as may be approved by the Administration.</p> <p>7 On ships engaged on voyages in sea areas A3 <del>and</del> <u>or</u> A4, the availability shall be ensured by using a combination of at least two methods such as duplication of equipment, shore-based maintenance or at-sea electronic maintenance capability, as may be approved by the Administration, taking into account the recommendations of the Organization<sup>26</sup>.</p> <p>8 While all reasonable steps shall be taken to maintain the equipment in efficient working order to ensure compliance with all the functional requirements specified in regulation 4, malfunction of the equipment for providing the <del>general radio</del> <u>other</u> communications required by regulation 4.83 shall not be considered as making a ship unseaworthy or as a reason for delaying the ship in ports where repair facilities are not readily available, provided the ship is capable of performing all distress and safety functions.</p> <p>9 Satellite EPIRBs shall be:</p>	<p>Correction</p> <p>Correction</p> <p>Consequential change resulting from new regulation 4</p>

<sup>25</sup> Refer to the Recommendation on general requirements for shipborne radio equipment forming part of the global maritime distress and safety system and for electronic navigational aids, adopted by the Organization by resolution A.694(17), and to resolution A.813(19) on general requirements for electromagnetic compatibility (EMC) for all electrical and electronic ship's equipment and to MSC/Circ.862: Clarifications of certain requirements in IMO performance standards for GMDSS equipment.

<sup>26</sup> Refer to resolution A.702(17) concerning radio maintenance guidelines for the global maritime distress and safety system related to sea areas A3 and A4.

TEXT	Comment
<p>.1 annually tested for all aspects of operational efficiency, with special emphasis on checking the emission on operational frequencies, coding and registration, at intervals as specified below:</p> <p>.1.1 on passenger ships, within 3 months before the expiry date of the Passenger Ship Safety Certificate; and</p> <p>.1.2 on cargo ships, within 3 months before the expiry date, or 3 months before or after the anniversary date, of the Cargo Ship Safety Radio Certificate.</p> <p>The test may be conducted on board the ship<sup>27</sup> or at an approved testing station; and</p> <p>.2 subject to maintenance at intervals not exceeding five years, to be performed at an approved shore-based maintenance facility.</p>	
<p><b>Regulation16</b> <i>Radio personnel</i></p> <p>1 Every ship shall carry personnel qualified for distress and safety radiocommunication purposes to the satisfaction of the Administration <sup>28</sup>. The personnel shall be holders of certificates specified in the Radio Regulations as appropriate, any one of whom shall be designated to have primary responsibility for radiocommunications during distress incidents.</p> <p>2 In passenger ships, at least one person qualified in accordance with paragraph 1 shall be assigned to perform only radiocommunication duties during distress incidents.</p>	

<sup>27</sup> Guidelines on the annual testing of 406 MHz satellite EPIRBs are given in MSC/Circ.882. Guidance for avoidance of false distress alerts are given in resolution A.814(19).

<sup>28</sup> Refer to STCW Code, chapter IV, section B-IV/2.

TEXT	Comment
<p><b>Regulation 17</b>  <i>Radio records</i></p> <p>A record shall be kept, to the satisfaction of the Administration and as required by the Radio Regulations, of all incidents connected with the radiocommunication service which appear to be of importance to safety of life at sea.</p>	
<p><b>Regulation 18</b>  <i>Position-updating</i></p> <p>All two-way communication equipment carried on board a ship to which this chapter applies which is capable of automatically including the ship's position in the distress alert shall be automatically provided with this information from an internal or external navigation receiver <sup>29</sup>, if either is installed. <del>If such a receiver is not installed, the ship's position and the time at which the position was determined shall be manually updated at intervals not exceeding 4 h, while the ship is underway, so that it is always ready for transmission by the equipment.</del></p>	<p>It is a requirement of SOLAS V/19.2.1.6 for the ship to carry the navigation receiver so this text is no longer required</p>

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<sup>29</sup> Requirements for automatic update of the ship's position are given in resolution MSC.68(68)