



सत्यमेव जयते

भारत सरकार / GOVERNMENT OF INDIA
पत्तन, पोत परिवहन और जलमार्ग मंत्रालय
MINISTRY OF PORTS, SHIPPING AND WATERWAYS

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DIRECTORATE GENERAL OF SHIPPING, MUMBAI



F.No. 25-25/2/2023-NT-DGS(26464)

Date:22/12/2023

DGS Order: 24 of 2023

Subject: Amendments to Chapter IV – Radiocommunications under the International Convention for the Safety of Life at Sea, 1974 (SOLAS), and its applicability– reg.

Whereas, the Government of India has ratified to the International Convention for the Safety of Life at Sea, 1974 (SOLAS), and the Convention entered into force on 25th May, 1980 through accession. The Convention as modified by the protocol of 1988 entered into force on 22nd November, 2000 through accession. Article 1 of the Convention mandates general obligation of the Government to undertake all measures which may be necessary to give effect to the Convention.

Whereas, the Merchant Shipping Act, 1958, as amended, incorporates the Convention and is defined at Section 3 (37) as “Safety Convention”, which means the Convention for the Safety of Life at Sea signed in London on the 1st day of November, 1974, as amended from time to time. Further, the mandatory Codes as indicated in the Convention and its amendments from time to time are in effect applicable to Indian vessels and foreign vessels sailing within Indian jurisdiction.

Whereas, the Merchant Shipping Act, Section 291 to 296, provides legislative provisions and powers for the implementation of various requirements under the SOLAS Convention on all Indian and foreign vessels plying in Indian Waters. The Merchant Shipping Act, Section 301 provides Cargo Ship Safety Radio Certificate and Qualified Cargo Ship Safety Radio Certificate for the purpose of compliance with the convention; and Section 436 Clauses (1) and (2) provides enforcement provisions.

Whereas, the Government has issued Merchant Shipping (Distress and Safety Radio Communication) Rules, 1995; Merchant Shipping (Radio) Rules, 1983; Merchant Shipping (Radio) Rules 1983-Corrigendum; Merchant Shipping (Radio) Amendment Rules, 1992; Merchant Shipping (Radio Direction Finder) Rules, 1968; & Merchant Shipping (Radio Direction Finders) Rules, 1968-Corrigendum as a measure to give effect to the Convention. In compliance with the modernization of GMDSS as amended through MSC Resolutions 496(105), 514(105), 471(101), MSC.1/Circ.1039/Rev.1, MSC.1/Circ.1040/Rev.2, Resolution 349(WRC-19), the Government has issued various executive orders, notices and circulars from time to time providing guidelines and instructions on the Radiocommunication service. These include but are not limited to, MS Notice 02 of 2023 dated 23.01.2023 on Operational of Iridium Safety Cast Service for NAVAREA VIII under World-Wide Navigational Warnings Service (WWNWS); MS Notice 11 of 2022 dated 07.11.2022 on Guidelines for Shore-Based Maintenance and Annual Testing of Emergency Position Indicating

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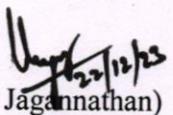
Radio Beacons (EPIRBs); MS Notice 13 of 2022 dated 20.12.2022 on Guidelines for avoidance of false distress alerts; MS Notice 4 of 2023 dated 15.02.2023 on Registration and De-registration of EPIRBs, DGS Order 9 of 2023 dated 12.07.2023 on Usages of Thuraya, Iridium and other such satellite communication in Indian waters, DGS Circular 10 of 2023 dated 16.03.2023 on Testing and maintenance of EPIRB and testing of other GMDSS radio equipment by approved service stations or Shore based maintenance facilities, MS Notice 19 of 2010 dated 18.11.2010 on Radio Communication Chapter IV of SOLAS 1974 as amended - reg. and MS Notice 8 of 2010 dated 03.09.2010 on Promulgation of Navigational Warnings for Specialized Operations in NAVAREA - VIII under World Wide Navigational Warning System (WWNWS). Further, Guidance on 'To the Satisfaction of Administration' in IMO Conventions is issued vide MS Notice 15 of 2023 on 09.11.2023.

Whereas, the Recognised Organizations (RO) were notified vide notification dated 26th December 2014, and as indicated, an agreement is entered into with each RO to carryout surveys and certification as per the Convention.

Noting that, IMO has issued various amendments to Chapter IV of SOLAS from time to time which is annexed to this Order at "Annexure - 1". As defined in the Merchant Shipping Act, such amendments to the SOLAS Convention are already in effect and applicable to Indian vessels and foreign vessels sailing within Indian jurisdiction.

Furthermore, Chapter IV has hereby been replaced by the IMO Resolution Amendment 2022 to SOLAS adopted on 28th April 2022 and notified vide Resolution MSC.496 (105); the same has been annexed to this Order at "Annexure - 2". Additionally, the 'Sea areas A1, A2, A3 & A4' are defined in the revised Chapter IV Regulation 2 - Terms and definitions. As there are no existing DSC facilitated Coast Radio Stations within Indian waters for Sea Areas A1 and A2, the entire Indian Sea region falls under Sea Area A3 and is covered under Recognized Mobile Satellite Service (RMSS) through INMARSAT and Iridium service.

The stakeholders are therefore required to be guided by this Order towards compliance with the provisions to give full effect to the International Convention for the Safety of Life at Sea and the mandatory codes.


(Shyam Jagannathan)

Director General of Shipping

To,

All Stakeholders through DGS Website

Annexure – 1

Chapter IV of the International Convention for the Safety of Life at Sea, 1974, as modified by the protocol of 1988 relating thereto

| Amendments | Adopted | | Effective Date | Amendments to the Chapter | |
|-----------------------------|-----------------|-------------|----------------|--|---|
| | By | Date | | IV | Appendix |
| 1981 Amendments | Res.MSC.1(45) | 20.Nov.1981 | 01.Sep.1984 | 4-1, 7, 8, 10(g,h,l,m), 16(b,c,j), 17, 19(c,d) | |
| 1983 Amendments | Res.MSC.6(48) | 17.Jun.1983 | 01.Jul.1986 | 2(i), 14-1~ 14-3(new) | |
| 1988 Amendments GMDSS | GMDSS/CONF/9 | 09.Nov.1988 | 01.Feb.1992 | 1~21 (Completely revised) | Certificates (PS, SC, SE, SR, EX-SOLAS) |
| 1989 Amendments | Res.MSC.13(57) | 11.Apr.1989 | 01.Feb.1992 | 13, 14 | |
| 1992 Amendments | Res.MSC.27(61) | 11.Dec.1992 | 01.Oct.1994 | 13, 14 | |
| 1995 Amendments | SOLAS/CONF.3/46 | 29.Nov.1995 | 01.Jul.1997 | 1, 6, 7, 16 | |
| 1998 Amendments | Res.MSC.69(69) | 20.May.1998 | 01.Jul.2002 | 1.1, 2, 5-1,13, 15, 18 | |
| 2002 Amendments to 74 SOLAS | Res.MSC.123(75) | 24.May.2002 | 01.Jan.2004 | 1, 3, 4, 7, 12, 14 | Certificates (Form P, Form R) |
| 2004 Amendments | Res.MSC.152(78) | 20.May.2004 | 01.Jul.2006 | 15 | |
| 2006 Amendments | Res.MSC.201(81) | 18.May.2006 | 01.Jul.2010 | 7, 9, 10 | |
| 2007 Amendments | Res.MSC.239(83) | 12.Oct.2007 | 01.Jul.2009 | 4-1 | Certificates (PS,PNUC,CNUC) |
| 2008 Amendments | Res.MSC.256(84) | 16.May.2008 | 01.Jan.2010 | 7 | Certificates (Form P, Form E, Form R, Form PNUC, Form CNUC) |

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|---------------------|------------------|-------------|-------------|---------------------------|---|
| 2018 Amendments | Res.MSC.436(9) | 24.May.2018 | 01.Jan.2020 | 2, 7, 8, 9, 10, 12, 13 | Certificate (PS,SR,CSS) |
| 2022 Amendments* | Res.MSC.496(105) | 28.Apr.2022 | 01.Jan.2024 | Revised completely | Certificate (PS,SE,SR,CSS,PNUC,CNUC) |

** All amendments mentioned above before the 2022 Amendments vide Res.MSC.496 (105) are to be considered null and void after the effective date, i.e. 01.Jan.2024, as Chapter IV is revised completely under the said Resolution.*

Annexure – 2

Revised Chapter IV – Radiocommunications of the International Convention for the Safety of Life at Sea, 1974as notified vide Resolution MSC.496(105)

The text of chapter IV is replaced by the following:

Part A – General

Regulation 1 – Application

- 1 Unless expressly provided otherwise, this chapter applies to all ships to which the present regulations apply and to cargo ships of 300 gross tonnage and upwards.
- 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 waters as far east as the lower exit of the St Lambert Lock at Montreal in the Province of Quebec, Canada.¹
- 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.

Regulation 2 – Terms and definitions

- 1 For the purpose of this chapter, the following terms shall have the meanings defined below:
 - .1 AIS-SART means an automatic identification system search and rescue transmitter capable of operating on frequencies dedicated for AIS (161.975 MHz (AIS1) and 162.025 MHz (AIS2)).
 - .2 Bridge-to-bridge communications means safety radiocommunications between ships from the position from which the ships are normally navigated.
 - .3 Continuous radio watch means that the radio and listening 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.
 - .4 Digital selective calling (DSC) 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 Telecommunication Union Radiocommunication Sector (ITU-R).
 - .5 Emergency position-indicating radio beacon (EPIRB) means a transmitter operating in the frequency band 406.0-406.1 MHz capable of transmitting a distress alert via satellite to a rescue coordination centre and transmitting signals for on-scene locating.

¹ 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.

- .6 General radiocommunications means communications other than distress, urgency and safety communications.
 - .7 Global Maritime Distress and Safety System (GMDSS) means a system that performs the functions set out in regulation 4.1.1.
 - .8 GMDSS identities means information which may be transmitted to uniquely identify the ship or its associated rescue boats and survival craft. These identities are the ship's call sign, Maritime Mobile Service Identity (MMSI), EPIRB hexadecimal identity, recognized mobile satellite service identities and equipment serial numbers.
 - .9 Locating means the finding of ships, aircraft, survival craft or persons in distress.
 - .10 Maritime safety information (MSI)² means navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages broadcast to ships.
 - .11 Radar SART means a search and rescue transponder operating on radar frequencies in the frequency band 9.2-9.5 GHz.
 - .12 Radio Regulations means the Radio Regulations complementing the Constitution and Convention of the International Telecommunication Union which is in force at any given time.
 - .13 Recognized mobile satellite service means any service which operates through a satellite system and is recognized by the Organization, for use in GMDSS.
 - .14 Satellite service on 406 MHz means a service operating through a satellite system having global availability designed to detect EPIRBs transmitting in the frequency band 406.0-406.1 MHz.
 - .15 Sea area A1 means an area within the radiotelephone coverage of at least one very high frequency (VHF) coast station in which continuous DSC alerting is available, as may be defined by a Contracting Government.³
 - .16 Sea area A2 means an area, excluding sea area A1, within the radiotelephone coverage of at least one medium frequency (MF) coast station in which continuous DSC alerting is available, as may be defined by a Contracting Government.
 - .17 Sea area A3 means an area, excluding sea areas A1 and A2, within the coverage of a recognized mobile satellite service supported by the ship earth station carried on board, in which continuous alerting is available.
 - .18 Sea area A4 means an area outside of sea areas A1, A2 and A3.
- 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, 1979, as may be amended, shall have the meanings as defined in those Regulations and the SAR Convention.

Regulation 3 – Exemptions

- 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:

² Refer to Joint IMO/IHO/WMO Manual on Maritime Safety Information (MSI) (MSC.1/Circ.1310, as revised).

³ Refer to Provision of radio services for the Global Maritime Distress and Safety System (GMDSS) (resolution MSC.509(105)).

- .1 such ships comply with the functional requirements of regulation 4; and
 - .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.
- 2 An exemption may be granted under paragraph 1 only:
- .1 if the conditions affecting safety are such as to render the full application of regulations 7 to 11 unreasonable or unnecessary; or
 - .2 in exceptional circumstances, for a single voyage outside the sea area or sea areas for which the ship is equipped.
- 3 Each Administration shall report to the Organization on all exemptions granted under paragraphs 1 and 2 giving the reasons for granting such exemptions.⁴

Regulation 4 – Functional requirements⁵

- 1 Every ship, while at sea, shall be capable of:
- .1 performing the GMDSS functions, which are as follows:
 - .1 transmitting ship-to-shore distress alerts by at least two separate and independent means, each using a different radiocommunication service;
 - .2 receiving shore-to-ship distress alert relays;
 - .3 transmitting and receiving ship-to-ship distress alerts;
 - .4 transmitting and receiving search and rescue coordinating communications;
 - .5 transmitting and receiving on-scene communications;
 - .6 transmitting and receiving signals for locating;⁶
 - .7 receiving MSI;⁷
 - .8 transmitting and receiving urgency and safety communications; and
 - .9 transmitting and receiving bridge-to-bridge communications; and
 - .2 transmitting and receiving general radiocommunications.

Regulation 4-1 – GMDSS satellite providers

The Maritime Safety Committee shall determine the criteria, procedures and arrangements for the evaluation, recognition, review and oversight of the provision of recognized mobile satellite services in the GMDSS pursuant to the provisions of this chapter.⁸

⁴ Exemptions should be reported through the Organization's Global Integrated Shipping Information System (GISIS) with reference to Issue of Exemption Certificates under the 1974 SOLAS Convention and Amendments thereto (SLS.14/Circ.115, as amended).

⁵ It should be noted that ships performing GMDSS functions should use Guidelines for the avoidance of false distress alerts (resolution MSC.514(105)).

⁶ Refer also to regulations V/19.2.3.2 and V/19.2.4, as appropriate.

⁷ It should be noted that ships may have a need for reception of certain maritime safety information while in port.

⁸ Refer to Criteria for the provision of mobile satellite communication systems in the Global Maritime Distress and Safety System (GMDSS) (resolution A.1001(25)) and Guidance to prospective GMDSS satellite service providers (MSC.1/Circ.1414).

Part B – Undertakings by Contracting Governments⁹

Regulation 5 – Provision of radiocommunication services

- 1 Each Contracting Government undertakes to make available, as it deems practical and necessary, either individually or in cooperation with other Contracting Governments, appropriate shore-based facilities for the mobile satellite service and maritime mobile service having due regard to the recommendations of the Organization.¹⁰ These services are:
 - .1 recognized mobile satellite services;
 - .2 a satellite service on 406 MHz;
 - .3 the maritime mobile service in the bands between 156 MHz and 174 MHz;
 - .4 the maritime mobile service in the bands between 4 000 kHz and 27 500 kHz; and
 - .5 the maritime mobile service in the bands between 415 kHz and 535 kHz¹¹ and between 1 605 kHz and 4 000 kHz.
- 2 Each Contracting Government undertakes to provide the Organization with pertinent information concerning the shore-based facilities in the mobile satellite service and maritime mobile service, established for sea areas which it has designated off its coasts.¹² Each Contracting Government also undertakes to provide the Organization with timely and adequate notice prior to the planned withdrawal of any of these services or any particular shore-based facilities.

Regulation 5-1 – GMDSS identities

- 1 This regulation applies to all ships on all voyages.
- 2 Each Contracting Government undertakes to ensure that suitable arrangements are made for registering GMDSS identities and for making information on these identities available to rescue coordination centres on a 24-hour basis. Where appropriate, international organizations maintaining a registry of these identities, such as the ITU Maritime Mobile Access and Retrieval System (MARS), shall be notified by the Contracting Government of these identity assignments.

⁹ 1 Each Contracting Government is not required to provide all radiocommunication services.

2 Provision No. 48.1 of the Radio Regulations applies to the operation of coast stations and coast earth stations.

¹⁰ Refer to Provision of radio services for the Global Maritime Distress and Safety System (GMDSS) (resolution MSC.509(105)).

¹¹ Refer to Implementation of the NAVTEX system as a component of the World-Wide Navigational Warning Service (resolution A.617(15)).

¹² Information communicated by Contracting Governments is made available through GISIS.

Part C – Ship requirements

Regulation 6 – Radio installations

- 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.
- 2 Every radio installation shall be:
 - .1 located in such a way that no harmful interference of mechanical, electrical or other origin affects its proper use, and that electromagnetic compatibility is ensured and harmful interaction avoided with other equipment and systems;
 - .2 so located as to ensure the greatest possible degree of safety and operational availability;
 - .3 protected against harmful effects of water, extremes of temperature and other adverse environmental conditions;
 - .4 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
 - .5 clearly marked with the GMDSS identities, as applicable, for use by the radio installation operator.
- 3 Control of the VHF radiotelephone channels, required for navigational safety, shall be immediately available on the navigation bridge convenient to the conning position and, where necessary, facilities should be available to permit radiocommunications from the wings of the navigation bridge. Portable VHF equipment may be used to meet the latter provision.
- 4 In passenger ships, a distress panel shall be installed at the conning position, which shall:
 - .1 contain either one single button which, when pressed, initiates a distress alert using all radio installations required on board for that purpose or one button for each individual installation;
 - .2 clearly and visually indicate whenever any button or buttons have been pressed; and
 - .3 be provided with means to prevent inadvertent activation of the button or buttons referred to in paragraphs 4.1 and 4.2.
- 5 In passenger ships, if an EPIRB is used as the secondary means of distress alerting and is not remotely activated from the distress panel, it shall be acceptable to have an additional EPIRB installed in the wheelhouse near the conning position.
- 6 In passenger ships, a distress alarm panel shall be installed at the conning position, which:
 - .1 shall provide visual and aural indication of any distress alert or alerts received on board;
 - .2 shall indicate through which radiocommunication service the distress alerts have been received; and
 - .3 may be combined with the distress panel referred to in paragraph 4.

Regulation 7 – Radio equipment: General

- 1 Every ship shall be provided with:
 - .1 a VHF radio installation capable of transmitting and receiving, for distress, urgency and safety communications purposes:
 - .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; and
 - .2 radiotelephony on the frequencies 156.300 MHz (channel 6), 156.650 MHz (channel 13) and 156.800 MHz (channel 16);
 - .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 paragraph 1.1;
 - .3 a radar SART or an AIS-SART, which:
 - .1 shall be so stowed that it can be easily utilized; and
 - .2 may be one of those required by paragraphs 2.1 or 3.1;
 - .4 a receiver or receivers capable of receiving MSI and search and rescue related information throughout the entire voyage in which the ship is engaged;¹³
 - .5 an EPIRB¹⁴ which shall be:
 - .1 installed in an easily accessible position;
 - .2 ready to be manually released and capable of being carried by one person into a survival craft;
 - .3 capable of floating free if the ship sinks and of being automatically activated when afloat; and
 - .4 capable of being activated manually; and
 - .6 a radio installation capable of transmitting and receiving general radiocommunications operating on working frequencies in the band between 156 MHz and 174 MHz. This requirement may be fulfilled by the addition of this capability in the equipment required by paragraph 1.1.
- 2 Every cargo ship of 300 gross tonnage and upwards but less than 500 gross tonnage shall be provided with at least:
 - .1 one radar SART or AIS-SART; and
 - .2 two two-way VHF radiotelephone apparatuses.
- 3 Every passenger ship and every cargo ship of 500 gross tonnage and upwards shall be provided with at least:
 - .1 one radar SART or AIS-SART on each side of the ship; and
 - .2 three two-way VHF radiotelephone apparatuses.
- 4 The two-way VHF radiotelephone apparatuses required by paragraphs 2.2 and 3.2 may be portable or fitted in survival craft. The portable apparatus may be stored on the bridge.
- 5 The radar SARTs or AIS-SARTs required by paragraphs 2.1 or 3.1 shall be stowed in such locations that they can be rapidly placed in any survival craft other than a liferaft required by regulation III/31.1.4. Alternatively, one radar SART or AIS-SART shall be stowed in each

¹³ Refer to Guidance for the reception of maritime safety information and search and rescue related information as required in the Global Maritime Distress and Safety System (GMDSS) (MSC.1/Circ.1645).

¹⁴ Refer to Search and rescue homing capability (resolution A.616(15)).

survival craft other than a liferaft required by regulation III/31.1.4. On ships carrying at least two radar SARTs or AIS-SARTs and equipped with free-fall lifeboats, one of the radar SARTs or AIS-SARTs shall be stowed in a free-fall lifeboat and the other shall be 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, other than a liferaft required by regulation III/31.1.4.

- 6 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. These means may be portable.

Regulation 8 – Radio equipment: Sea area A1

- 1 In addition to meeting the requirements of regulation 7, every ship engaged on voyages in sea area A1 shall be provided with a radio installation capable of initiating the transmission of ship-to-shore distress alerts from the position from which the ship is normally navigated, operating either:
 - .1 through the satellite service on 406 MHz; or
 - .2 if the ship is engaged on voyages within coverage of MF coast stations equipped with DSC, on MF using DSC; or
 - .3 on high frequency (HF) using DSC; or
 - .4 through a recognized mobile satellite service ship earth station.
- 2 The requirement in paragraph 1.1 may be fulfilled by installing:
 - .1 the EPIRB required by regulation 7.1.5 close to the position from which the ship is normally navigated, but in a location whereby it can still float free of the ship in an emergency; or
 - .2 the EPIRB required by regulation 7.1.5 elsewhere on the ship, provided that this EPIRB has a means of remote activation which is installed near the position from which the ship is normally navigated; or
 - .3 a second EPIRB near the position from which the ship is normally navigated.

Regulation 9 – Radio equipment: Sea area A2

- 1 In addition to meeting the requirements of regulation 7, every ship engaged on voyages within sea area A2 shall be provided with:
 - .1 an MF radio installation capable of transmitting and receiving, for distress, urgency and safety communications purposes, on the frequencies:
 - .1 2 187.5 kHz using DSC; and
 - .2 2 182 kHz using radiotelephony;
 - .2 a radio installation capable of maintaining a continuous DSC watch on the frequency 2 187.5 kHz which may be separate from, or combined with, that required by paragraph 1.1; and
 - .3 a secondary means of initiating the transmission of ship-to-shore distress alerts by a radio service other than MF operating either:
 - .1 through the satellite service on 406 MHz; or

- .2 on HF using DSC; or
 - .3 through a recognized mobile satellite service ship earth station.
- 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.
- 3 The requirement in paragraph 1.3.1 may be fulfilled by installing:
- .1 the EPIRB required by regulation 7.1.5 close to the position from which the ship is normally navigated, but in a location whereby it can still float free of the ship in an emergency; or
 - .2 the EPIRB required by regulation 7.1.5 elsewhere on the ship, provided that this EPIRB has a means of remote activation which is installed near the position from which the ship is normally navigated; or
 - .3 a second EPIRB near the position from which the ship is normally navigated.
- 4 The ship shall, in addition, be capable of transmitting and receiving general radiocommunications by either:
- .1 a radio installation operating on working frequencies in the bands between 1 605 kHz and 4 000 kHz or between 4 000 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
 - .2 a recognized mobile satellite service ship earth station.

Regulation 10 – Radio equipment: Sea area A3

- 1 In addition to meeting the requirements of regulation 7, every ship engaged on voyages within sea area A3 shall be provided with:
- .1 a recognized mobile satellite service ship earth station capable of:
 - .1 transmitting and receiving distress, urgency and safety communications;
 - .2 initiating and receiving distress priority calls; and
 - .3 maintaining watch for shore-to-ship distress alert relays, including those directed to specifically defined geographical areas;
 - .2 an MF radio installation capable of transmitting and receiving, for distress, urgency and safety communications purposes, on the frequencies:
 - .1 2 187.5 kHz using DSC; and
 - .2 2 182 kHz using radiotelephony;
 - .3 a radio installation capable of maintaining a continuous DSC watch on the frequency 2 187.5 kHz which may be separate from, or combined with, that required by paragraph 1.2; and
 - .4 a secondary means of initiating the transmission of ship-to-shore distress alerts by a radio service operating either:
 - .1 through the satellite service on 406 MHz; or
 - .2 on HF using DSC; or
 - .3 through any recognized mobile satellite service on an additional ship earth station.
- 2 It shall be possible to initiate transmission of distress alerts by the radio installations specified in paragraphs 1.1, 1.2 and 1.4 from the position from which the ship is normally navigated.

- 3 The requirement in paragraph 1.4.1 may be fulfilled by installing:
 - .1 the EPIRB required by regulation 7.1.5 close to the position from which the ship is normally navigated, but in a location whereby it can still float free of the ship in an emergency; or
 - .2 the EPIRB required by regulation 7.1.5 elsewhere on the ship, provided that this EPIRB has a means of remote activation which is installed near the position from which the ship is normally navigated; or
 - .3 a second EPIRB near the position from which the ship is normally navigated.
- 4 The ship shall, in addition, be capable of transmitting and receiving general radiocommunications by either:
 - .1 a recognized mobile satellite service ship earth station; or
 - .2 a radio installation operating on working frequencies in the bands between 1 605 kHz and 4 000 kHz or between 4 000 kHz and 27 500 kHz.
- 5 The requirements in paragraphs 4.1 and 4.2 may be fulfilled by the addition of this capability in the equipment required by paragraph 1.1 or 1.2, respectively.

Regulation 11 – Radio equipment: Sea area A4

- 1 In addition to meeting the requirements of regulation 7, every ship engaged on voyages within sea area A4 shall be provided with:
 - .1 an MF/HF radio installation capable of transmitting and receiving, for distress, urgency and safety communications purposes, on all distress urgency and safety frequencies in the bands between 1 605 kHz and 4 000 kHz and between 4 000 kHz and 27 500 kHz:
 - .1 using DSC; and
 - .2 using radiotelephony;
 - .2 equipment capable of maintaining DSC watch on 2 187.5 kHz, 8 414.5 kHz and on at least one of the DSC frequencies 4 207.5 kHz, 6 312 kHz, 12 577 kHz or 16 804.5 kHz; it shall be possible at any time to select any of these DSC frequencies for distress, urgency and safety communications purposes. This equipment may be separate from, or combined with, the equipment required by paragraph 1.1; and
 - .3 a secondary means of initiating the transmission of ship-to-shore distress alerts through the satellite service on 406 MHz.
- 2 The ship shall, in addition, be capable of transmitting and receiving general radiocommunications by a radio installation operating on working frequencies in the bands between 1 605 kHz and 4 000 kHz and between 4 000 kHz and 27 500 kHz. This requirement may be fulfilled by the addition of this capability in the equipment required by paragraph 1.1.
- 3 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.
- 4 The requirement in paragraph 1.3 may be fulfilled by installing:
 - .1 the EPIRB required by regulation 7.1.5 close to the position from which the ship is normally navigated, but in a location whereby it can still float free of the ship in an emergency; or

- .2 the EPIRB required by regulation 7.1.5 elsewhere on the ship, provided that this EPIRB has a means of remote activation which is installed near the position from which the ship is normally navigated; or
- .3 a second EPIRB near the position from which the ship is normally navigated.

Regulation 12 – Watches

- 1 Every ship, while at sea, shall maintain a continuous radio watch for distress, urgency and safety communications purposes:
 - .1 on VHF DSC channel 70;
 - .2 on DSC frequency 2 187.5 kHz, if the ship, in accordance with the requirements of regulation 9.1.1 or 10.1.2, is fitted with an MF radio installation;
 - .3 on DSC frequencies 2 187.5 kHz and 8 414.5 kHz and also on at least one of the 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 11.1.2, is fitted with an MF/HF radio installation. This watch may be kept by means of a scanning receiver; and
 - .4 for satellite shore-to-ship distress alert relays, if the ship, in accordance with the requirements of regulation 10.1.1, is fitted with a recognized mobile satellite service ship earth station.
- 2 Every ship, while at sea, shall maintain a radio watch for broadcasts of MSI and search and rescue related information on the appropriate frequency or frequencies on which such information is broadcast for the area in which the ship is navigating.
- 3 Every ship, while at sea, shall maintain, when practicable, a continuous listening watch, which shall be kept at the position from which the ship is normally navigated, on:
 - .1 VHF channel 16; and
 - .2 other appropriate frequencies for urgency and safety communications for the area in which the ship is navigating.

Regulation 13 – Sources of energy

- 1 While the ship is at sea, a supply of electrical energy shall be available at all times 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.
- 2 A reserve source or sources of energy shall be provided on every ship, to supply radio installations, for the purpose of conducting distress, urgency and safety 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 or 10.1.2, the MF/HF radio installation required by regulation 11.1.1, or the 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:

- .1 one hour 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
- .2 six hours 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.¹⁵

The reserve source or sources of energy need not supply independent HF and MF radio installations at the same time.

- 3 The reserve source or sources of energy shall be independent of the propelling power of the ship and the ship's electrical system.
- 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:
 - .1 all other radio installations which can be connected to the reserve source or sources of energy at the same time; or
 - .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.
- 5 The reserve source or sources of energy may be used to supply the electrical lighting required by regulation 6.2.4.
- 6 Where a reserve source of energy consists of a rechargeable accumulator battery or batteries:
 - .1 a means of automatically charging such batteries shall be provided which shall be capable of recharging them to minimum capacity requirements within 10 hours; and
 - .2 the capacity of the battery or batteries shall be checked, using an appropriate method,¹⁶ at intervals not exceeding 12 months, when the ship is not at sea.
- 7 The siting and installation of accumulator batteries which provide a reserve source of energy shall be such as to ensure:
 - .1 the highest degree of service;
 - .2 a reasonable lifetime;
 - .3 reasonable safety;
 - .4 that battery temperatures remain within the manufacturer's specifications whether under charge or idle; and
 - .5 that when fully charged, the batteries will provide at least the minimum required hours of operation under all weather conditions.
- 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 in regulation 18, is needed to ensure its proper performance, means shall be provided to ensure

¹⁵ 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.

¹⁶ One method of checking the capacity of an accumulator battery is to fully discharge and recharge the battery, using normal operating current and period. 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.

the continuous supply of such information in the event of failure of the ship's main or emergency source of electrical power.

Regulation 14 – Performance standards

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.¹⁷

¹⁷ Refer to the following resolutions adopted by the Organization:

General requirements

- .1 General requirements for shipborne radio equipment forming part of the Global Maritime Distress and Safety System (GMDSS) and for electronic navigational aids (resolution A.694(17));
- .2 Performance standards for the presentation of navigation-related information on shipborne navigational displays (resolution MSC.191(79), as amended);
- .3 Performance standards for bridge alert management (resolution MSC.302(87));

VHF equipment

- .4 Performance standards for shipborne VHF radio installations capable of voice communication and digital selective calling (resolution MSC.511(105));
- .5 Performance standards for survival craft portable two-way VHF radiotelephone apparatus (resolution MSC.515(105));
- .6 Recommendation on Performance standards for on-scene (aeronautical) portable two-way VHF radiotelephone apparatus (annex 1 to resolution MSC.80(70), as amended);

MF and HF equipment

- .7 System performance standard for the promulgation and coordination of maritime safety information using high-frequency narrow-band direct-printing (resolution MSC.507(105));
- .8 Performance standards for shipborne MF and MF/HF radio installations capable of voice communication, digital selective calling and reception of maritime safety information and search and rescue related information (resolution MSC.512(105));
- .9 Performance standards for the reception of maritime safety information and search and rescue related information by MF (NAVTEX) and HF (resolution MSC.508(105));

Ship earth stations and enhanced group call (EGC) equipment

- .10 Performance standards for Inmarsat-C ship earth stations capable of transmitting and receiving direct-printing communications (resolution MSC.513(105));
- .11 Revised performance standards for enhanced group call (EGC) equipment (resolution MSC.306(87), as amended);
- .12 Performance standards for a ship earth station for use in the GMDSS (resolution MSC.434(98));

Integrated radiocommunication systems

- .13 Performance standards for a shipborne integrated communication system (ICS) when used in the Global Maritime Distress and Safety System (GMDSS) (resolution MSC.517(105));

Emergency position-indicating radio beacons

- .14 Performance standards for float-free release and activation arrangements for emergency radio equipment (resolution A.662(16));
- .15 Performance standards for float-free emergency position-indicating radio beacons (EPIRBs) operating on 406 MHz (resolution MSC.471(101));

Search and rescue transmitters and transponders

- .16 Performance standards for search and rescue radar transponders (resolution MSC.510(105)); and
- .17 Performance standards for survival craft AIS search and rescue transmitters (AIS-SART) for use in search and rescue operations (resolution MSC.246(83)).

Regulation 15 – Maintenance requirements

- 1 Equipment shall be so designed that the main units can be replaced readily, without elaborate recalibration or readjustment.
- 2 Where applicable, equipment shall be so constructed and installed that it is readily accessible for inspection and onboard maintenance purposes.
- 3 Adequate information shall be provided to enable the equipment to be properly operated and maintained, taking into account the recommendations of the Organization.¹⁸
- 4 Adequate tools and spares shall be provided to enable the equipment to be maintained.
- 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.
- 6 On ships engaged on voyages in sea areas A1 or 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.
- 7 On ships engaged on voyages in sea areas A3 or 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.
- 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 general radiocommunications required by regulation 4.1.2 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, urgency and safety functions.
- 9 EPIRBs shall be:
 - .1 annually tested, either on board the ship¹⁹ or at an approved testing station, for all aspects of operational efficiency, with special emphasis on checking the emission on operational frequencies, coding and registration, at intervals as specified below:
 - .1 on passenger ships, within three months before the expiry date of the Passenger Ship Safety Certificate; and
 - .2 on cargo ships, within three months before the expiry date, or within three months before or after the anniversary date, of the Cargo Ship Safety Radio Certificate; and
 - .2 subject to maintenance at intervals not exceeding five years, to be performed at an approved shore-based maintenance facility.²⁰

¹⁸ Refer to General requirements for shipborne radio equipment forming part of the Global Maritime Distress and Safety System (GMDSS) and for electronic navigational aids (resolution A.694(17)), General requirements for electromagnetic compatibility (EMC) for all electrical and electronic ship's equipment (resolution A.813(19)), and Clarifications of certain requirements in IMO performance standards for GMDSS equipment (MSC/Circ.862).

¹⁹ Refer to Guidelines on annual testing of emergency position-indicating radio beacons (EPIRBs) (MSC.1/Circ.1040/Rev.2) and Guidelines for the avoidance of false distress alerts (resolution MSC.514(105)).

²⁰ Refer to Guidelines for shore-based maintenance of emergency position-indicating radio beacons (EPIRBs) (MSC.1/Circ.1039/Rev.1)

Regulation 16 – Radio personnel

- 1 Every ship shall carry personnel qualified for distress, urgency and safety communications purposes to the satisfaction of the Administration.²¹ The personnel shall be holders of the appropriate certificates specified in the Radio Regulations; one of the personnel shall be designated as having primary responsibility for communications during distress incidents.
- 2 In passenger ships, at least one person qualified in accordance with paragraph 1 shall be assigned to perform only communications duties during distress incidents.

Regulation 17 – Radio records

A record shall be kept on board, to the satisfaction of the Administration and as required by the Radio Regulations, of all incidents connected with the radiocommunication services which appear to be of importance to safety of life at sea.

Regulation 18 – Position-updating

- 1 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.²²
- 2 In case of malfunction of the internal or external navigation receiver, the ship's position and the time at which the position was determined shall be manually updated at intervals not exceeding four hours, while the ship is under way, so that it is always ready for transmission by the equipment.

²¹ Refer to the STCW Code, chapter IV, section B-IV/2

²² Requirements for automatic update of the ship's position are given in resolutions MSC.511(105), MSC.512(105) and MSC.513(105).