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**GENERAL NOTICES**

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**NOTICE 825 OF 2001****SOUTH AFRICAN MARITIME SAFETY AUTHORITY****DRAFT MERCHANT SHIPPING (RADIO INSTALLATIONS) REGULATIONS:  
PUBLICATION FOR COMMENT**

The South African Maritime Safety Authority gives notice of its intention to recommend to the National Department of Transport the measures set out in the accompanying draft regulations. Interested persons are invited to submit written comment on the regulations not later than 14 May 2001. Submissions should be marked for the attention of Mr C Briesch and may either be mailed to the South African Maritime Safety Authority, PO Box 13186, Hatfield 0028, or faxed to (012) 342 3160, or emailed to [cbriesch@samsa.org.za](mailto:cbriesch@samsa.org.za). Telephonic enquiries can be directed to Mr C Briesch on (012) 342 3049.

Attention is invited to the explanatory note at the end of the regulations.

**SCHEDULE****DRAFT MERCHANT SHIPPING (RADIO INSTALLATIONS) REGULATIONS***Arrangement of regulations*

*Regulation  
No.*

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**PART I**  
**GENERAL**

**Title and commencement**

1. These regulations are called the Merchant Shipping (Radio Installations) Regulations, 2001, and come into operation on <<date>>.

**Interpretation**

2. (1) In these regulations any word or expression given a meaning in the Act has the meaning so given and, unless the context otherwise indicates—

"**area A1 ship**" means a ship to which Part 2 applies making a voyage in sea area A1 only;

"**area A2 ship**" means a ship to which Part 2 applies making a voyage in sea area A2 only, or in sea areas A1 and A2;

"**area A3 ship**" means a ship to which Part 2 applies making a voyage in sea area A3 only, or in sea area A3 and also in sea area A1 or A2 or both those sea areas;

"**area A4 ship**" means a ship to which Part 2 applies making a voyage in sea area A4 only, or in sea area A4 and also in one or more of sea areas A1, A2 and A3;

"**bridge-to-bridge communications**" means safety communications between ships from the position from which such ships are normally navigated;

"**cargo ship**" means any ship that is not—

- (a) a passenger ship;
- (b) a fishing vessel; or
- (c) a pleasure vessel;

"**connected**" means electrically connected;

"**conning position**" means the place on the bridge with a commanding view of the ship and its position used by navigators when commanding, manoeuvring and controlling the ship;

"**constructed**", in relation to a ship, means having its keel laid or being at a similar stage of construction;

"**continuous watch**" means a radio watch that is not interrupted other than for brief intervals when the ship's receiving capability is impaired or blocked by its own communications or when the watchkeeping facilities are under periodical maintenance or checks;

"**contravene**", in relation to a provision of these regulations, includes failing or refusing to comply with that provision;

"**Convention ship**" means—

- (a) a foreign-going passenger ship; or

(b) a foreign-going cargo ship of 300 tons or more;

**"Convention State"** means any State, other than the Republic, that is a State party to the Safety Convention;

**"COSPAS-SARSAT satellite service"** means a satellite aided search and rescue system designed to locate distress beacons transmitting in the 406 MHz band and on other frequencies;

**"direct-printing telegraphy"** means an automated telegraphy technique that complies with the relevant recommendations specified by the Authority in a marine notice;

**"DSC"** means Digital Selective Calling, being a technique using digital codes that enables a radio station to establish contact with, and transfer information to, another station or group of stations, and complying with the relevant recommendations specified by the Authority in a marine notice;

**"DSC watch"** means listening for an audible alarm from a ship's DSC equipment on VHF (channel 70), MF (2187.5 kHz) or HF (8414.5 kHz), and on at least one of the distress and safety DSC frequencies 4207.5 kHz, 6312 kHz, 12577 kHz or 16804.5 kHz;

**"enhanced group calling (EGC)"** means a system providing a simple and automated means of receiving marine safety information via satellite on board ships at sea and in coastal waters;

**"EPIRB"** means an emergency position-indicating radio beacon operating in a mobile service the emissions of which are intended to facilitate search and rescue operations;

**"existing ship"** means a ship that is not a new ship;

**"fishing vessel"** means any of the following classes of vessels used for catching fish or other living resources of the sea for financial gain or reward:

*Class A*—fishing vessels of 45 metres or more in length making voyages outside waters under South African jurisdiction;

*Class B*—fishing vessels of less than 45 metres in length making voyages outside waters under South African jurisdiction;

*Class C*—fishing vessels, other than of class D, making voyages exclusively within waters under South African jurisdiction;

*Class D*—fishing vessels making voyages exclusively within waters under South African jurisdiction, not more than 40 nautical miles from shore;

**"from shore"** means seaward from the low-water line as defined in section 1 of the Maritime Zones Act, 1998 (Act No. 15 of 1998);

**"general radio communications"** means operational and public correspondence traffic, other than distress, urgency and safety messages, conducted by radio;

**"GMDSS"** means the Global Maritime Distress and Safety System;

**"GMDSS general operator's certificate"** and **"GMDSS restricted operator's certificate"** mean the certificates respectively so entitled, issued or recognized under the authority of the Independent Communications Authority of South Africa, in accordance with the ITU Radio Regulations;

**"HF"** means the frequency spectrum between 3 000 kHz and 30 MHz;

**"IMO"** means the International Maritime Organization;

**"INMARSAT"** means the Organization established by the Convention on the International Maritime Satellite Organization adopted on 3 September 1976;

**"INMARSAT enhanced group calling system"** means the SafetyNET service by which INMARSAT distributes meteorological, navigational and search and rescue messages to ships fitted with an enhanced group calling system receiver;

**"INMARSAT geostationary satellite service"** means the mobile satellite service provided by INMARSAT through its geostationary satellites;

**"INMARSAT ship earth station"** means a mobile earth station in the maritime mobile-satellite service located on board a ship that is not permanently moored;

**"international NAVTEX service"** 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;

**"ITU Radio Regulations"** means the regulations annexed to, or regarded as being annexed to, the most recent International Telecommunication Convention in force at any time;

**"length"** means—

- (a) in the case of a registered ship, the length shown in the certificate of registry;
- (b) in the case of a ship licensed in terms of section 68 of the Act, the length shown in the licence; and
- (c) in the case of a ship that is not registered or licensed, the horizontal distance measured between perpendiculars erected at the extreme ends of the outside of the hull;

**"locating"** means the finding of ships, aircraft, units or persons in distress;

**"maintenance"** means any activity intended to keep a radio installation in efficient working condition, and includes tests, measurements, replacements, adjustments and repairs;

**"major conversion"**, in relation to an existing ship, means a conversion—

- (a) that substantially alters the dimensions or carrying capacity of the ship;
- (b) that changes the type of the ship;
- (c) the intent of which, in the opinion of the Authority, is substantially to prolong the life of the ship;
- (d) that otherwise so alters the ship that, if it were a new ship, it would become subject to relevant provisions of these regulations not applicable to it as an existing ship;

**"maritime safety information"** means navigational and meteorological warnings, meteorological forecasts and other urgent safety-related messages broadcast to ships;

**"MF"** means the frequency spectrum between 300 kHz and 3000 kHz;

**"MF coast station"** means a radio communication service located on the coast offering services in the medium frequency band (300–3000 kHz);

**"mobile satellite service"** means a radio communication service between—

- (a) mobile earth stations and one or more space stations, or between space stations used by this service; or
  - (b) mobile earth stations by means of one or more space stations,
- and this service may include feeder links necessary for its operation;

**"new ship"** means—

- (a) a ship constructed or undergoing major conversion after the commencement of these regulations; or
- (b) any ship that is registered or licensed anew in the Republic after the commencement of these regulations;

**"non-Convention ship"** means—

- (a) a passenger ship that is not foreign-going;
- (b) a cargo ship of 300 tons or more that is not foreign-going;
- (c) a cargo ship of less than 300 tons;
- (d) a fishing vessel; or
- (e) a pleasure vessel;

**"operating position"**, in relation to any radio equipment, means the position normally occupied by a person when operating that equipment;

**"pleasure vessel"** means a ship that is used solely for sport or recreation;

**"radar transponder"** means a survival craft radar transponder for search and rescue between ships or aircraft and survival craft;

**"radio communication"** means telecommunication by means of radio waves;

**"radio communication service"** means a service as defined in the ITU Radio Regulations involving the transmission, emission or reception of radio waves for specific telecommunication purposes;

**"radio installation"** means any radio installation provided on board a ship in compliance with these regulations, including its associated antennas, inter-connecting circuits and, where appropriate, sources of energy;

**"radio log"** means the diary of the radio communication service;

**"radiotelephone operator"** means a person holding a valid appropriate certificate issued in accordance with the ITU Radio Regulations;

**"radiotelephone ship"** means a ship fitted with a radiotelephone installation in accordance with Part 3;

**"radiotelephone installation"** means the equipment operating in the frequency band 1605–27500 kHz;

**"radiotelephone station"** means the place on board a ship where a radiotelephone installation is located;

**"satellite EPIRB"** means an EPIRB that is in the mobile-satellite service;

**"sea area A1"** means an area within the radiotelephone coverage of at least one VHF coast station in which continuous DSC alerting is available;

**"sea area A2"** 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;

**"sea area A3"** means an area, excluding sea areas A1 and A2, within the coverage of an INMARSAT geostationary satellite in which continuous alerting is available;

**"sea area A4"** means an area outside sea areas A1, A2 and A3;

**"service"**, in relation to a reference to any particular type of radio communication service, means a reference to that service as defined in the ITU Radio Regulations;

**"ship station"** means a mobile station, other than a survival craft station, in the maritime mobile service located on board a ship that is not permanently moored;

**"silence period"** means a period of 3 minutes beginning at each hour and at 30 minutes past each hour, on the frequency 2182 kHz;

**"similar stage of construction"** means the stage at which—

- (a) construction identifiable with a specific ship begins; and
- (b) assembly of the ship has commenced and comprises at least 50 tons or one per cent of the estimated mass of all structural material, whichever is less;

**"survival craft"** means a vessel that is capable of sustaining the lives of persons in distress after abandoning ship;

**"survival craft station"** means a mobile station in the maritime mobile service intended solely for survival purposes and located on any lifeboat, life-raft or other survival equipment;

**"the Act"** means the Merchant Shipping Act, 1951 (Act No. 57 of 1951);

**"ton"**, in relation to a ship, means its gross tonnage calculated in accordance with the tonnage measurement regulations contained in Annex 1 to the Tonnage Convention;

**"VHF"** means the frequency spectrum between 30 MHz and 300 MHz;

**"VHF coast station"** means a radio communication service located on the coast offering services in the very high frequency band (30–300 MHz);

**"VHF radiotelephone installation"** means the equipment operating in the frequency band 156.025–162.025 MHz;

**"VHF radiotelephone station"** means the place on board a ship where a VHF radiotelephone installation is located;

**"waters under South African jurisdiction"** means—

- (a) the internal and territorial waters of the Republic; and
- (b) the exclusive economic zone of the Republic.

(2) For the purposes of these regulations, a ship is to be taken to be at sea at any time when it is not securely ashore or moored in a safe berth.

### Application

3. (1) Subject to this regulation, these regulations apply to—



- (a) ships that are registered or licensed in the Republic wherever they may be; and
- (b) other ships while they are in the Republic or its territorial waters.
  - (2) Regulations 5, 6 and Part 2 apply to Convention ships and class A fishing vessels.
  - (3) Regulations 5, 6 and Part 3 apply to non-Convention ships, other than class A fishing vessels.
  - (4) Parts 4 and 5 apply both to Convention ships and to non-Convention ships.
  - (5) A provision of these regulations does not apply to a ship that is registered or licensed in the Republic in the waters of a country other than the Republic where the provision is inconsistent with a law of that country which, by its terms, applies to the ship when in the waters of that country.
  - (6) These regulations do not apply to—
    - (a) ships of less than 25 tons; or
    - (b) pleasure vessels of less than 100 tons.

#### **Equivalentents and exemptions**

4. (1) Where these regulations require that a particular fitting, material, appliance, apparatus, item of equipment, or type thereof, must be fitted or carried in a ship, or that any particular provision must be made, or any procedure or arrangement must be complied with, the Authority may allow any other fitting, material, appliance, apparatus, item of equipment, or type thereof, to be fitted or carried, or any other provision, procedure or arrangement to be made in that ship if it is satisfied by trial thereof or otherwise that such other fitting, material, appliance, apparatus, item of equipment, or type thereof, or that any particular provision, procedure or arrangement is at least as effective as that required by these regulations.

(2) For the purposes of these regulations, the results of a verification or test is to be accepted if the verification or test was carried out—

- (a) in accordance with these regulations or with a standard, code of practice, specification or technical description of a Convention State offering equivalent levels of safety, suitability and fitness for the purpose; and
- (b) by a person in a Convention State offering suitable and satisfactory guarantees of technical and professional competence and independence.

(3) The Authority may exempt any individual ship or class of ships from any of the provisions of Part 3 or 4, on such terms (if any) as it may specify, and may, after reasonable notice, alter or cancel any such exemption.

#### **Ships and persons in distress**

5. Nothing in these regulations is to be taken to prevent any ship, survival craft or persons in distress from using any means at their disposal to attract attention, make known their position or obtain help.

**Performance standards**

6. (1) Subject to subregulation (2), equipment required by these regulations must—

- (a) in the case of Convention ships, comply with performance standards not inferior to the relevant performance standards adopted by the IMO and specified by the Authority in a marine notice as having been so adopted; and
- (b) in the case of non-Convention ships, comply with such performance standards as may be specified by the Authority in a marine notice; and
- (c) in either case, be of a type approved by the Independent Communications Authority of South Africa.

(2) In respect of a ship entitled to fly the flag of a Convention State, subregulation (1)(c) does not apply to equipment of a type approved by or on behalf of the competent maritime authority of that State.

(3) Every approval given pursuant to this regulation—

- (a) must be given in writing;
- (b) must specify the date on which it takes effect and the conditions (if any) on which it is given; and
- (c) may, after reasonable notice, be altered or cancelled.

**PART 2****GMDSS REQUIREMENTS****Functional requirements**

7. Every ship to which this Part applies, while at sea, must be capable of—

- (a) transmitting ship-to-shore distress alerts by at least two separate and independent means, each using a different radiocommunication service, other than by the means provided for in regulation 11(1)(a) and paragraph (d)(iii) of ALTERNATIVE A in regulation 13(1);
- (b) receiving shore-to-ship distress alerts;
- (c) transmitting and receiving ship-to-ship distress alerts;
- (d) transmitting and receiving search and rescue co-ordinating communications;
- (e) transmitting and receiving on-scene communications;
- (f) transmitting and, as required by regulation V/12(g) and (h) of the Safety Convention, receiving signals for locating;
- (g) transmitting and receiving maritime safety information;
- (h) transmitting and receiving general radio communications to and from shore-based radio systems or networks; and
- (i) transmitting and receiving bridge-to-bridge communications.

**Installation, location and control of radio equipment**

8. (1) Every radio installation required by this Part must—

- (a) 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;
- (b) be so located as to ensure the greatest possible degree of safety and operational availability;
- (c) be protected against harmful effects of water, extremes of temperature and other adverse environmental conditions;
- (d) be provided with reliable, permanently arranged electrical lighting, independent of both the main and emergency sources of electrical power, for the adequate illumination of the radio controls for operating the radio installation; and
- (e) be clearly marked with the call sign, the ship station identity and such other codes as are applicable for the use of the radio installation.

(2) Control of the VHF radiotelephone channels required for navigational safety must be immediately available on the navigation bridge convenient to the conning position and, where necessary, facilities such as portable two-way VHF radio equipment must be available to permit radio communications from the wings of the navigation bridge.

(3) Each radio transmitter and receiver fitted in accordance with this Part must be provided with a suitable antenna or antennas, so constructed and sited to enable each transmitter and receiver to perform effectively its intended communication function.

(4) (a) Where a radio installation is provided with a wire transmitting antenna—

- (i) the antenna must be fitted with suitable insulators;
- (ii) if the antenna is suspended between supports liable to whipping, it must be protected against breakage; and
- (iii) a spare wire antenna, completely assembled for rapid replacement, must be provided.

(b) Where MF and MF/HF radio installations are provided with a transmitting antenna that is not a supported wire antenna, a spare antenna of similar electrical characteristics must be provided.

(5) Where in respect of any ship to which this Part applies it is impracticable to erect efficient and properly fitted antennas for broadcast receivers that do not interfere with the efficiency of the ship's radio installation, the ship must be provided with a communal antenna system for broadcast receivers.

**Installation of distress panel**

9. (1) In every passenger ship to which this Part applies a distress panel must be fitted at the conning position.

(2) The distress panel must—

- (a) contain either—
  - (i) one single button that, when pressed, initiates a distress alert using all radio communication installations required on board for that purpose; or

- (ii) one button for each individual installation;
  - (b) clearly, and visually indicate whenever any button on the distress panel has been pressed; and
  - (c) provide visual and aural indication of any distress alert or alerts received on board and indicate through which radio communication service the distress alert or alerts have been received
- (3) Means must be provided to prevent inadvertent activation of the button or buttons on the distress panel.
- (4) If the satellite EPIRB required by regulation 10(1)(f) is used as the secondary means of initiating a distress alert and is not capable of remote activation, an additional satellite EPIRB must be fitted in the wheelhouse near the conning position.
- (5) Information about the ship's position must continuously and automatically be provided to all relevant radio communication equipment to be included in the initial distress alert when the button or buttons on the distress panel is pressed.

#### **Radio equipment to be provided for all sea areas**

10. (1) Every ship to which this Part applies must be fitted with—
- (a) a VHF radio installation capable of transmitting and receiving—
    - (i) DSC on the frequency 156.525 MHz (channel 70), whereby it must be possible to initiate the transmission of distress alerts on channel 70 from the position from which the ship is normally navigated; and
    - (ii) radiotelephony on the frequencies 156.300 MHz (channel 6), 156.650 MHz (channel 13) and 156.800 MHz (channel 16);
  - (b) 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 (a)(i);
  - (c) a radar transponder capable of operating in the 9 GHz band, which—
    - (i) must be stowed so as to enable rapid placement in a survival craft; and
    - (ii) may be one of those required by regulation 39 for a survival craft;
  - (d) if the ship is at sea in an area in which an international NAVTEX service is provided, a receiver capable of receiving international NAVTEX service broadcasts;
  - (e) if the ship is at sea in an area of INMARSAT coverage but in which an international NAVTEX service is not provided, a radio facility for the reception of maritime safety information by the INMARSAT enhanced group calling system, unless the ship is at sea exclusively in areas in which an HF direct-printing telegraphy maritime safety information service is provided and is fitted with equipment capable of receiving that service;
  - (f) subject to regulation 11(3), a satellite EPIRB complying with the requirements of Annex 1.
- (2) Every passenger ship to which this Part applies must be provided with means for two-way on-scene radio communications 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.

**Additional radio equipment to be provided for area A1 ships**

11. (1) In addition to meeting the requirements of regulation 10, every area A1 ship must be fitted 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—

- (a) on VHF using DSC, which requirement may be met by the EPIRB specified in subregulation (3), if it is fitted close to, or capable of remote activation from, the position from which the ship is normally navigated; or
- (b) through the COSPAS-SARSAT satellite service in the 406 MHz band, which requirement may be met by the satellite EPIRB required by regulation 10(1)(f), if it is fitted close to, or capable of remote activation from, the position from which the ship is normally navigated; or
- (c) if the ship is at sea within coverage of MF coast stations equipped with DSC, on MF using DSC; or
- (d) on HF using DSC; or
- (e) through the INMARSAT geostationary satellite service, which requirement may be met by—
  - (i) an INMARSAT ship earth station; or
  - (ii) the satellite EPIRB required by regulation 10(1)(f), if it is fitted close to, or capable of remote activation from, the position from which the ship is normally navigated.

(2) The VHF radio installation required by regulation 10(1)(a) must also be capable of transmitting and receiving general radio communications using radiotelephony.

(3) An area A1 ship may, instead of being fitted with the satellite EPIRB required by regulation 10(1)(f), be fitted with a VHF EPIRB that is—

- (a) 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;
- (b) fitted in an easily accessible position;
- (c) ready to be manually released and capable of being carried by one person into a survival craft;
- (d) capable of floating free if the ship sinks;
- (e) capable of being activated manually; and
- (f) automatically activated when afloat.

**Additional radio equipment to be provided for area A2 ships**

12. (1) In addition to meeting the requirements of regulation 10, every area A2 ship must be fitted with—

- (a) an MF radio installation capable of transmitting and receiving, for distress and safety purposes, on the frequencies—
  - (i) 2187.5 kHz using DSC; and

- (ii) 2182 kHz using radiotelephony;
  - (b) 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 paragraph (a)(i); and
  - (c) means of initiating the transmission of ship-to-shore distress alerts by a radio communication service, other than MF, operating either—
    - (i) through the COSPAS-SARSAT satellite service in the 406 MHz band, which requirement may be met by the satellite EPIRB required by regulation 10(1)(f), if it is fitted close to, or capable of remote activation from, the position from which the ship is normally navigated; or
    - (ii) on HF using DSC; or
    - (iii) through the INMARSAT geostationary satellite service, which requirement may be met by—
      - (aa) the equipment specified in subregulation (3)(b); or
      - (bb) the satellite EPIRB required by regulation 10(1)(f), if it is fitted close to, or capable of remote activation from, the position from which the ship is normally navigated.
- (2) Means must be provided to initiate the transmission of distress alerts by the radio installations specified in subregulation (1)(a) and (c) from the position from which the ship is normally navigated.
- (3) An area A2 ship must, in addition, be capable of transmitting and receiving general radio communications using radiotelephony or direct-printing telegraphy by either—
- (a) a radio installation operating on working frequencies in the bands between 1605 kHz and 4000 kHz or between 4000 kHz and 27500 kHz, which requirement may be met by the addition of this capability in the equipment required by subregulation (1)(a); or
  - (b) an INMARSAT ship earth station.

#### **Additional radio equipment to be provided for area A3 ships**

13. (1) In addition to meeting the requirements of regulation 10, every area A3 ship must be fitted with either the following equipment:

#### **ALTERNATIVE A**

- (a) an INMARSAT ship earth station capable of—
  - (i) transmitting and receiving distress and safety communications using direct-printing telegraphy;
  - (ii) initiating and receiving distress priority calls;
  - (iii) maintaining watch for shore-to-ship distress alerts, including those transmitted to specifically defined geographical areas; and
  - (iv) transmitting and receiving general radio communications, using either radiotelephony or direct-printing telegraphy; and
- (b) an MF radio installation capable of transmitting and receiving, for distress and safety purposes, on the frequencies—

- (i) 2187.5 kHz using DSC; and
- (ii) 2182 kHz using radiotelephony;
- (c) 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 paragraph (b)(i) of this ALTERNATIVE; and
- (d) means of initiating the transmission of ship-to-shore distress alerts by a radio communication service operating either—
  - (i) through the COSPAS-SARSAT satellite service in the 406 MHz band, which requirement may be met by the satellite EPIRB required by regulation 10(1)(f), if it is fitted close to, or capable of remote activation from, the position from which the ship is normally navigated; or
  - (ii) on HF using DSC; or
  - (iii) through the INMARSAT geostationary satellite service, either by an additional ship earth station, or by the satellite EPIRB required by regulation 10(1)(f), if it is fitted close to, or capable of remote activation from, the position from which the ship is normally navigated,

or the following equipment:

#### **ALTERNATIVE B**

- (a) 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 27500 kHz using—
  - (i) DSC;
  - (ii) radiotelephony; and
  - (iii) direct-printing telegraphy; and
- (b) equipment capable of maintaining DSC watch on the frequencies 2187.5 kHz, 8414.5 kHz and on at least one of the distress and safety DSC frequencies 4207.5 kHz, 6312 kHz, 12577 kHz or 16804.5 kHz, which equipment must be such that it is possible at any time to select any of these DSC distress and safety frequencies, and which may be separate from, or combined with, that required by paragraph (a) of this ALTERNATIVE; and
- (c) means of initiating the transmission of ship-to-shore distress alerts by a radio communication service, other than HF, operating either—
  - (i) through the COSPAS-SARSAT satellite service in the 406 MHz band, which requirement may be met by the satellite EPIRB required by regulation 10(1)(f), if it is fitted close to, or capable of remote activation from, the position from which the ship is normally navigated; or
  - (ii) through the INMARSAT geostationary satellite service, which requirement may be met by—
    - (aa) an INMARSAT ship earth station; or
    - (bb) the satellite EPIRB required by regulation 10(1)(f), if it is fitted close to, or capable of remote activation from, the position from which the ship is normally navigated; and

- (d) an MF/HF radio installation capable of transmitting and receiving general radio communications on working frequencies in the bands between 1605 kHz and 4000 kHz and between 4000 kHz and 27500 kHz, using radiotelephony or direct-printing telegraphy, which requirement may be met by the addition of this capability in the equipment required by paragraph (a) of this ALTERNATIVE.

(2) Means must be provided to initiate the transmission of distress alerts by the radio installations specified in paragraphs (a), (b) and (d) of ALTERNATIVE A or paragraphs (a) and (c) of ALTERNATIVE B in subregulation (1) from the position from which the ship is normally navigated.

#### **Additional radio equipment to be provided for area A4 ships**

14. In addition to meeting the requirements of regulation 10, every area A4 ship must—

- (a) be fitted with the radio installations and equipment specified in paragraphs (a), (b), (c)(i) and (d) of ALTERNATIVE B in regulation 13(1); and
- (b) comply with the requirements of regulation 13(2).

#### **Radio watches**

15. (1) Every ship to which this Part applies, while at sea, must maintain a continuous watch—

- (a) on VHF DSC channel 70, if the ship, in accordance with regulation 10(1)(b), is fitted with a VHF radio installation;
- (b) on the distress and safety DSC frequency 2187.5 kHz, if the ship, in accordance with regulation 12(1)(b) or paragraph (c) of ALTERNATIVE A in regulation 13(1), is fitted with an MF radio installation;
- (c) on the distress and safety DSC frequencies 2187.5 kHz and 8414.5 kHz and on at least one of the distress and safety DSC frequencies 4207.5 kHz, 6312 kHz, 12577 kHz or 16804.5 kHz, appropriate to the time of day and the geographical position of the ship, if the ship, in accordance with paragraph (b) of ALTERNATIVE B in regulation 13(1) or in accordance with regulation 14, is fitted with an MF/HF radio installation; this watch may be kept by means of a scanning receiver;
- (d) for satellite shore-to-ship distress alerts, if the ship, in accordance with paragraph (a) of ALTERNATIVE A in regulation 13(1), is fitted with an INMARSAT ship earth station.

(2) Every ship to which this Part applies, while at sea, must 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 being navigated.

(3) From the commencement of these regulations until 1 February 2005 every ship to which this Part applies, while at sea, must maintain, when practicable, a continuous watch on VHF channel 16; this watch must be kept at the position from which the ship is normally navigated.



### Sources of energy

16. (1) There must be available at all times while a ship to which this Part applies is at sea a main source of energy sufficient to operate the radio installations required by this Part and to charge any batteries used as part of a reserve source or sources of energy for those radio installations.

(2) A reserve source or sources of energy must be provided on every ship to which this Part applies, 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.

(3) Subject to subregulations (4) to (12), the reserve source or sources of energy must be capable of simultaneously operating the VHF radio installation required by regulation 10(1)(a) and, as appropriate for the sea area or sea areas for which the ship is equipped, either—

- (a) the MF radio installation required by regulation 12(1)(a);
- (b) the MF/HF radio installation required by paragraph (a) of ALTERNATIVE B in regulation 13(1) or by regulation 14; or
- (c) the INMARSAT ship earth station required by paragraph (a) of ALTERNATIVE A in regulation 13(1),

and the additional loads mentioned in subregulations (7), (8) and (12), for the minimum period specified in subregulation (4).

(4) For the purposes of subregulation (3), the minimum period is—

- (a) in the case of ships constructed on or after 1 February 1995, one hour;
- (b) in the case of ships constructed before 1 February 1995—
  - (i) one hour, if the emergency source of electrical power complies with the relevant provisions of regulation II-1/42 or 43 of the Safety Convention, including the supply of such energy to the radio installations; or
  - (ii) six hours, if the emergency source of electrical power does not so comply, or no emergency source of electrical power is provided.

(5) The reserve source or sources of energy need not be capable of supplying independent HF and MF radio installations simultaneously.

(6) The reserve source or sources of energy must be independent of the ship's propelling power and main electrical system.

(7) Where, in addition to the VHF radio installation, two or more of the other radio installations referred to in subregulation (2) can be connected to the reserve source or sources of energy, such source or sources must be capable of simultaneously supplying, for the minimum period specified, as appropriate, in subregulation (4)(a) or (b), the VHF radio installation and either—

- (a) all other radio installations that can be connected to the reserve source or sources of energy at the same time; or
- (b) 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, whichever of the other radio installations will consume the most power.

(8) The reserve source or sources of energy may be used to supply the electrical lighting required by regulation 8(1)(d).

(9) Where a reserve source of energy consists of one or more rechargeable accumulator batteries—

- (a) a means of automatically charging each battery must be provided, that is capable of recharging them to minimum capacity requirements within 10 hours; and
- (b) the capacity of each battery must be checked at intervals not exceeding 12 months when the ship is not at sea.

(10) The siting and installation of a reserve source of energy consisting of one or more accumulator batteries must be such as to ensure—

- (a) the highest degree of service;
- (b) a reasonable lifetime;
- (c) reasonable safety;
- (d) that battery temperatures remain within the manufacturer's specifications, whether under charge or idle; and
- (e) that, when fully charged, the one or more batteries provide a reserve source of energy for at least the minimum period specified in subregulation (4), under all weather conditions.

(11) For the purpose of calculating the required capacity of the reserve source of energy, the total current used in calculations is to be equal to the sum of the total current consumption of all the radio installations that simultaneously can be connected to the source of energy, calculated by adding—

- (a) the current consumption of the VHF receiver;
- (b) one fifth of the current consumption of the VHF transmitter;
- (c) the current consumption of an MF or MF/HF receiver and of the transmitter when it is in such a condition that operation of the "press to transmit" switch will make it ready for immediate transmission;
- (d) one third of the current that may be drawn by an MF or MF/HF transmitter for speech transmission on the frequency at which the current consumption of the transmitter is at a maximum;
- (e) the current consumption of an INMARSAT ship earth station when it is receiving transmissions;
- (f) one quarter of the current that may be drawn by an INMARSAT ship earth station when it is transmitting in the mode at which the current consumption is at a maximum; and
- (g) the total current consumption of all additional loads to which the reserve source may supply energy in times of distress or emergency.

(12) If an uninterrupted input of information from the ship's navigational or other equipment to a radio installation required by this Part, including the navigation receiver referred to in regulation 20, is needed to ensure its proper performance, means must be provided to ensure the continuous input of such information in the event of failure of the ship's main or emergency source of electrical power.

### Serviceability and maintenance requirements

17. (1) Equipment required by this Part must be so designed that the main units can be replaced readily, without elaborate recalibration or readjustment.

(2) Where appropriate, the equipment must be so constructed and installed that it is readily accessible for inspection and on-board maintenance purposes.

(3) Adequate information, at least in the English language, must be provided on board the ship to enable the equipment to be properly operated and maintained.

(4) Adequate tools and spare parts must be provided on board the ship to enable the equipment to be maintained. Spare parts must be appropriately labelled and must be stowed in close proximity to the radio installation operating position.

(5) Radio equipment required by this Part must be maintained to provide the availability of the functional requirements specified in regulation 7 and to meet the performance standards recommended by the IMO for such equipment, as specified pursuant to regulation 6(1)(a).

(6) On ships while at sea the availability of the functional requirements specified in regulation 7 must be ensured in accordance with such requirements as the Authority may specify in a marine notice, taking into account the recommendations of the IMO.

(7) (a) The master of every ship to which this Part applies, being a ship that is registered or licensed in the Republic, must designate a person (in this subregulation called the designated person), being a person qualified as described in regulation 18(2), who is to have the function of carrying out, while the ship is at sea, the appropriate tests and checks specified in Annex 2.

(b) If any of the radio installations required by this Part is not in working order, the designated person must inform the master and record details of the deficiencies in the GMDSS radio log required by regulation 19.

### Radio operators

18. (1) Subject to section 73(4) of the Act, every ship to which this Part applies must carry the number of radio operators required by regulation 16 of the Merchant Shipping (Safe Manning) Regulations, 1999, each of whom must be a person who is qualified for distress and safety radio communications purposes as specified in subregulation (2)

(2) A person is qualified for the purposes of subregulation (1) where—

(a) in the case of an area A1 ship, he or she holds a GMDSS restricted operator's certificate or a GMDSS general operator's certificate, issued in accordance with Article S47 of the ITU Radio Regulations;

(b) in the case of an area A2, area A3 or area A4 ship, he or she holds a GMDSS general operator's certificate issued in accordance with Article S47 of the ITU Radio Regulations.

(3) The master of every passenger ship to which this Part applies must designate at least one such person as mentioned in subregulation (1) to perform only radio communications duties during distress incidents.

(4) The master of every ship to which this Part applies, other than a passenger ship, must designate one such person as mentioned in subregulation (1) to have primary responsibility for radio communications during distress incidents.

#### **Radio records**

19. (1) There must be kept in respect of every ship to which this Part applies a record (in this regulation called the GMDSS radio log) of the matters specified in Part 1 of Annex 3.

(2) The master must inspect and sign each day's entries in the GMDSS radio log.

(3) The master must, on demand, produce the GMDSS radio log for inspection by a surveyor or a proper officer.

(4) The GMDSS radio log forms part of the ship's official logbook, but is to be kept separate from the official logbook, and, for the purposes of section 187 of the Act, is deemed to be a document relating to the navigation of the ship.

#### **Position-updating**

20. All two-way radio communication equipment carried on board a ship to which this Part applies, that is capable of automatically including the ship's position in the distress alert, must be provided with this information from an internal or external navigation receiver, if either is fitted. If such a receiver is not fitted, the ship's position and the time at which the position was determined must be manually updated at intervals not exceeding four hours, while the ship is underway, so that it is always ready for transmission by the equipment.

#### **Exemptions from Part 2**

21. (1) The Authority may exempt any ship, on such terms as it may specify, from a provision in regulation 10, 11, 12, 13 or 14.

(2) When considering whether to exempt a ship, the Authority must take into account the effect of such exemption on the ship's ability to maintain proper communication for distress and safety purposes.

(3) An exemption may be granted under subregulation (1) only—

- (a) if the circumstances in relation to safety are such as to render the full application of regulation 10, 11, 12, 13 or 14, as the case may be, unreasonable or unnecessary; or
- (b) in exceptional circumstances, for a single voyage outside the sea area or sea areas for which the ship is equipped.

(4) The Authority may, after reasonable notice, alter or cancel any exemption granted under subregulation (1).

(5) The Authority must, within 30 days after the first day of January in each year, submit to the IMO a report showing all exemptions granted under this regulation during the previous calendar year in respect of ships to which the Safety Convention applies and giving the reasons for granting them.

**PART 3**  
**NON-GMDSS REQUIREMENTS**

**Provision of radio equipment**

22. (1) Every ship to which this Part applies must be fitted with a VHF radiotelephone installation that includes a transmitter and a receiver.

(2) Every ship to which this Part applies, being—

- (a) a passenger ship;
- (b) a cargo ship of 100 tons or more;
- (c) a cargo ship of less than 100 tons making a voyage more than 40 nautical miles from shore; or
- (d) a class B or C fishing vessel,

must be fitted with a radiotelephone installation that includes—

- (i) a transmitter and a receiver;
- (ii) a radiotelephone alarm signal generating device; and
- (iii) (aa) during the period expiring on <<the fourth anniversary of the commencement of these regulations>>, either—
  - (A) a 2182 kHz radiotelephone distress frequency watch receiver; or
  - (B) a receiver capable of receiving international NAVTEX service broadcasts; and

(bb) after that period, a receiver of the kind referred to in item (aa)(B).

(3) A satellite EPIRB of the kind referred to in regulation 10(1)(f) must be fitted—

- (a) on every ship to which this Part applies making a voyage outside waters under South African jurisdiction;
- (b) after the period expiring on <<the second anniversary of the commencement of these regulations>>, on every ship to which this Part applies, being—
  - (i) a new ship, other than a fishing vessel; or
  - (ii) a class C fishing vessel; and
- (c) after the period expiring on <<the fourth anniversary of the commencement of these regulations>>, on every ship to which this Part applies, being—
  - (i) an existing ship, other than a fishing vessel; or
  - (ii) a class D fishing vessel.

**Interference with reception and other installations**

23. (1) At no time while the ship is at sea is the operation of a radio installation required by this Part to prevent in any way the efficient operation of any other equipment installed on board the ship.