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basic equipment adjustments as denoted in the knowledge requirements specified in § 13.203 of this chapter.

(1) A qualified GMDSS radio operator must be designated to have primary responsibility for radiocommunications during distress incidents, except if the vessel operates exclusively within twenty nautical miles of shore, in which case a qualified restricted radio operator may be so designated.

(2) A second qualified GMDSS radio operator must be designated as backup for distress and safety radiocommunications, except if the vessel operates exclusively within twenty nautical miles of shore, in which case a qualified restricted GMDSS radio operator may be so designated.

(b) A qualified GMDSS radio operator, and a qualified backup, as specified in paragraph (a) of this section must be:

(1) Available to act as the dedicated radio operator in cases of distress as described in § 80.1109(a);

(2) Designated to perform as part of normal routine each of the applicable communications described in § 80.1109(b);

(3) Responsible for selecting HF DSC guard channels and receiving scheduled maritime safety information broadcasts;

(4) Designated to perform communications described in § 80.1109(c);

(5) Responsible for ensuring that the watches required by § 80.1123 are properly maintained; and

(6) Responsible for ensuring that the ship's navigation position is entered into all installed DSC equipment, either automatically through a connected or integral navigation receiver, or manually at least every four hours when the ship is underway.

[57 FR 9065, Mar. 16, 1992, as amended at 68 FR 46975, Aug. 7, 2003; 73 FR 4489, Jan. 25, 2008]

§ 80.1074 Radio maintenance personnel for at-sea maintenance.

(a) Ships that elect the at-sea option for maintenance of GMDSS equipment (see § 80.1105) must carry at least one person who qualifies as a GMDSS radio maintainer, as specified in paragraph (b) of this section, for the maintenance and repair of equipment specified in this subpart. This person may be, but need not be, the person designated as GMDSS radio operator as specified in § 80.1073.

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

(1) DM: GMDSS Maintainer's License;

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

(c) While at sea, all adjustments of radio installations, servicing, or maintenance of such installations that may affect the proper operation of the GMDSS station must be performed by, or under the immediate supervision and responsibility of, a qualified GMDSS radio maintainer as specified in paragraph (b) of this section.

(d) The GMDSS radio maintainer must possess the knowledge covering the requirements set forth in IMO Assembly on Training for Radio Personnel (GMDSS), Annex 5 and IMO Assembly on Radio Maintenance Guidelines for the Global Maritime Distress and Safety System related to Sea Areas A3 and A4.

[57 FR 9065, Mar. 16, 1992, as amended at 63 FR 49872, Sept. 18, 1998; 68 FR 46976, Aug. 7, 2003; 76 FR 67616, Nov. 2, 2011]

§ 80.1075 Radio records.

A record must be kept, as required by the Radio Regulations and § 80.409 (a), (b) and (e), of all incidents connected with the radiocommunication service which appear to be of importance to safety of life at sea.

§ 80.1077 Frequencies.

The following table describes the frequencies used in the Global Maritime Distress and Safety System:

Alerting:	
406.0–406.1 EPIRBs	406.0–406.1 MHz (Earth-to-space). 1544–1545 MHz (space-to-Earth).
INMARSAT Ship Earth Stations capable of voice and/or direct printing.	1626.5–1645.5 MHz (Earth-to-space).
VHF DSC Ch. 70	156.525 MHz.[1]
MF/HF DSC[2]	2187.5 kHz[3], 4207.5 kHz, 6312 kHz, 8414.5 kHz, 12577 kHz, and 16804.5 kHz.
On-scene communications:	
VHF Ch.16	156.8 MHz.
MF Radiotelephony	2182 kHz.
NBDP	2174.5 kHz.
Communications involving aircraft:	
On-scene, including search and rescue.	156.8 MHz[4], 121.5 MHz[5], 123.1 MHz, 156.3 MHz, 2182 kHz, 3023 kHz, 4125 kHz, and 5680 kHz.[6]
Locating signals:	
406–406.1 EPIRB Beacons	121.5 MHz.
9 GHz radar transponders	9200–9500 MHz.
Maritime safety information (MSI):	
International NAVTEX	518 kHz.[7]
Warnings	490 kHz, 4209.5 kHz.
NBDP	4210 kHz, 6314 kHz, 8416.5 kHz, 12579 kHz, 16806.5 kHz, 19680.5 kHz, 22376 kHz, 26100.5 kHz.
Satellite	1530–1545 MHz.[10]
General distress and safety communications and calling:	
Satellite	1530–1544 MHz (space-to-Earth) and 1626.5–1645.5 MHz (Earth-to-space).[10]
Radiotelephony	2182 kHz, 4125 kHz, 6215 kHz, 8291 kHz, 12290 kHz, 16420 kHz, and 156.8 MHz.
NBDP	2174.5 kHz, 4177.5 kHz, 6268 kHz, 8376.5 kHz, 12520 kHz, and 16695 kHz.
DSC	2187.5 kHz, 4207.5 kHz, 6312 kHz, 8414.5 kHz, 12577 kHz, 16804.5 kHz, and 156.525 MHz.
Survival craft:	
VHF radiotelephony	156.8 MHz and one other 156–174 MHz frequency
9 GHz radar transponders	9200–9500 MHz.

[1] Frequency 156.525 MHz can be used for ship-to-ship alerting and, if within sea area A1, for ship-to-shore alerting.

[2] For ships equipped with MF/HF equipment, there is a watch requirement on 2187.5 kHz, 8414.5 kHz, and one other frequency.

[3] Frequency 2187.5 kHz can be used for ship-to-ship alerting and, if within sea area A2, for ship-to-shore alerting.

[4] Frequency 156.8 MHz may also be used by aircraft for safety purposes only.

[5] Frequency 121.5 MHz may be used by ships for aeronautical distress and urgency purposes.

[6] The priority of use for ship-aircraft communications is 4125 kHz, then 3023 kHz. Additionally, frequencies 123.1 MHz, 3023 kHz and 5680 kHz can be used by land stations engaged in coordinated search and rescue operations.

[7] The international NAVTEX frequency 518 kHz is the primary frequency for receiving maritime safety information. The other frequencies are used only to augment the coverage or information provided on 518 kHz.

[8] [Reserved]

[9] [Reserved]

[10] In addition to EPIRBs, 1544–1545 MHz can be used for narrowband distress and safety operations and 1645.5–1646.5 MHz can be used for relay of distress alerts between satellites. Feeder links for satellite communications are assigned from the fixed satellite service, see 47 CFR § 2.106.

[11] [Reserved]

[69 FR 64678, Nov. 8, 2004, as amended at 73 FR 4489, Jan. 25, 2008; 76 FR 67616, Nov. 2, 2011]

EQUIPMENT REQUIREMENTS FOR SHIP STATIONS

§ 80.1081 Functional requirements.

Ships, while at sea, must be capable:

(a) Except as provided in §§ 80.1087(a)(1) and 80.1091(a)(4)(iii), of transmitting ship-to-shore distress alerts by at least two separate and independent means, each using a different radiocommunication service;

(b) Of receiving shore-to-ship distress alerts;

(c) Of transmitting and receiving ship-to-ship distress alerts;

(d) Of transmitting and receiving search and rescue co-ordinating communications;

(e) Of transmitting and receiving on-scene communications;

(f) Of transmitting and receiving signals for locating;

(g) Of transmitting and receiving maritime safety information;

(h) Of transmitting and receiving general radiocommunications to and from shore-based radio sytsems or networks; and

(i) Of transmitting and receiving bridge-to-bridge communications.

§ 80.1083 Ship radio installations.

(a) Ships must be provided with radio installations capable of complying with the functional requirements prescribed by § 80.1081 throughout its intended voyage and, unless exempted under § 80.1071, complying with the requirements of § 80.1085 and, as appropriate for the sea area of areas through which it will pass during its intended voyage, the requirements of either § 80.1087, § 80.1089, § 80.1091, or § 80.1093.

(b) The radio installation must:

(1) Be so located that no harmful interference of mechanical, electrical or other origin affects its proper use, and so as to ensure electromagnetic compatibility and avoidance of harmful interaction with other equipment and systems;

(2) Be so located as to ensure the greatest possible degree of safety and operational availability;

(3) Be protected against harmful effects of water, extremes of temperature and other adverse environmental conditions;

(4) Be provided with reliable, permanently arranged electrical lighting, independent of the main and emergency sources of electrical power, for the adequate illumination of the radio controls for operating the radio installation; and

(5) Be clearly marked with the call sign, the ship station identity and other codes as applicable for the use of the radio installation.

(c) Control of the VHF radiotelephone channels required for navigational safety must be immediately available on the navigating bridge convenient to the conning position and, where necessary, facilities should be available to permit radiocommunications from the wings of the navigating bridge. Portable VHF equipment may be used to meet the latter provision.

(d) Shipborne Integrated Radiocommunication System (IRCS) may be utilized to integrate all GMDSS equipment into a standard operator's console. Such installation must be certified in accordance with § 80.1103 and meet the requirements of IMO Resolution A.811(19) (incorporated by reference, *see* § 80.7).

(e) In passenger ships, a distress panel shall be installed at the conning position. This panel shall contain either one single button which, when pressed, initiates a distress alert using all radiocommunications installations required on board for that purpose or one button for each individual installation. The panel shall clearly and visually indicate whenever any button or buttons have been pressed. Means shall be provided to prevent inadvertent activation of the button or buttons. If the satellite EPIRB is used as the secondary means of distress alerting and is not remotely activated, it shall be acceptable to have an additional EPIRB installed in the wheelhouse near the conning position.

(f) In passenger ships, information on the ship's position shall be continuously and automatically provided to all relevant radiocommunications equipment to be included in the initial distress alert when the button or buttons on the distress panel is pressed.

(g) In passenger ships, a distress alarm panel shall be installed at the