

fully with all relevant requirements of SOLAS, Chapter II-1, Regulation 42 or 43 (as amended); or

(3) Six hours, on ships constructed before February 1, 1995, and on cargo ships of less than 500 tons gross tonnage, if the emergency source of electrical power is not provided or does not comply fully with all relevant requirements of SOLAS, Chapter II-1, Regulation 42 or 43 (as amended).

(c) The reserve sources of energy need not supply independent HF and MF radio installations at the same time. The reserve sources of energy must be independent of the propelling power of the ship and the ship's electrical system.

(d) Where, in addition to the VHF radio installation, two or more of the other radio installations, referred to in paragraph (b) of this section, can be connected to the reserve sources of energy, they must be capable of simultaneously supplying, for one hour, as specified in paragraph (b) of this section, the VHF radio installation and:

(1) All other radio installations which can be connected to the reserve 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 sources of energy at the same time as the VHF radio installation.

(e) The reserve sources of energy may be used to supply the electrical lighting required by § 80.1083(b)(4).

(f) Where a reserve source of energy consists of a rechargeable accumulator battery or batteries:

(1) A means of automatically charging such batteries must be provided which must be capable of recharging them to minimum capacity requirements within 10 hours; and

(2) The capacity of the battery or batteries must be checked, using an appropriate method, at intervals not exceeding 12 months. These checks must be performed when the vessel is not at sea.

(g) The accumulator batteries which provide a reserve source of energy must be installed to ensure: The highest degree of service, a reasonable lifetime, reasonable safety; that the battery temperatures remain within the manu-

facturer's specifications whether under charge or idle; and that when fully charged, the batteries will provide at least the minimum required hours of operation under all weather conditions.

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

(i) An uninterruptible power supply or other means of ensuring a continuous supply of electrical power, within equipment tolerances, shall be provided to all GMDSS equipment that could be affected by normal variations and interruptions of ship's power.

§ 80.1101 Performance standards.

(a) The abbreviations used in this section are as follows:

(1) International Maritime Organization (IMO).

(2) International Telegraph and Telephone Consultative Committee (CCITT).

(3) International Electrotechnical Commission (IEC).

(4) International Organization for Standardization (ISO).

(5) International Radio Consultative Committee (CCIR).

(b) All equipment specified in this subpart must meet the general requirements for shipboard equipment listed in this paragraph, which are incorporated by reference.

(1) IMO Resolution A.694(17), "General Requirements for Shipborne Radio Equipment Forming Part of the Global Maritime Distress and Safety System (GMDSS) and for Electronic Navigational Aids," adopted 6 November 1991.

(2) CCITT Recommendation E.161, "Arrangement of Figures, Letters and Symbols on Telephones and Other Devices that Can Be Used for Gaining Access to a Telephone Network," 1989.

(3) CCITT Recommendation Q.11, "Numbering Plan for the International Telephone Service," 1989.

(4) IEC Publication 92-101, "Electrical Installations in Ships," Third Edition 1980 with amendments through 1984.

(5) IEC Publication 533, "Electromagnetic Compatibility of Electrical and Electronic Installations in Ships," First Edition 1977.

(6) IEC Publication 945, "Marine Navigational Equipment," First Edition 1988.

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

(c) The equipment specified in this subpart must also conform to the appropriate performance standards listed below which are incorporated by reference.

(1) *NAVTEX receivers*: (i) IMO Resolution A.525(13), "Performance Standards for Narrow-band Direct Printing Telegraph Equipment for the Reception of Navigational and Meteorological Warnings and Urgent Information to Ships," adopted 17 November 1983.

(ii) CCIR Recommendation 540-2, "Operational and Technical Characteristics for an Automated Direct-printing Telegraph System for Promulgation of Navigational and Meteorological Warnings and Urgent Information to Ships," 1990.

(2) *VHF radio equipment*: (i) IMO Resolution A.609(15), "Performance Standards for Shipborne VHF Radio Installations Capable of Voice Communication and Digital Selective Calling," adopted 19 November 1987.

(ii) CCIR Recommendation 493-4, "Digital Selective-calling System for use in the Maritime Mobile Service," 1990.

(3) *MF radio equipment*: (i) IMO Resolution A.610(15), "Performance Standards for Shipborne MF Radio Installations Capable of Voice Communication and Digital Selective Calling," adopted 19 November 1987.

(ii) CCIR Recommendation 493-4, "Digital Selective-calling System for use in the Maritime Mobile Service," 1990.

(4) *MF/HF radio equipment*: (i) IMO Resolution A.613(15), "Performance Standards for Shipborne MF/HF Radio Installations capable of Voice Communication, Narrow-band Direct Printing and digital Selective Calling," adopted 19 November 1987.

(ii) CCIR Recommendations 493-4, "Digital Selective-calling System for

use in the Maritime Mobile Service," 1990.

(iii) CCIR Recommendation 625-1, "Direct-printing Telegraph Equipment Employing Automatic Identification in the Maritime Mobile Service," 1990. Equipment may conform to CCIR Recommendation 476-4, "Direct-Printing Telegraph Equipment in the Maritime Mobile Service," 1986, in lieu of CCIR Recommendation 625-1, where such equipment was installed on ships prior to February 1, 1993.

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

(5) *406 MHz EPIRBs*: (i) IMO Resolution A.611(15), "Performance Standards for Float-free Satellite Emergency Position-indicating Radio Beacons Operating on 406 MHz," adopted 19 November 1987.

(ii) IMO Resolution A.662(16), "Performance Standards for Float-free Release and Activation Arrangements for Emergency Radio Equipment," adopted 19 October 1989.

(iii) OCIR Recommendation 633-1, "Transmission Characteristics of a Satellite Emergency Position-indicating Radiobeacon (Satellite EPIRB) System Operating Through a Low Polar-orbiting Satellite System in the 406 MHz Band," 1990.

(iv) The 406 MHz EPIRBs must also comply with § 80.1061.

(6) *9 GHz radar transponders*: (i) IMO Resolution A.604(15), "Performance Standards for Survival Craft Radar Transponders for Use in Search and Rescue Operations," adopted 19 November 1987.

(ii) CCIR Recommendation 628-1, Technical Characteristics for Search and Rescue Radar Transponders," 1990.

(7) *Two-way VHF radiotelephone*: IMO Resolution A.605(15), "Performance Standards for Survival Craft Two-way VHF Radiotelephone Apparatus," adopted 19 November 1987.

(8) *INMARSAT-A SES*: IMO Resolution A.698(17), "Performance Standards for Ship Earth Stations Capable of Two-way Communications," adopted 6 November 1991.

(9) INMARSAT-C SES: IMO Resolution A.663(16), "Performance Standards for INMARSAT Standard-C Ship Earth Stations Capable of Transmitting and Receiving Direct-printing Communications," adopted 19 October 1989.

(10) *INMARSAT EGC*: IMO Resolution A.664(16), "Performance Standards for Enhanced Group Call Equipment," adopted 19 October 1989.

(d) The above-referenced documents have been approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Identification data and place to purchase for each of the above-reference documents are listed as follows:

(1) Copies of IMO Resolutions, the 1974 SOLAS Convention, and the 1983 and 1988 amendments to the 1974 SOLAS Convention can be purchased from Publications, International Maritime Organization, 4 Albert Embankment, London SE1 7SR, United Kingdom.

(i) IMO resolution A.525(13) is contained in the Resolutions and Other Decisions of the Assembly of the International Maritime Organization, 13th Session, 1983, (IMO, London, 1984), Sales Number 073 84.07.E.

(ii) IMO Resolutions A.604(15), A.605(15), A.610(15), A.611(15) and A.613(15) are contained in the Resolutions and Other Decisions of the Assembly of the International Maritime Organization, 15th Session, 1987, (IMO, London, 1988), Sales Number 130 88.03.E.

(iii) IMO Resolutions A.662(16), A.663(16) and A.664(16) are contained in the Resolutions and Other Decisions of the Assembly of the International Maritime Organization, 16th Session, 1989, (IMO, London, 1990), Sales Number 136 90.04.E

(iv) IMO Resolutions A.694(17), A.698(17), and A.700(17) can be ordered from IMO by requesting "A.694, A.698, or A.700(17) from the seventeenth session." IMO Resolutions A.694(17), A.698(17), and A.700(17) will be published in the Resolutions and Other Decisions of the Assembly of the International Maritime Organization, 17th Session, 1991.

(2) CCIR Recommendations, ITU Radio Regulations, and CCITT publications can be purchased from the Inter-

national Telecommunications Union (ITU), Place des Nations, CH-1211 Geneva 20, Switzerland.

(i) All CCIR Recommendations referenced in this section are contained in Recommendations of the CCIR, 1990, Volume VIII, (ITU, Geneva, 1990), 92-61-0424104.

(ii) CCITT Recommendation E.161 is contained in CCITT Volume II—Telephone and Network ISDN—Operation, Numbering, Routing and Mobile Service, (ITU, Geneva, 1989), ISBN 92-61-03261-3.

(iii) CCITT Recommendation Q.11 is contained in CCITT Blue Book Volume VI, General Recommendation on Telephone Switching and Signalling, (ITU, Geneva, 1989), ISBN 92-61-03451-9.

(3) IEC Publications can be purchased from the International Electrotechnical Commission, 3 Rue de Varembe, CH-1211 Geneva 20, Switzerland, or from the American National Standards Institute (ANSI), 11 West 42nd Street, New York, NY 10036, telephone (212) 642-4900.

(4) ISO Standards can be purchased from the International Organization for Standardization, 1 Rue de Varembe, CH-1211 Geneva 20, Switzerland, or from the American National Standards Institute (ANSI), 11 West 42nd Street, New York, NY 10036, telephone (212) 642-4900.

(5) Copies of the publications listed in this section that are incorporated by reference may be inspected at the Federal Communications Commission, 1919 M Street, NW., Dockets Branch (room 239), Washington, DC or at the Office of the Federal Register, 800 North Capital Street, NW., suite 700, Washington, DC.

[57 FR 44701, Sept. 29, 1992]

§ 80.1103 Equipment authorization.

(a) All equipment specified § 80.1101 must be certificated in accordance with 47 CFR part 2 specifically for GMDSS use, except for equipment used in the INMARSAT space segment which must be type-approved by INMARSAT and verified in accordance with 47 CFR part 2 specifically for GMDSS use. The technical parameters of the equipment must conform to the performance standards as specified in § 80.1101. For emergency position-indicating radiobeacons operating on 406