

**§ 80.268 Technical requirements for radiotelephone installation.**

All radiotelephone installations in radiotelegraph equipped vessels must meet the following conditions.

(a) The radiotelephone transmitter must be capable of transmission of A3E or H3E emission on 2182 kHz and must be capable of transmitting clearly perceptible signals from ship to ship during daytime, under normal conditions over a range of 150 nautical miles when used with an antenna system in accordance with paragraph (c) of this section. The transmitter must:

(1) Have a duty cycle which allows for transmission of the radiotelephone alarm signal described in § 80.221.

(2) Provide 25 watts carrier power for A3E emission or 60 watts peak power on H3E emission into an artificial antenna consisting of 10 ohms resistance and 200 picofarads capacitance or 50 ohms nominal impedance to demonstrate compliance with the 150 nautical mile range requirement.

(3) Have a visual indication whenever the transmitter is supplying power to the antenna.

(4) Have a two-tone alarm signal generator that meets § 80.221.

(5) This transmitter may be contained in the same enclosure as the receiver required by paragraph (b) of this section. These transmitters may have the capability to transmit J2D or J3E transmissions.

(b)(1) The radiotelephone receiver must receive A3E and H3E emissions when connected to the antenna system specified in paragraph (c) this section and must be preset to 2182 kHz. The receiver must additionally:

(i) Provide an audio output of 50 milliwatts to a loudspeaker when the RF input is 50 microvolts. The 50 microvolt input signal must be modulated 30 percent at 400 Hertz and provide at least a 6 dB signal-to-noise ratio when measured in the rated audio bandwidth.

(ii) Be equipped with one or more loudspeakers capable of being used to maintain a watch on 2182 kHz at the principal operating position or in the room from which the vessel is normally steered.

(2) This receiver may be contained in the same enclosure as the transmitter

required by paragraph (a) of this section. These receivers may have the capability to receive J2D or J3E transmissions.

(c) The antenna system must be as nondirectional and efficient as is practicable for the transmission and reception of radio ground waves over seawater. The installation and construction of the required antenna must ensure, insofar as is practicable, proper operation in time of emergency. If the required antenna is suspended between masts or other supports subject to whipping, a safety link must be installed which under heavy stress will reduce breakage of the antenna, the halyards, or any other supporting elements.

(d) The radiotelephone installation must be provided with a device for permitting changeover from transmission to reception and vice versa without manual switching.

(e) An artificial antenna must be provided to permit weekly checks, without causing interference, of the automatic device for generating the radiotelephone alarm signal on frequencies other than the radiotelephone distress frequency.

(f) The radiotelephone installation must be located in the radiotelegraph operating room or in the room from which the ship is normally steered.

(g) Demonstration of the radiotelephone installation may be required by Commission representatives to show compliance with applicable regulations.

(h) The radiotelephone installation must be protected from excessive currents and voltages.

(i) The radiotelephone installation must be maintained in an efficient condition.

[51 FR 31213, Sept. 2, 1986. Redesignated and amended at 68 FR 46973, Aug. 7, 2003; 73 FR 4483, Jan. 25, 2008]

**§ 80.271 Technical requirements for portable survival craft radiotelephone transceivers.**

(a) Portable survival craft radiotelephone transceivers must comply with the following:

(1) The transceivers must receive and transmit either on 457.525 MHz or on 156.800 MHz;

(2) The receiver must comply with the requirements in part 15, subpart C of this chapter and must have a sensitivity of not more than 2 microvolts. The sensitivity requirement must be met using the receiver sensitivity measurement procedure specified in the Radio Technical Commission for Marine Services (RTCM) Special Committee No. 66 Report MMS-R2;

(3) The effective radiated power of the transmitter must be at least 0.1 watt;

(4) The transceivers must be battery powered and operate for at least four hours with a transmit to receive ratio of 1:9 with no significant adverse effect upon the performance of the device;

(5) The transceivers must have a permanently attached waterproof label with the statement “Complies with the FCC requirements for survival craft two-way radiotelephone equipment”; and

(6) The antenna must be permanently attached to the device or its removal must require the use of a special tool.

(b) Portable radiotelephone transceivers that are already certificated may be used to satisfy the survival craft radiotelephone requirement until October 1, 1993, provided the device meets the technical requirements in paragraphs (a) (1) through (3) of this section.

(c) Survival craft radiotelephone equipment installed after October 1, 1988, must be certificated to meet the requirements of this section.

(d) After October 1, 1993, all portable radiotelephone transceivers that are used to satisfy the survival craft radiotelephone requirement must have been certificated to meet the requirements of this section.

(e) Portable radiotelephone transceivers which are certified to meet the requirements of this section must be identified by an appropriate note in the Commission’s database.

[51 FR 31213, Sept. 2, 1986, as amended at 63 FR 36607, July 7, 1998; 73 FR 4483, Jan. 25, 2008]

**§ 80.273 Technical requirements for radar equipment.**

(a) Radar installations on board ships that are required by the Safety Convention or the U.S. Coast Guard to be

equipped with radar must comply with the documents referenced in the following paragraphs of this section. These documents contain specifications, standards and general requirements applicable to shipboard radar equipment and shipboard radar installations. For purposes of this part the specifications, standards and general requirements stated in these documents are mandatory irrespective of discretionary language. The standards listed in this section are incorporated by reference. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of these standards can be inspected at the Federal Communications Commission, 445 12th Street, SW., Washington, DC (Reference Information Center) or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html). The IMO standards can be purchased from International Maritime Organization (IMO), Publications, International Maritime Organization, 4 Albert Embankment, London SE1 7SR, United Kingdom; telephone 011 44 71 735 7611. 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) through its NSSN operation ([www.nssn.org](http://www.nssn.org)), at Customer Service, American National Standards Institute, 25 West 43rd Street, New York, NY 10036, telephone (212) 642-4900. ITU documents can be purchased from the International Telecommunication Union (ITU), Place des Nations, CH-1211 Geneva 20, Switzerland ([www.itu.int](http://www.itu.int)).

(b) Radar installed on or after March 25, 2008 on ships of 300 tons gross tonnage and upwards, and radar installed on a ship after March 25, 2008, and certificated by the U.S. Coast Guard under the IMO Code for the Safety of High Speed Craft (Resolution MSC.36(63), May 20, 1994, with Supplement (2002) must comply with: