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(b) When the power supply for a non-portable bridge-to-bridge radiotelephone installation consists of or includes batteries, they must be installed as high above the bilge as practicable, secured against shifting with motion of the vessel, and accessible with not less than 26 cm (10 in.) head room.

(c) Means must be provided for adequately charging any rechargeable batteries used in the vessel's bridge-to-bridge radiotelephone installation. There must be provided a device which will give a continuous indication of the charging current during charging.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44954, Aug. 25, 1993]

§ 80.1017 Antenna system.

(a) An antenna must be provided for nonportable bridge-to-bridge radiotelephone installations which is non-directional and vertically polarized. The construction and installation of this antenna must insure proper operation in time of an emergency.

(b) In cases where portable bridge-to-bridge equipment is permanently associated with a vessel, the equipment must be provided with a connector for an external antenna of a type capable of meeting requirements of paragraph (a) of this section and § 80.71. The vessel must be equipped with an external antenna meeting requirements of paragraph (a) of this section and § 80.71, capable of use with the portable equipment during a normal listening watch.

§ 80.1019 Antenna radio frequency indicator.

Each nonportable bridge-to-bridge transmitter must be equipped, at each point of control, with a carrier operated device which will provide continuous visual indication when the transmitter is supplying power to the antenna transmission line or, in lieu thereof, a pilot lamp or meter which will provide continuous visual indication when the transmitter control circuits have been placed in a condition to activate the transmitter.

[52 FR 35246, Sept. 18, 1987]

§ 80.1021 Nameplate.

A durable nameplate must be mounted on the required radiotelephone or be

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an integral part of it. When the transmitter and receiver comprise a single unit, one nameplate is sufficient. The nameplate must show at least the name of the manufacturer and the type or model number.

§ 80.1023 Test of radiotelephone installation.

Unless normal use of the required radiotelephone installation demonstrates that the equipment is in proper operating condition, a test communication for this purpose must be made by a qualified operator each day the vessel is navigated. If the equipment is not in proper operating condition, the master must be promptly notified. The master must have it restored to effective operating condition as soon as possible.

Subpart V—Emergency Position Indicating Radiobeacons (EPIRB's)

§ 80.1051 Scope.

This subpart describes the technical and performance requirements for Classes A, B, C, and S, and Categories 1, 2, and 3 EPIRB stations.

[53 FR 37308, Sept. 26, 1988]

EFFECTIVE DATE NOTE: At 68 FR 46974, Aug. 7, 2003, § 80.1051 was revised, effective October 6, 2003. For the convenience of the user, the revised text is set forth as follows:

§ 80.1051 Scope.

This subpart describes the technical and performance requirements for Classes A, B, and S, and Categories 1, 2, and 3 EPIRB stations.

§ 80.1053 Special requirements for Class A EPIRB stations.

(a) A Class A EPIRB station must meet the following:

- (1) Float free of a sinking ship;
- (2) Activate automatically when it floats free of a sinking ship;
- (3) Have an antenna that deploys automatically when the EPIRB activates;
- (4) Use A3X emission on a mandatory basis and A3E and NON emissions on an optional basis on the frequencies 121.500 MHz and 243.000 MHz;
- (5) Transmission of A3E or NON emission must not exceed 90 seconds and must be followed by a transmission of at least three minutes of A3X emission;

each transmission of a synthesized and/or pre-recorded voice message must be preceded by the words "this is a recording";

(6) The effective radiated power must not be less than 75 milliwatts after 48 hours of continuous operation and without replacement or recharge of batteries.

(7) The mandatory A3X emission must be amplitude modulated with an audio signal swept downward between 1600 and 300 Hz. The sweeping range of the audio signal must be 700 Hz or greater. Its sweep repetition rate must be between 2 and 4 times per second. The modulation factor must be at least 0.85 and the modulation duty cycle must be at least 33%, but not more than 55%.

(8) EPIRBs manufactured on or after October 1, 1988; EPIRBs carried as part of a ship station to satisfy USCG equipment carriage requirements that are newly installed on or after April 1, 1989; EPIRBs carried as part of a ship station to satisfy USCG equipment carriage requirements on or after August 1, 1991; and EPIRBs that are newly installed as part of a voluntarily equipped ship station after August 1, 1991, must have a clearly defined carrier frequency distinct from the modulation sidebands for the mandatory emission, A3X, and if used, the A3E or NON emissions. On 121.500 MHz at least thirty per cent of the total power emitted during any transmission cycle with or without modulation must be contained within plus or minus 30 Hz of the carrier frequency. On 243.000 MHz at least thirty per cent of the total power emitted during any transmission cycle with or without modulation must be contained within plus or minus 60 Hz of the carrier frequency. Additionally, if the type of emission is changed during transmission the carrier frequency must not shift more than plus or minus 30 Hz on 121.500 MHz and not more than plus or minus 60 Hz on 243.000 MHz. The long term stability of the carrier frequency must comply with the requirements in §80.209(a) of this part.

(9) Have a visible or audible indicator which clearly shows that the device is operating. The indicator must be activated by the RF output power. The in-

dicator must be protected from damage due to dropping or contact with other objects;

(10) Float in calm water with at least the upper 5 cm (2 in.) of the EPIRB out of the water and the base of the antenna at least 5 cm (2 in.) above the water, with the antenna in a vertical position completely above the water surface;

(11) Be ballasted to right itself from a position of 90 degrees from its upright position in one second or less;

(12) Meet the requirements of paragraphs (a) (1) through (9) of this section after a free fall into water 3 times from a height of 20 meters (66 ft.);

(13) Bear a designation that indicates it is a "Class A" EPIRB;

(14) Have a positive means of turning the equipment off. When an on-off switch is employed a guard must be provided to prevent inadvertent operation.

(b) Class A EPIRB's must have a manually activated test switch which must be held in position for test operation and when released return the EPIRB to its normal state. A switch guard must be provided to prevent inadvertent activation. Class A EPIRB's must also have an associated test circuit and an RF output power indicator which in the test position must:

(1) Permit the operator to determine that the unit is operative;

(2) Switch the transmitter output to an artificial antenna equivalent to that of the EPIRB antenna;

(3) Reduce radiation to a level not to exceed 100 nanowatts at a distance of 30 meters (98 feet) irrespective of direction.

(c) EPIRBs manufactured on or after October 1, 1988, must be tested in accordance with subpart N, part 2 of this chapter. A report of the measurements must be submitted with each application for certification. EPIRBs that meet the output power characteristics of this section must have a permanent label prominently displayed on the outer casing stating, "Meets FCC Rules for improved satellite detection." This label, however, must not be placed on the equipment without authorization to do so by the Commission. Application for such authorization may be made either by submission

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of a new application for certification accompanied by the required fee and all information and test data required by parts 2 and 80 of this chapter or, for EPIRBs certificated prior to October 1, 1988, an application for modification accompanied by the required fee requesting such authorization, including appropriate test data and a showing that all units produced under the original certification authorization comply with the requirements of this paragraph without change to the original circuitry. If the intent is simply to add the proper label to an already approved and compliant EPIRB, a letter of notification prior to implementing the labeling requirements will be needed. This letter request should be sent to the attention of the Authorization and Evaluation Division, 7435 Oakland Mills Road, Columbus, Maryland 21046, attention EAB. The modulation, power and frequency stability requirements specified in paragraphs (a)(6), (a)(7) and (a)(8) of this section must be met under the environmental test conditions specified in subpart N, part 2 of this chapter.

(d) Vacuum tubes are not permitted in EPIRB's. The equipment must meet the requirements after extended periods of inaction while carried in vessels and subjected to the environmental conditions prescribed. Operation into any RF load from open to short must not cause continuing degradation in performance.

(e) EPIRBs must be powered by a battery contained within the transmitter case or in a battery holder that is rigidly attached to the transmitter case. The battery connector must be corrosion resistant and positive in action and must not rely for contact upon spring force alone. The useful life of the battery is the length of time that the battery can be stored under marine environmental conditions without the EPIRB transmitter peak effective radiated power falling below 75 milliwatts prior to 48 hours of continuous operation. The month and year of the battery's manufacture must be permanently marked on the battery and the month and year upon which 50 percent of its useful life will have expired must be permanently marked on both the battery and the outside of the trans-

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mitter. The batteries must be replaced if 50 percent of their useful life has expired or if the transmitter has been used in an emergency situation. EPIRBs manufactured after April 27, 1992 must display prominently on the outer case one of the following: The battery installation instructions, the title of the manual that contains such information, or the company name and address where the battery installation can be performed.

(f) The EPIRB must be waterproof and must not be accidentally activated by rain, seaspray, hose wash-down spray or storage in high humidity conditions. Standing water on the outer surface must not significantly affect its performance.

(g) Operating instructions understandable by untrained personnel must be permanently displayed on the equipment.

(h) The exterior of the equipment must have no sharp edges or projections. Means must be provided to fasten the EPIRB to a survival craft or person.

(i) The antenna must be deployable to its designed length and operating position in a foolproof manner. The antenna must be securely attached to the EPIRB and easy to de-ice. The antenna must be vertically polarized and omnidirectional.

[51 FR 31213, Sept. 2, 1986; 52 FR 35246, Sept. 18, 1987, as amended at 53 FR 8905, Mar. 18, 1988; 56 FR 11516, Mar. 19, 1991; 63 FR 36607, July 7, 1998]

EFFECTIVE DATE NOTE: At 68 FR 46974, Aug. 7, 2003, § 80.1053 was revised, effective October 6, 2003. For the convenience of the user, the revised text is set forth as follows:

§ 80.1053 Special requirements for Class A EPIRB stations.

Class A EPIRBs shall not be manufactured, imported, or sold in the United States on or after February 1, 2003. Operation of Class A EPIRB stations shall be prohibited after December 31, 2006. New Class A EPIRBs will no longer be certified by the Commission. Existing Class A EPIRBs must be operated as certified.

§ 80.1055 Special requirements for Class B EPIRB stations.

(a) A Class B EPIRB must meet the following: