

## Subpart S—Compulsory Radiotelephone Installations for Small Passenger Boats

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### §80.901 Applicability.

The provisions of Part III of Title III of the Communication Act require United States vessels which transport more than six passengers for hire while such vessels are being navigated on any tidewater within the jurisdiction of the United States adjacent or contiguous to the open sea, or in the open sea to carry a radiotelephone installation complying with this subpart. The provisions of Part III do not apply to vessels which are equipped with a radio installation for compliance with Part II of Title III of the Act, or for compliance with the Safety Convention, or to vessels navigating on the Great Lakes.

### §80.903 Inspection of radiotelephone installation.

Every vessel subject to Part III of Title III of the Communications Act must have a detailed inspection of the radio installation by an FCC-licensed technician in accordance with §80.59 once every five years. The FCC-licensed technician must use the latest FCC Information Bulletin, *How to Conduct an Inspection of a Small Passenger Vessel*. If the ship passes the inspection, the technician will issue a Communications Act Safety Radiotelephony Certificate. Communications Act Radiotelephony Certificates may be obtained from the Commission's National Call Center—(888) 225-5322—or from its forms contractor.

### §80.905 Vessel radio equipment.

(a) Vessels subject to part III of title III of the Communications Act that operate in the waters described in §80.901 must, at a minimum, be equipped as follows:

(1) Vessels operated solely within 20 nautical miles of land must be equipped with a VHF-DSC radiotelephone installation meeting the requirements of §80.1101(c)(2), except that a VHF radiotelephone installation without DSC capability is permitted until one year after the Coast

Guard notifies the Commission that shore-based sea area A1 coverage is established. Vessels in this category must not operate more than 20 nautical miles from land.

(2) Vessels operated beyond the 20 nautical mile limitation specified in paragraph (a)(1) of this section, but not more than 100 nautical miles from the nearest land, must be equipped with a MF-DSC frequency transmitter meeting the requirements of §80.1101(c)(3) and capable of transmitting J3E emission and a receiver capable of reception of J3E emission within the band 1710 to 2850 kHz, in addition to the VHF-DSC radiotelephone installation required by paragraph (a)(1) of this section, except that a MF radiotelephone installation without DSC capability is permitted until one year after the Coast Guard notifies the Commission that shore-based sea area A2 coverage is established. The MF or MF-DSC transmitter and receiver must be capable of operation on 2670 kHz.

(3) Vessels operated more than 100 nautical miles but not more than 200 nautical miles from the nearest land must:

(i) Be equipped with a VHF-DSC radiotelephone installation meeting the requirements of paragraph (a)(1) of this section, except that a VHF radiotelephone installation without DSC capability is permitted until one year after the Coast Guard notifies the Commission that shore-based sea area A1 coverage is established;

(ii) Be equipped with an MF-DSC radiotelephone transmitter and receiver meeting the requirements of paragraph (a)(2) of this section, except that a MF radiotelephone installation without DSC capability is permitted until one year after the Coast Guard notifies the Commission that shore-based sea area A2 coverage is established; and

(iii) Be equipped with either:

(A) A DSC-capable single sideband radiotelephone meeting the requirements of §80.1101(c)(4) and capable of operating on all distress and safety frequencies in the medium frequency and high frequency bands listed in §80.369(a) and (b), on all of the ship-to-shore calling frequencies in the high frequency bands listed in §80.369(d), and on at least four of the automated mutual-assistance vessel rescue (AMVER) system HF duplex channels (this requirement may be met by the addition of such frequencies to the radiotelephone installation required by paragraph (a)(2) of this section); or

(B) If operated in an area within the coverage of an INMARSAT maritime mobile geostationary satellite in which continuous alerting is available, a GMDSS-approved Inmarsat ship earth station.

(iv) Be equipped with a reserve power supply meeting the requirements of §§80.917(b), 80.919 and 80.921, and capable of powering the single sideband radiotelephone or the ship earth station (including associated peripheral equipment) required by paragraph (a)(3)(iii) of this section, including the navigation receiver referred to in §80.905(a)(5);

(v) Be equipped with a NAVTEX receiver conforming to the following performance standards: IMO Resolution A.525(13), as revised by IMO Resolution MSC.148(77) and ITU-R M.540-2 (all incorporated by reference, see §80.7);

(vi) Be equipped with a Category I 406-406.1 MHz satellite emergency position-indicating radiobeacon (EPIRB) meeting the requirements of §80.1061; and

(vii) Participate in the AMVER system while engaged on any voyage where the vessel is navigated in the open sea for more than 24 hours. Copies of the AMVER Bulletin are available at: AMVER Maritime Relations, USCG Battery Park Building, Room 201, New York, NY 10004-1499. Phone 212-668-7764; Fax 212-668-7684.

(4) Vessels operated more than 200 nautical miles from the nearest land must:

(i) Be equipped with two VHF-DSC radiotelephone installations meeting the requirements of paragraph (a)(1) of this section, except that VHF radiotelephone installations without DSC capability are permitted until one year after the Coast Guard notifies the Commission that shore-based sea area A1 coverage is established;

(ii) Be equipped with an MF-DSC radiotelephone transmitter and receiver meeting the requirements of paragraph (a)(2) of this section, except that a MF radiotelephone installation without DSC capability is permitted until one year after the Coast Guard notifies the Commission that shore-based sea area A2 coverage is established;

(iii) Be equipped with either:

(A) A DSC-capable independent single sideband radiotelephone meeting the requirements of paragraph (a)(3)(iii)(A) of this section and that is capable of operating on all distress and safety frequencies in the medium frequency and high frequency bands listed in §80.369(a) and (b), on all of the ship-to-shore calling frequencies in the high frequency bands listed in §80.369(d), and on at least four of the automated mutual-assistance vessel rescue (AMVER) system HF duplex channels; or

(B) If operated in an area within the coverage of an INMARSAT maritime mobile geostationary satellite in which continuous alerting is available, an INMARSAT B, C, M, or Fleet F77 ship earth station, or an INMARSAT A ship earth station if installed prior to February 12, 2004.

(iv) Be equipped with a reserve power supply meeting the requirements of §§80.917(b), 80.919 and 80.921, and capable of powering the single sideband radiotelephone or the ship earth station (including associated peripheral equipment) required by paragraph (a)(4)(iii) of this section, including the navigation receiver referred to in §80.905(a)(5);

(v) Be equipped with a NAVTEX receiver conforming to the following performance standards: IMO Resolution A.525(13), as revised by IMO Resolution MSC.148(77) and ITU-R M.540-2 (all incorporated by reference, see §80.7);

(vi) Be equipped with a Category I 406-406.1 MHz satellite emergency position-indicating radiobeacon (EPIRB) meeting the requirements of §80.1061;

(vii) Be equipped with an automatic radiotelephone alarm signal generator meeting the requirements of §80.221; and

(viii) Participate in the AMVER system while engaged on any voyage where the vessel is navigated in the open sea for more than 24 hours. Copies of the AMVER Bulletin are available at: AMVER Maritime Relations, USCG Battery Park Building, Room 201, New York, NY 10004-1499. Phone 212-668-7764; Fax 212-668-7684.

(5) Vessels must comply with the requirements for a navigation receiver or manual updating of position information contained in §80.1085(c).

(b) For a vessel that is navigated within the communication range of a VHF public coast station or U.S. Coast Guard station, but beyond the 20-nautical mile limitation specified in paragraph (a)(1) of this section, an exemption from the band 1605 to 2850 kHz installation requirements may be granted if the vessel is equipped with a VHF transmitter and receiver. An application for exemption must include a chart showing the route of the voyage or the area of operation of the vessel, and the receiving service area of the VHF public coast or U.S. Coast

Guard station. The coverage area of the U.S. Coast Guard station must be based on written information from the District Commander, U.S. Coast Guard, a copy of which must be furnished with the application. The coverage area of a public coast station must be computed by the method specified in subpart P of this part.

(c) The radiotelephone installation must be installed to insure safe operation of the equipment and to facilitate repair. It must be protected against the vibration, moisture, temperature, and excessive currents and voltages.

(d) A VHF-DSC radiotelephone installation or a remote unit must be located at each steering station except those auxiliary steering stations which are used only during brief periods for docking or for close-in maneuvering. A single portable VHF-DSC radiotelephone set meets the requirements of this paragraph if adequate permanent mounting arrangements with suitable power provision and antenna feed are installed at each operator steering station. Additionally, for vessels of more than 100 gross tons, the radiotelephone installation must be located at the level of the main wheelhouse or at least one deck above the vessel's main deck.

#### **§80.907 Principal operating position.**

The principal operating position of the radiotelephone installation on vessels over 100 gross tons must be in the room from which the vessel is normally steered while at sea. If the station can be operated from any location other than the principal operating position, a positive means must be provided at the principal operating position to take full control of the station.

#### **§80.909 Radiotelephone transmitter.**

(a) The medium frequency transmitter must have a peak envelope output power of at least 60 watts for J3E emission on 2182 kHz and at least one ship-to-shore working frequency within the band 1605 to 2850 kHz enabling communication with a public coast station if the region in which the vessel is navigated is served by a public coast station operating in this band.

(b) The single sideband radiotelephone must be capable of operating on maritime frequencies in the band 1710 to 27500 kHz with a peak envelope output power of at least 120 watts for J3E emission on 2182 kHz and J3E emission on the distress and safety frequencies listed in §80.369(b).

(c) The transmitter complies with the power output requirements specified in paragraphs (a) or (b) of this section when:

(1) The transmitter can be adjusted for efficient use with an actual ship station transmitting antenna meeting the requirements of §80.923 of this part; and

(2) The transmitter, with normal operating voltages applied, has been demonstrated to deliver its required output power on the frequencies specified in paragraphs (a) or (b) of this section into either an artificial antenna consisting of a series network of 10 ohms effective resistance and 200 picofarads capacitance or an artificial antenna of 50 ohms nominal impedance. An individual demonstration of power output capability of the transmitter, with the radiotelephone installation normally installed on board ship, may be required.

(d) The single sideband radiotelephone must be capable of transmitting clearly perceptible signals from ship to shore. The transmitter complies with this requirement if it is capable of enabling communication with a public coast station on working frequencies in the 4000 to 27500 kHz band specified in §80.371(b) of this part under normal daytime operating conditions.

#### **§80.911 VHF transmitter.**

(a) The transmitter must be capable of transmission of G3E emission on 156.800 MHz, 156.300 MHz, and on the ship-to-shore working frequencies necessary to communicate with public coast stations serving the area in which the vessel is navigated.

(b) The transmitter must be adjusted so that the transmission of speech normally produces peak modulation within the limits 75 percent and 100 percent.

(c) The transmitter must be certificated to transmit between 20 watts and 25 watts, on each of the frequencies 156.300 MHz, 156.800 MHz and on ship-to-shore public correspondence channels, into 50 ohms effective resistance when operated with a primary supply voltage of 13.6 volts DC.

(d) When an individual demonstration of the capability of the transmitter is necessary the output power requirements prescribed in this paragraph must be met as follows:

(1) Measurements of primary supply voltage and transmitter output power must be made with the equipment drawing energy only from ship's battery;

(2) The primary supply voltage, measured at the power input terminals to the transmitter, and the output power of the transmitter, terminated in a matching artificial load, must be measured at the end of 10 minutes of continuous operation of the transmitter at its full power output.

(3) The primary supply voltage must not be less than 11.5 volts.

(4) The transmitter output power must be not less than 15 watts.

(5) For primary supply voltages, measured in accordance with the procedures of this paragraph, greater than 11.5 volts, but less than 12.6 volts, the required transmitter output power shall be equal to or greater than the value calculated from the formula

$$P = 4.375(V) - 35.313$$

where V equals the measured primary voltage and P is the calculated output power in watts."

#### **§80.913 Radiotelephone receivers.**

(a) If a medium frequency radiotelephone installation is provided, the receiver must be capable of effective reception of J3E emissions, be connected to the antenna system specified by §80.923, and be preset to, and capable of accurate and convenient selection of, the frequencies 2182 kHz, 2638 kHz, and the receiving frequency(s) of public coast stations serving the area in which the vessel is navigated.

(b) If a single sideband radiotelephone installation is provided, the receiver must be capable of reception of H3E and J3E emissions on 2182 kHz and J3E emission on any receiving frequency authorized pursuant to §80.909 of this part.

(c) If a very high frequency radiotelephone installation is provided, the receiver used for maintaining the watch required by §80.303 must be capable of effective reception of G3E emission, be connected to the antenna system specified by §80.923 and be preset to, and capable of selection of, the frequencies 156.300 MHz, 156.800 MHz, and the receiving frequency(s) of public coast stations serving the area in which the vessel is navigated.

(d) One or more loudspeakers must be provided to permit reception on 2182 kHz or 156.800 MHz at the principal operating position and at any other place where listening is performed.

(e) Any receiver provided as a part of the radiotelephone installation must have a sensitivity of at least 50 microvolts in the case of MF equipment, and 1 microvolt in the case of HF or VHF equipment.

(f) The receiver required in paragraphs (a), (b) or (c) of this section must be capable of efficient operation when energized by the main source of energy. When a reserve source of energy is required pursuant to §80.905 or §80.917 of this part, the receiver must also be capable of efficient operation when energized by the reserve source of energy.

(g) The sensitivity of a receiver is the strength in microvolts of a signal, modulated 30 percent at 400 Hertz, required at the receiver input to produce an audio output of 50 milliwatts to the loudspeaker with a signal-to-noise ratio of at least 6 decibels. Evidence of a manufacturer's rating or a demonstration of the sensitivity of a required receiver computed on this basis must be furnished upon request of the Commission.

#### **§80.915 Main power supply.**

(a) There must be readily available for use under normal load conditions a main power supply sufficient to simultaneously energize the radiotelephone transmitter at its required antenna power, and the required receiver. Under this load condition the potential of the main power supply at the power input terminals of the radiotelephone installation must not deviate from its rated potential by more than 10 percent on vessels completed on or after March 1, 1957, nor by more than 15 percent on vessels completed before that date.

(b) When the main power supply consists of 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 batteries used as a main power supply. There must be a device which gives a continuous indication of the rate and polarity of the charging current during charging.

#### **§80.917 Reserve power supply.**

(a) Any small passenger vessel the keel of which was laid after March 1, 1957, must have a reserve power supply located on the same deck as the main wheel house or at least one deck above the vessel's main deck, unless the main power supply is so situated, if—

(1) The vessel is of more than 100 gross tons; or

(2) Beginning March 25, 2009:

(i) The vessel carries more than 150 passengers or has overnight accommodations for more than 49 persons; or

(ii) The vessel operates on the high seas or more than three miles from shore on Great Lakes voyages.

(b) The reserve power supply must be independent of the ship's propulsion and of any other electrical system, and be sufficient to simultaneously energize the radiotelephone transmitter at

its required output power, and the receiver. The reserve power supply must be available for use at all times.

(c) When the reserve power supply consists of 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.

(d) The reserve power supply must be located as near the required transmitter and receiver as practicable.

(e) All reserve power supply circuits must be protected from overloads.

(f) Means must be provided for charging any storage batteries used as a reserve power supply for the required radiotelephone installation. There must be a device which will give continuous indication of the rate and polarity of the charging current during charging.

(g) The cooling system of each internal combustion engine used as a part of the reserve power supply must be adequately treated to prevent freezing or overheating consistent with the season and route to be travelled by the particular vessel involved.

(h) Beginning January 2, 2013, any small passenger vessel that does not carry a reserve power supply must carry at least one VHF handheld radiotelephone.

#### **§80.919 Required capacity.**

If either the main or reserve power supply includes batteries, these batteries must have sufficient reserve capacity to permit proper operation of the required transmitter and receiver for at least 3 hours under normal working conditions.

#### **§80.921 Proof of capacity.**

(a) When directed by a representative of the Commission the vessel must prove by demonstration as prescribed in paragraphs (b), (c), (d) and (e) of this section, that the requirements of §80.919 are met.

(b) Proof of the ability of a storage battery used as a main or reserve power supply to operate over the 3-hour period established by a discharge test over the prescribed period of time, when supplying power at the voltage required for an electrical loss as prescribed by paragraph (d) of this section.

(c) When the required power supply consists of an engine-driven generator, proof of the adequacy of the engine fuel supply to operate the unit over the 3-hour period of time may be established by using as a basis the fuel consumption during a 1 hour period when supplying power, at the voltage required for operating an electrical load as prescribed by paragraph (d) of this section.

(d) In determining the required electrical load the following formula must be used:

(1) One-half of the current of the required transmitter at its rated output power; plus

(2) Current of the required receiver; plus

(3) Current of electric light, if required by §80.925; plus

(4) The sum of the current of all other loads the reserve power supply may provide in time of emergency.

(e) At the conclusion of the test specified in paragraphs (b) and (c) of this section, no part of the main or reserve power supply must have an excessive temperature rise, nor must the specific gravity or voltage of any storage battery be below the 90 percent discharge point.

#### **§80.923 Antenna system.**

An antenna must be provided in accordance with the applicable requirements of §80.81 of this part which is as efficient as practicable for the transmission and reception of radio waves. The construction and installation of this antenna must insure proper emergency operation.

#### **§80.925 Electric light.**

(a) If the vessel is navigated at night an electric light or dial lights which clearly illuminate the operating controls must be installed to provide illumination of the operating controls at the principal operating position.

(b) The electric light must be energized from the main power supply and, if a reserve power supply for the radiotelephone installation is required, from the reserve power supply.

#### **§80.927 Antenna radio frequency indicator.**

The transmitter must be equipped with a device which provides visual indication whenever the transmitter is supplying power to the antenna.

#### **§80.929 Nameplate.**

A durable nameplate must be mounted on the required radiotelephone equipment. When the transmitter and receiver comprise a single unit, one nameplate is sufficient. The nameplate must show the name of the manufacturer and the type or model number.

#### **§80.931 Test of radiotelephone installation.**

Unless normal use of the radiotelephone installation demonstrates that the equipment is in proper operating condition, a test communication on a required frequency in the 1605 to 27500 kHz band or the 156 to 162 MHz band 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.

#### **§80.933 General small passenger vessel exemptions.**

(a) Subject U.S. vessels less than 50 gross tons which are navigated not more than 300 meters (1,000 feet) from the nearest land at mean low tide are exempt from the provisions of title III, part III of the Communications Act.

(b) All U.S. passenger vessels of less than 100 gross tons, not subject to the radio provisions of the Safety Convention, are exempt from the radiotelegraph provisions of Part II of Title III of the Communications Act, provided that the vessels are equipped with a radiotelephone installation fully complying with subpart S of this part.

(c) These exemptions may be terminated at any time without hearing, if in the Commission's discretion, the need for such action arises.



[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44954, Aug. 25, 1993; 60 FR 58245, Nov. 27, 1995; 68 FR 46974, Aug. 7, 2003; 73 FR 4488, Jan. 25, 2008]

**§80.935 Station clock.**

Each station subject to this subpart must have a working clock or timepiece readily available to the operator.

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