

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.

**§ 80.808 Requirements of reserve installation.**

(a) All reserve radiotelegraph installations must comply with the following conditions, in addition to all other requirements:

(1) The reserve installation must be capable of being placed in operation within a maximum time of 1 minute.

(2) The reserve antenna must be installed and protected to ensure proper operation in time of an emergency.

(3) Effective October 14, 1986, the main antenna energized by the reserve transmitter on 500 kHz must produce at one nautical mile a minimum field strength of ten (10) millivolts per meter.

(4) The reserve transmitter must meet the requirements of § 80.255.

(5) The reserve receiver must receive A1A and A2B emissions on all frequencies within the band 405-535 kHz. It must have headphones. Additionally a loudspeaker may be provided for use in accordance with the provisions of § 80.313. The reserve receiver must be able to operate headphones or a loudspeaker when the receiver RF input is 100 microvolts.

(6) The reserve installation must be capable of being quickly connected with and tuned to the main antenna, and the reserve antenna if one is installed.

(7) Emergency electric lights, energized solely by the reserve power supply and connected to it through individual fuses must be provided. The emergency electric lights must illuminate the operating controls of the main and reserve radiotelegraph installations and the radio station clock. The emergency lighting circuits must avoid excessive voltage to the emergency lights during the charging of any batteries forming part of the reserve installation. The provisions of this paragraph do not preclude the use of any other power supply for energizing

these lights solely as an additional provision. If a separate emergency radiotelegraph operating room is provided, the requirements of this paragraph apply to it.

(8) The emergency electric lights must be controlled by two-way switches placed near the main entrance to the radiotelegraph operating room and at the radiotelegraph operating position, in all cases where the distance between these points is greater than 2.4 meters (8 feet). This requirement applies to stations which replace, or initially install the main or reserve radiotelegraph transmitter on and after May 26, 1965.

(9) There must be readily available under normal load conditions a reserve power supply for the reserve installation which must be independent of the propelling power of the ship and of any other electrical system. The reserve power supply must simultaneously energize the reserve transmitter at its required antenna power and the reserve receiver for at least 6 hours continuously under normal working conditions, and energize the automatic-alarm-signal keying device continuously for a period of 1 hour.

(10) The reserve power supply may be used to energize the following apparatus provided it has adequate capacity:

(i) The audible warning apparatus included as a component of an approved radiotelegraph auto alarm;

(ii) The VHF installation required by subpart R of this chapter simultaneously with the reserve transmitter in the case of distress, urgency and safety communications;

(iii) The VHF installation required by subpart R of this chapter alternately with the reserve transmitter. A switching device must be fitted to ensure alternate operation only in the case of distress, urgency and safety communications;

(iv) The radiotelephone alarm signal generator;

(v) The bridge-to-bridge VHF radiotelephone installation required by subpart U of this chapter.

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(11) The reserve power supply must be located as near to the reserve transmitter and reserve receiver as is practicable and must comply with all applicable rules and regulations of the United States Coast Guard. The switchboard of the reserve power supply must wherever possible, be situated in the radiotelegraph operating room. If it is not, it must be illuminated.

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

(13) Means must be provided for charging any batteries forming a part of the reserve installation, and such batteries must be maintained in a fully charged condition daily while at sea. There must be a device which, during charging of the batteries, gives a continuous indication of the rate and polarity of the charging current.

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

(b)(1) The shipowner, operating company, or station licensee, if directed by the Commission or its authorized representative must demonstrate that the reserve installation satisfies the 6-hour operating requirement of law.

(2) When the reserve power supply includes a battery, proof of the ability of such battery to operate continuously and effectively for 6 hours can be established by a discharge test over a prescribed period of time, when supplying power at the voltage required for normal operation to an electrical load as prescribed by paragraph (b)(4) of this section.

(3) When the reserve power supply includes an engine-driven generator, proof of the adequacy of the engine fuel supply to operate the unit continuously and effectively for 6 hours may be established by measuring the fuel consumption during 1 hour when supplying power, at the voltage required for normal operation, to an electrical load as prescribed by paragraph (b)(4) of this section.

(4) To determine the electrical load to be supplied by the reserve power supply, the following formula must be used:

(i) One-half of the reserve transmitter current with the key closed; plus

(ii) One-half of the reserve transmitter current with the key open; plus

(iii) One sixth of the current of the automatic radiotelegraph alarm signal keying device when this device is energized; plus

(iv) Current of the reserve receiver; plus

(v) Current of emergency lights; plus

(vi) Current of the bridge-to-bridge transceiver when connected.

(5) At the conclusion of the tests specified in paragraphs (b) (2) and (3) of this section, no part of the reserve power supply must have an excessive temperature rise, nor must the specific gravity or voltage of the battery be below the 90 percent discharge point.

[51 FR 31213, Sept. 2, 1986, as amended at 58 FR 44953, Aug. 25, 1993]

**§ 80.809 Routing of power supply wiring.**

The conductors connecting the main power supply to the main installation, the reserve supply to reserve installation and the radar power supply to the ship radar station, must be routed to ensure adequate protection from overload, mechanical injury and be kept clear of electrical grounds.

**§ 80.810 Use of reserve installation.**

The reserve transmitter, and the reserve power supply for the reserve transmitter, are primarily for safety and test communication. This equipment may be used for other communication for a period not to exceed 1 hour per day in the aggregate. The reserve receiver, and the reserve power supply for the reserve receiver if a battery, may be used at any time to maintain a safety watch if such use will not reduce the capabilities of the reserve power supply to energize the associated component or components of the reserve installation for at least 6 consecutive hours.

**§ 80.811 Tests of reserve installation and automatic-alarm-signal keying device.**

(a) The condition of the reserve installation and of the automatic alarm