

whilst still providing a simple means of operating in an emergency.

(6) The equipment shall be portable, lightweight and compact and be designed as one integral unit. The EPIRB shall derive its energy from a battery forming a part of the equipment and incorporate a permanently attached antenna which may be either of fixed length or extendable.

(7) The EPIRB shall be fitted with a testing facility by which the functioning of the transmitter and battery can be easily tested without the use of any external equipment.

(8) The equipment shall be capable of being used by an unskilled person and only be capable of manual activation and deactivation.

(9) The equipment shall withstand being dropped into water from a height of 20 metres without damage.

(10) The EPIRB shall be watertight, buoyant, self-righting and sufficiently stable to maintain the antenna substantially vertical under heavy swell conditions.

(11) The equipment shall be provided with an indication that signals are being emitted. The indication shall be either audible or visual indications clearly discernible under all ambient conditions.

(12) The EPIRB shall be provided with a firmly attached line in order that the equipment may be tethered in use. The line shall have a length of at least 20 metres and be capable of floating in sea water.

(13) A substantial part of the equipment shall be of highly visible yellow or orange colour to assist visual location.

(14) The equipment shall not be unduly affected by sea water or oil and shall be resistant to deterioration by prolonged exposure to sunlight.

**3. Controls**—(1) The equipment shall be initially activated by the use of two simple, but independent mechanical actions, neither of which on its own shall activate the equipment.

The equipment shall not be capable of automatic activation.

Initial activation shall break a seal which shall not be replaceable by the user. This seal shall not be broken when using the test facility.

(2) After activation, it shall be simple to de-activate the equipment.

(3) The switch which operates the test facility required by clause 2(7) of this Part shall be so designed that it automatically returns to the off-position when released.

**4. Labelling**—(1) The equipment shall be provided with a label, or labels, permanently affixed to the exterior of the equipment, containing the following information:

(a) Type designation of the equipment.

(b) Adequate instructions to enable the equipment to be activated and de-activated.

(c) The type of battery as specified by the manufacturer of the EPIRB.

(d) A warning to the effect that the EPIRB should not be operated except in an emergency.

(e) The date on which the battery is to be replaced. Simple means shall be provided for changing this date when the battery is replaced.

(f) Space on which the name and the call sign of the ship can be recorded.

**5. Operating instructions**— The EPIRB manufacturer shall provide all instructions and information regarding stowage, installation and operating of the EPIRB to ensure proper operation and to avoid false alarm.

**6. Power source**—(1) The battery provided as a source of power shall have sufficient capacity to operate the equipment

for an uninterrupted period of at least 48 hours under all temperature conditions within the requirements of clause 15(1) of Part II of this performance standard.

(2) The battery shall have a shelf life of at least 3 years and when fitted to the equipment shall not require replacement within 2 years. The type of battery specified by the manufacturer for use in the equipment, shall be clearly stated on the equipment.

(3) The battery shall be clearly and durably marked with the expiry date.

(4) Provisions shall be made for protecting the equipment from damage due to accidental reversal of polarity of the battery.

## **Part II**

### **Test Procedures for EPIRBs (Solos) for Use on Any Ship**

**7. General**—(1) The following test procedures are considered satisfactory for determining required performance under standard and stressed environmental conditions. Although specific test procedures are cited, it is recognised that other methods may be preferred. These alternative procedures may be used if they provide at least equivalent information.

(2) EPIRB testing should be conducted so as to avoid outside radiation on 121.5 MHz and 243 MHz. A screened room or metal enclosure should be used when testing on the operational frequencies.

(3) For bench or ground tests conducted outside of a screened enclosure, offset crystals should be used for operation on 122.0 MHz and 244 MHz.

(4) In all cases EPIRB testing should be coordinated with the Head Office of the Maritime Transport Division of the Ministry of Transport.

**8. Test facilities**—(1) Any test facility provided to indicate proper operation of the equipment shall not produce a field strength of greater than 25 microvolts per metre, whether the antenna is extended or not, measured at a distance of 50 metres from the beacon in any direction.

(2) In the absence of an integral test facility, the equipment shall not be tested in such a manner that a false distress alarm may result.

**9. Test fixture**—(1) If the equipment is not fitted with a 50 ohm output, the manufacturer shall supply a test fixture permitting relative measurements to be made on the submitted sample. This test fixture shall provide a 50 ohm radio frequency terminal at the working frequencies of the equipment.

(2) The performance characteristics of the test fixture under normal and extreme conditions shall be subjected to the approval of the testing authority. The following characteristics shall apply:

(a) the coupling loss shall be as low as possible and in no case greater than 30 dB;

(b) the variation of coupling loss with frequency shall not cause errors in the measurements exceeding 2 dB;

(c) The coupling device shall not incorporate any non-linear elements;

(d) the power consumption of the EPIRB shall not substantially change when fitted in the test fixture.

(3) Any connections provided on the equipment in order to facilitate relative measurements shall not affect the performance of the equipment either in the test fixture or