



Technical Information

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New Performance Standards for float-free EPIRBs operating on 406 MHz Recommended by IMO Resolution MSC.471(101)

The Maritime Safety Committee of International Maritime Organization (IMO), at its 101st session in 14 June 2019, adopted new performance standards for float-free emergency position-indicating radio beacons (EPIRBs) operating on 406 MHz by means of Resolution MSC.471(101).

Application and Compliance date

- **EPIRBs installed on or after 1 July 2022** should conform to performance standards and type-approval standards not inferior to those specified in the annex to MSC.471(101);
- **EPIRBs installed before 1 July 2022** should conform to performance standards not inferior to those specified in the annex to Resolution A.810(19), as amended by resolutions MSC.56(66) and MSC.120(74), and type-approval standards not inferior to those specified in resolution A.695(17).

Description & Main points

- The EPIRB should, in addition to meeting the requirements of the Radio Regulations, the relevant ITU-R Recommendations and the general requirements set out in resolution A.694(17), comply with the performance standards specified in the annex to MSC.471(101).
- The new requirement is that EPIRB should be provided with a GNSS receiver for position fixes, and supplement the relevant requirements of GNSS receiver position reporting.
- The new requirement is that EPIRB should be provided with a 121.5 MHz beacon primarily for homing by aircraft.
- The new requirement is that, when the EPIRB is manually operated a distress alert should be initiated only by means of a dedicated distress alert activator.
- The new requirement is that EPIRB should not be automatically activated after being manually removed from the release mechanism.
- The new requirement is that, when the EPIRB is activated:
 1. The GNSS position fix shall be updated at intervals of no more than five minutes; and
 2. When an updated fix is transmitted in the AIS message for the first time, the error between the transmitted and the actual position shall not exceed 30 m assuming a drift rate of 3 kn.
- The new requirement is that EPIRB should be provided with an Automatic Identification System (AIS) locating signal, in accordance with the Recommendation ITU-R M.1371, Technical characteristics for an automatic identification system using time division multiple access in the VHF maritime mobile frequency band.

- The technical characteristics of the transmitted signal and the message format of EPIRB refer to the requirements of COSPAS-SARSAT system documents C/S T.001 or C/S T.018.
- The 121.5 MHz homing signal should have a 121.5 MHz transmitting duty cycle not less than 50% (1.125 seconds on, 1.125 seconds off) and if more than 50%, the on time should be increased beyond 1.125 seconds and the off time reduced accordingly.
- EPIRBs forming an integral component of the GMDSS and operating through the Cospas-Sarsat satellite system in the frequency band 406 - 406.1 MHz should be type approved to ensure the integrity of the Cospas-Sarsat satellite system, avoid harmful interference to the spaceborne equipment, exclude unauthorized transmissions, and to provide reliable data to rescue coordination centres.

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