

Revision of IEC 60945

October 2022

Position summary

IEC 60945 remains fit for purpose, and need not be revised to address the protection of on-board receiver equipment against interference from LED devices and other electrical and electronic equipment in the vicinity of shipboard antennas.

There are alternative and potentially more effective approaches to addressing this issue that would not cause such cost and disruption to industry.

Background

The IEC TC 80 plenary meeting in October 2021 agreed (Action 2021-06) that the Secretary should draft a Q paper asking for opinions about a revision of IEC 60945 (*Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required test results*).

The TC 80 Secretary has time until the next Plenary, in autumn 2023, to draft the Q paper.

CIRM understands that the primary reason for a revision of IEC 60945 would be to address the issue of protection of on-board receivers from interference from LED devices and other electrical and electronic equipment in the vicinity of shipboard antennas.

Discussion

IEC 60945 is a transverse standard, applying to the majority of navigation and radiocommunications equipment produced by CIRM members.

Revising IEC 60945 would require manufacturers to re-certify a wide range of their products to the revised version of the standard. This would incur significant costs to manufacturers, in the financial cost of recertifying equipment, resources, and timescales. This would in turn result in higher costs to ship owners for equipment. Any revision of IEC 60945 should therefore not be undertaken unless there is a compelling case to do so.

CIRM is of the view that revising IEC 60945 would anyway be unlikely to resolve the issue of protection of on-board receivers. IEC 60945 is not applied to all equipment or potential disturbance sources on board. IEC 60945 applies to equipment that is not likely to be a source of disturbance, so applying a revised version of the standard to such equipment would provide no benefit in this regard but would make the equipment more expensive and less easily available to the maritime market. Furthermore, the reason for disturbance is often related to the installation of equipment rather than the device itself. Examples are the relative position of equipment with respect to the antenna, the use of shielded

cables and the proper termination of cable shields. Since this is the responsibility of a different party, the system integrator, and as IEC 60945 is written for the equipment itself, this topic does not belong in IEC 60945.

CIRM believes that there are alternative approaches to addressing this issue without causing such disruption to industry, such as through IEC 60533 (*Electrical and Electronic Installations in Ships - Electromagnetic Compatibility*). This is supported by IEC TC 18 Maintenance Team (MT) 21 having a liaison with RTCM, and parts of RTCM 13700.00 (*Standard for Electromagnetic Compatibility Requirements for Light Emitting Diode (LED) Devices and Other Electrical and Electronic Equipment in the Vicinity of Shipboard Antennas for the Protection of Onboard Receivers*) being considered as input material for the ongoing revision of IEC 60533.

CIRM position on the revision of IEC 60945

CIRM holds the following positions on the revision of IEC 60945:

- IEC 60945 remains fit for purpose and need not be revised to address the protection of on-board receivers, as the requirement to recertify a wide range of navigation and radiocommunications equipment would be unlikely to resolve the problem, and would cause disruption to industry, increasing costs for both manufacturers and ship owners.
- There are alternative and possibly more effective approaches to addressing this issue without causing such costs and disruption to industry, e.g. by applying the additional requirements expected to be included in the revised version of IEC 60533.
- The issue should be further mitigated by the revision to COMSAR/Circ.32 “Harmonization of GMDSS Requirements for Radio Installations On Board SOLAS Ships” which is expected to include specific advice on preventing “Interference from LED lighting and other unintentional emitters” in section 6.1.2, including on-board testing.

