

## ANNEX 27

**RESOLUTION MSC.114(73)  
(adopted on 1 December 2000)****ADOPTION OF THE REVISED PERFORMANCE STANDARDS FOR SHIPBORNE  
DGPS AND DGLONASS MARITIME RADIO BEACON  
RECEIVER EQUIPMENT**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article (28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.886(21), by which the Assembly resolved that the function of adopting performance standards and technical specifications, as well as amendments thereto shall be performed by the Maritime Safety Committee and/or the Marine Environment Protection Committee, as appropriate, on behalf of the Organization,

NOTING that differential services broadcast information for augmenting the Global Positioning System (GPS) and the Global Navigation Satellite System (GLONASS) to provide the accuracy and integrity required for entrances and harbour approaches and other waters in which the freedom to manoeuvre is limited,

NOTING ALSO that shipborne maritime radio beacon receiving equipment providing augmentation information to position-fixing equipment should be designed to satisfy the detailed requirements of the particular system concerned,

RECOGNIZING the need to improve the previously adopted, by resolution MSC.64(67), Annex 2, performance standards for shipborne DGPS and DGLONASS maritime radio beacon receiver equipment in order to ensure the operational reliability of such equipment and taking into account the technological progress and experience gained,

HAVING CONSIDERED the recommendation on the revision of resolution MSC.64(67), Annex 2 made by the Sub-Committee on Safety of Navigation at its forty-sixth session,

1. ADOPTS the Revised Recommendation on Performance Standards for Shipborne DGPS and DGLONASS Maritime Radio Beacon Receiver Equipment, set out in the Annex to the present resolution;
2. RECOMMENDS Governments to ensure that DGPS and DGLONASS maritime radio beacon receiver equipment:
  - (a) if installed on or after 1 July 2003, conform to performance standards not inferior to those specified in the Annex to the present resolution; and
  - (b) if installed on or after 1 January 1999 but before 1 July 2003, conform to performance standards not inferior to those specified in the Annex to resolution MSC.64(67), Annex 2.

ANNEX

**REVISED RECOMMENDATION ON PERFORMANCE STANDARDS FOR  
SHIPBORNE DGPS AND DGLONASS MARITIME RADIO  
BEACON RECEIVER EQUIPMENT**

**1 INTRODUCTION**

1.1 Differential services broadcast information for augmenting the Global Positioning System (GPS) and the Global Navigation Satellite System (GLONASS) to provide the accuracy and integrity required for entrances and harbour approaches and other waters in which the freedom to manoeuvre is limited. Various service providers are broadcasting differential information applicable to localized areas. Different services provide information for augmenting GPS, GLONASS, or both.

1.2 Receiver equipment for the reception and proper decoding of differential GPS and GLONASS maritime radio beacon broadcasts (fully compliant with Recommendation ITU-R M.823) intended for navigational purposes on ships with maximum speeds not exceeding 70 knots should, in addition to the general requirements contained in resolution A.694(17)\*, comply with the following minimum performance requirements.

1.3 These standards cover the basic requirements of maritime radio beacon receiver equipment providing augmentation information to position-fixing equipment. It does not cover other computational facilities which may be in the equipment.

**2 DGPS AND DGLONASS MARITIME RADIO BEACON RECEIVER EQUIPMENT**

The words "DGPS and DGLONASS maritime radio beacon receiver equipment" as used in these performance standards include all the components and units necessary for the system to properly perform its intended functions. The equipment should include the following minimum facilities:

- .1 antenna capable of receiving DGPS or DGLONASS maritime radio beacon signals;
- .2 DGPS and DGLONASS maritime radio beacon receiver and processor;
- .3 receiver control interface; and
- .4 data output interface.

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\* Refer to IEC Publication 60945.

### 3 FUNCTIONAL REQUIREMENTS

The DGPS and DGLONASS maritime radio beacon receiver equipment should:

- .1 operate in the band of 283.5 to 315 kHz in Region 1 and 285 to 325 kHz in Regions 2 and 3 in accordance with Recommendation ITU-R M.823;
- .2 provide means of automatically and manually selecting the station;
- .3 make the data available for use with a delay not exceeding 100 ms after its reception;
- .4 be capable of acquiring a signal in less than 45 s in the presence of electrical storms;
- .5 have at least one serial data output that conforms to the relevant international marine interface standard\*;
- .6 have an omni-directional antenna in the horizontal plane; and
- .7 be capable of operating satisfactorily in typical interference conditions.

### 4 PROTECTION

Precautions should be taken to ensure that no permanent damage can result from an accidental short circuit or grounding of the antenna or any of its input or output connections or any of the DGPS and DGLONASS maritime radio beacon receiver equipment inputs or outputs for a duration of 5 min.

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\* Refer to IEC Publication 61162.