

**ANNEX 23**

**RESOLUTION MSC.130(75)  
(adopted on 21 May 2002)**

**PERFORMANCE STANDARDS FOR INMARSAT SHIP EARTH STATIONS  
CAPABLE OF TWO-WAY COMMUNICATIONS**

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 on behalf of the Organization,

RECALLING FURTHER regulations IV/10.1 and 14.1 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, concerning radiocommunications for the Global Maritime Distress and Safety System (GMDSS), which require, respectively, that ships remaining in sea area A3 be provided with an Inmarsat ship earth station and that such ship earth stations shall conform to appropriate performance standards not inferior to those adopted by the Organization,

FURTHER RECALLING resolution A.888(21) by which the Assembly adopted the criteria and requirements for mobile-satellite communication systems being designed for use in the GMDSS after 1 February 1999 and, in particular, the requirements for new systems to provide prioritised pre-emption,

NOTING the transition of Inmarsat to a national law company and the consequential re-structuring of the International Mobile Satellite Organization (IMSO) to oversee certain public interests in the company's operations, including the continued provision of satellite services for the GMDSS,

RECOGNIZING the need to prepare performance standards for Inmarsat satellite communication equipment designed in accordance with resolution A.888(21) in order to ensure the operational reliability of such equipment and to avoid, as far as practicable, adverse interaction between satellite communication equipment and other communication and navigation equipment aboard the ship,

RECOGNIZING ALSO that Inmarsat discontinued type approval of Inmarsat-A ship earth stations in 1991,

RECOGNIZING FURTHER that the international telex service is being discontinued in an increasing number of countries,

HAVING CONSIDERED the recommendation made by the Sub-Committee on Radiocommunications and Search and Rescue at its sixth session,

1. ADOPTS the Recommendation on performance standards for Inmarsat ship earth stations capable of two-way communications, set out in the Annex to the present resolution;
2. NOTES that part A of the Inmarsat design and installation guidelines is similar to the performance standards for ship earth stations capable of two-way communications and to the general requirements for shipborne radio equipment set out in resolution A.694(17);
3. RECOMMENDS Governments to ensure that every Inmarsat ship earth station which forms part of the GMDSS:
  - .1 if designed to operate in a system introduced after 1 February 1999, complies with the relevant requirements of resolution A.888(21) and conforms to performance standards not inferior to those specified in the Annex to the present resolution;
  - .2 if installed on or after 23 November 1996, conforms to performance standards not inferior to those specified in the Annex to resolution A.808(19);
  - .3 if installed before 23 November 1996, conforms to performance standards not inferior to those specified in the Annex to resolution A.698(17), which are in accordance with part A of the Inmarsat ship earth station design and installation guidelines;
4. INVITES IMSO to ensure that any amendments to part A of the ship earth station design and installation guidelines are agreed with the Organization prior to their adoption.

## ANNEX

### RECOMMENDATION ON PERFORMANCE STANDARDS FOR INMARSAT SHIP EARTH STATIONS CAPABLE OF TWO-WAY COMMUNICATIONS

#### 1 INTRODUCTION

The ship earth station installation capable of telephony and data communications should comply with the general requirements set out in resolution A.694(17) and with the following minimum requirements.

#### 2 TECHNICAL REQUIREMENTS

The equipment should be type approved by Inmarsat and should comply with the environmental conditions specified in its technical requirements for Inmarsat ship earth stations capable of two-way communications.

#### 3 OPERATION

3.1 No control external to the equipment should be available for alteration of the ship station identity.

3.2 It should be possible to initiate and make distress calls by telephony or data communications from the position at which the ship is normally navigated and from any other position designated for distress alerting. In addition, where a room is provided for radiocommunications, means to initiate distress calls should also be fitted in that room.

3.3 Where no other means of receiving distress, urgency and safety broadcasts or an addressed distress alert relay are provided and existing levels of aural signals produced by the telephone or printer are considered to be inadequate, the ship earth station equipment should provide an aural/visual alarm of appropriate level.

3.4 It should be possible to interrupt or initiate distress calls at any time.

3.5 A distress call should be activated only by means of a dedicated distress button. This button should not be any key of an ITU-T digital input panel or an ISO keyboard provided on the equipment.

3.6 The dedicated distress button should\* :

- .1 be clearly identified; and
- .2 be protected against inadvertent operation.

3.7 The distress call initiation should require at least two independent actions.

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\* MSC/Circ.862 – Clarifications of certain requirements in IMO performance standards for GMDSS equipment.

3.8 Paragraphs 3.5, 3.6 and 3.7 do not apply to Inmarsat-A ship earth stations.

#### **4 RADIO FREQUENCY HAZARDS**

In order to permit warning of potential radiation hazards to be displayed in appropriate places, a label should be attached to the radome indicating the distance at which radiation levels of  $100 \text{ W/m}^2$ ,  $25 \text{ W/m}^2$  and  $10 \text{ W/m}^2$  exist.

#### **5 POWER SUPPLY**

5.1 The ship earth station should normally be powered from the ship's main source of electrical energy. In addition, it should be possible to operate the ship earth station and all equipment necessary for its normal functioning, including the antenna tracking system, from an alternative source of energy.

5.2 Changing from one source of supply to another or any interruption up to 60 s of the supply of electrical energy should not render the equipment inoperative or require the equipment to be re-initialized.

#### **6 ANTENNA SITING**

6.1 It is desirable that the antenna be sited in such a position that no obstacles likely significantly to degrade the performance of the equipment appear in any azimuth down to an angle of elevation of  $-5^\circ$ .

6.2 The sitting of the antenna needs careful consideration, taking into account the adverse effect of high levels of vibration which might be introduced by the use of a tall mast and the need to minimize shadow sectors. Objects, especially those within 10 m of the radome which cause a shadow sector of greater than  $6^\circ$ , are likely significantly to degrade the performance of the equipment.

6.3 The above-deck equipment should be separated, as far as is practicable, from the antennae of other communication and navigation equipment.

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