

**Resolution A.698(17)**  
*Adopted on 6 November 1991*  
*(Agenda item 10)*

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

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety,

RECALLING ALSO regulations IV/10.1 and IV/14.1 of the 1988 amendments to the 1974 SOLAS Convention 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,

RECOGNIZING the need to prepare performance standards for satellite communication equipment 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,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its fifty-ninth session,

1. ADOPTS the Recommendation on Performance Standards for Ship Earth Stations Capable of Two-Way Communications set out in the annex to this 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 ensure that every ship earth station forming part of the GMDSS conforms to performance standards not inferior to those specified in the annex to this resolution, which are in accordance with part A of the INMARSAT ship earth station design and installation guidelines;
4. INVITES INMARSAT to ensure that any amendments to part A of the INMARSAT ship earth station design and installation guidelines be agreed with the Organization prior to their adoption;
5. REQUESTS the Maritime Safety Committee to ensure that any proposed amendments to this resolution be agreed with INMARSAT prior to their adoption;
6. REVOKES resolution A.608(15).

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

### **1 INTRODUCTION**

The ship earth station installation capable of telephony and direct printing should comply with the general requirements set out in Assembly 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 direct printing 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. The means for initiating a distress call should be easy to operate and protected against inadvertent activation.

**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 teletype are considered to be inadequate, the ship earth equipment should be configured to actuate an aural/visual alarm of appropriate level.

### **4 RADIO FREQUENCY HAZARDS**

In order to permit warnings 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 W/m<sup>2</sup>, 25 W/m<sup>2</sup> and 10 W/m<sup>2</sup> 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 to significantly degrade the performance of the equipment appear in any azimuth down to an angle of elevation of  $-5^{\circ}$ .

**6.2** The siting 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 to significantly 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.