

**RESOLUTION A.335(IX)**

Incorporated in MSC.1(XLV)

*Adopted on 12 November 1975*  
*Agenda item 7(c)*

**RECOMMENDATIONS RELATED TO CHAPTER IV OF THE  
INTERNATIONAL CONVENTION FOR THE  
SAFETY OF LIFE AT SEA**

THE ASSEMBLY,

RECOGNIZING the need to improve safety of life at sea,

NOTING Article 16(i) of the IMCO Convention concerning the functions of the Assembly,

HAVING CONSIDERED the Report of the Maritime Safety Committee on its thirty-second session concerning amendments to the provisions of the International Convention for the Safety of Life at Sea, 1960, as well as the Report of the Committee on its thirty-third session,

ADOPTS measures intended to strengthen and/or improve the effectiveness of certain provisions of Chapter IV of the International Convention for the Safety of Life at Sea, 1960 as follows:

- (i) the carriage of radiotelephone operators on ships between 500 and 1,600 grt equipped with radiotelephony only (Regulation 7(a)), the text of which is at Annex I to this Resolution;
- (ii) the minimum normal range of main and reserve transmitters (Regulation 9(g)), the text of which is at Annex II to this Resolution;
- (iii) the inclusion in the radiotelegraph installation of facilities for radiotelephony transmission and reception on the radiotelephone distress frequency 2182 kHz (Regulation 9), the text of which is given at Annex III to this Resolution;
- (iv) an extension of the provisions concerning the minimum normal range of radiotelephone transmitters (Regulation 15(c)), the text of which is given at Annex IV to this Resolution,

RECOMMENDS that all Member Governments put into effect as soon as possible the provisions of these Recommendations,

INVITES governments to propose, at an appropriate time, relevant amendments to the appropriate Regulations of Chapter IV of the International Convention for the Safety of Life at Sea, 1974.

ANNEX I

**RECOMMENDATION ON THE CARRIAGE OF RADIOTELEPHONE OPERATORS  
ON SHIPS BETWEEN 500 AND 1,600 GRT EQUIPPED WITH  
RADIOTELEPHONY ONLY**

(relevant to Regulation 7(a), Chapter IV of the  
International Convention for the Safety of  
Life at Sea, 1960)

1. Each ship which is fitted with a radiotelephone station in accordance with Regulation 4 of Chapter IV shall for safety purposes, while at sea, maintain continuous watch on the radiotelephone distress frequency in the place on board from which the ship is usually navigated,

by use of a radiotelephone distress frequency watch receiver, using a loudspeaker, a filtered loudspeaker or radiotelephone auto alarm.

2. Ships mentioned in paragraph 1 above shall carry radiotelephone operators holding an appropriate certificate for radiotelephony (who may be the master, an officer or a member of the crew) as follows:

- (a) ships of 300 tons gross tonnage and upwards but less than 500 tons gross tonnage, at least one operator;
- (b) ships of 500 tons gross tonnage and upwards but less than 1,600 tons gross tonnage, at least two operators. If a ship carries one radiotelephone operator exclusively employed for duties related to radiotelephony, a second operator is not obligatory.

ANNEX II

**RECOMMENDATION ON THE MINIMUM NORMAL RANGE OF MAIN AND RESERVE TRANSMITTERS**

(relevant to Regulation 9(g), Chapter IV of the International Convention for the Safety of Life at Sea, 1960)

The main and reserve transmitters shall, when connected to the main aerial, have a minimum normal range as specified below, that is to say, they must be capable of transmitting clearly perceptible signals from ship to ship by day and under normal conditions and circumstances over the specified ranges<sup>1/</sup>. (Clearly perceptible signals will normally be received if the RMS value of the field strength at the receiver is at least 50 microvolts per metre.)

	Minimum normal range in miles	
	Main transmitter	Reserve transmitter
All passenger ships, and cargo ships of 1,600 tons gross tonnage and upwards . . . .	150	100
Cargo ships below 1,600 tons gross tonnage	100	75

<sup>1/</sup> In the absence of a direct measurement of the field strength the following data may be used as a guide for approximately determining the normal range:

A. In the case of aerials other than self-supporting types:

Normal range in miles	Metre-amperes*
200	128
175	102
150	76
125	58
100	45
75	34

\* The product of the distance (in metres) from the highest part of the aerial to the deepest load water-line and the aerial current (in amperes).

The values given in the second column of the table correspond to an average value of the ratio

$$\frac{\text{effective aerial height}}{\text{maximum aerial height}} = 0.47$$

This ratio varies with local conditions of the aerial and may vary between about 0.3 and 0.7.

B. In the case of self-supporting transmitting aerals:

Normal range in nautical miles	Metre-amperes**
200	305
175	215
150	150
125	110
100	85
75	55

\*\* The product of the distance (in metres) from the highest part of the aerial to the deepest load water-line and the current (in amperes) measured at the base of the radiating portion of the aerial. The values given in the second column are based on the propagation curves given in CCIR Recommendation 368-2 as well as the method, experimental results and calculations in CCIR Report 502-1 and Opinion 43-1. The necessary value of metre-amperes varies considerably with local conditions of the aerial.

### ANNEX III

#### RECOMMENDATION ON THE INCLUSION IN THE RADIOTELEGRAPH INSTALLATION OF FACILITIES FOR RADIOTELEPHONY TRANSMISSION AND RECEPTION ON 2182 kHz

(relevant to Regulation 9, Chapter IV of the International  
Convention for the Safety of Life at Sea, 1960)

1. The radiotelegraph installation shall include facilities for radiotelephony transmission and reception on the radiotelephone distress frequency 2182 kHz. This requirement may be fulfilled by including such facilities in the main and/or reserve installation and/or other installed equipment. The transmitter power and receiver sensitivity of the radiotelephony part of the installation shall comply with paragraphs (c)(i) and (f) of Regulation 15 respectively if that part is fitted 24 months or later after the adoption of this Resolution; for installations fitted prior to the end of that period, such transmitter power and receiver sensitivity shall be as determined by the Administration. The location and other conditions of the radiotelephony facilities required by this Regulation shall be as determined by the Administration, except when they form part of the main and/or reserve radiotelegraph installation.

2. The radiotelephone transmitting facility required by paragraph 1 above shall, if installed 24 months or later after the adoption of this Resolution, be fitted with an automatic device for generating the radiotelephone alarm signal, so designed as to prevent activation by mistake, and complying with the requirements of paragraph (e) of Regulation 15 of Chapter IV. The device shall be capable of being taken out of operation at any time in order to permit the

immediate transmission of a distress message; in the case of installations fitted prior to the end of that period, the fitting of automatic devices for generating the radiotelephone alarm signal shall be as determined by the Administration.

3. Arrangements shall be made to check periodically the proper functioning of the automatic device for generating the radiotelephone alarm signal on frequencies other than the radiotelephone distress frequency using a suitable artificial aerial. An exception shall be made for radiotelephone emergency equipment having only the distress frequency 2182 kHz, in which case a suitable artificial aerial shall be employed.

**Note:** Whilst all reasonable steps shall be taken to maintain the apparatus in an efficient condition, malfunction of the radiotelephone transmitting facilities required by this Resolution shall not be considered as making the ship unseaworthy or as a reason for delaying the ship in ports where repair facilities are not readily available.

#### ANNEX IV

##### RECOMMENDATION ON MINIMUM NORMAL RANGE OF RADIOTELEPHONE TRANSMITTERS

(relevant to Regulation 15(c), Chapter IV of the International Convention for the Safety of Life at Sea, 1960)

1. In the case of cargo ships of 300 tons gross tonnage and upwards but less than 1,600 tons gross tonnage the transmitter shall have a minimum normal range of 150 miles, i.e. it shall be capable of transmitting clearly perceptible signals from ship to ship by day and under normal conditions and circumstances over this range\*. (Clearly perceptible signals will normally be received if the RMS value of the field strength produced at the receiver by an unmodulated carrier is at least 25 microvolts per metre for A3 and A3H emissions.)

2. In the case of existing installations using the class of emission A3 on cargo ships of 300 tons gross tonnage and upwards but less than 500 tons gross tonnage, the transmitter shall have a minimum normal range of at least 75 miles.

---

\* In the absence of field strength measurements, it may be assumed that this range will be obtained by a power in the aerial of 15 watts (unmodulated carrier) with an aerial efficiency of 27 per cent for A3 emissions or 60 watts peak envelope power for A3H emissions when 100 per cent modulated by a single sinusoidal oscillation.