

RESOLUTION MSC .12( 56)  
(adopted on 28 October 1988)  
ADOPTION OF AMENDMENTS TO THE INTERNATIONAL  
CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974

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THE MARITIME SAFETY COMMITTEE,

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

RECALLING FURTHER that by resolution A.596(15) the Assembly resolved that the Organization give a high priority to its work aimed at enhancing the safety of passenger ro-ro ferries,

NOTING that the Assembly requested the Committee to take all possible action to meet this objective, including the earliest possible consideration and adoption of amendments to the 1974 SOLAS Convention relating to passenger ro-ro ferries and the facilitation of a rapid entry into force of these amendments,

NOTING FURTHER that at its fifty-fifth session the first set of amendments to the 1974 SOLAS Convention relating to passenger ro-ro ferries proposed by the United Kingdom (package 1) was adopted in accordance with article VIII(b)(iv) of the Convention by resolution MSC.11(55) and further that the Committee agreed to consider with a view to their adoption, at its fifty-sixth session, proposed amendments to that Convention relating to residual damage stability for passenger ships developed by the Sub-Committee on Stability and Load Lines and on Fishing Vessels Safety,

HAVING CONSIDERED a second set of amendments (package 2) to the 1974 SOLAS Convention, proposed by the United Kingdom, and proposed amendments relating to standards of residual damage stability for passenger ships which were circulated in accordance with article VIII(b)(i) of the Convention,

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1. ADOPTS in accordance with article VIII(b)(iv) of the Convention the amendments to the Convention, the text of which is set out in the Annex to the present resolution;
2. DETERMINES in accordance with article VIII(b)(vi)(2)(bb) of the Convention that the amendments shall be deemed to have been accepted on 28 October 1989 unless prior to that date more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet have notified their objections to the amendments;
3. INVITES Contracting Governments to note that in accordance with article VIII(b)(vii)(2) of the Convention the amendments shall enter into force on 29 April 1990 upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General in conformity with article VIII(b)(v) of the Convention to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the International Convention for the Safety of Life at Sea, 1974;
5. FURTHER REQUESTS the Secretary-General to transmit copies of the resolution to Members of the Organization which are not Contracting Governments to the Convention.

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ANNEX

AMENDMENTS TO THE INTERNATIONAL CONVENTION FOR THE  
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1 Chapter II-1 - Regulation 8

Stability of passenger ships in damaged condition

The following text is inserted after the title:

"(Paragraphs 2.3, 2.4, 5 and 6.2 apply to passenger ships constructed on or after 29 April 1990 and paragraphs 7.2, 7.3 and 7.4 apply to all passenger ships)".

The existing text of paragraph 2.3 is replaced by the following:

"2.3 The stability required in the final condition after damage, and after equalization where provided, shall be determined as follows:

2.3.1 The positive residual righting lever curve shall have a minimum range of 15° beyond the angle of equilibrium.

2.3.2 The area under the righting lever curve shall be at least 0.015 m-rad, measured from the angle of equilibrium to the lesser of:

.1 the angle at which progressive flooding occurs;

.2 22° (measured from the upright) in the case of one-compartment flooding, or

27° (measured from the upright) in the case of the simultaneous flooding of two or more adjacent compartments.

2.3.3 A residual righting lever is to be obtained within the range specified in 2.3.1, taking into account the greatest of the following heeling moments:

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- .1 the crowding of all passengers towards one side;
- .2 the launching of all fully loaded davit-launched survival craft on one side;
- .3 due to wind pressure;

as calculated by the formula:

$$GZ \text{ (in metres)} = \frac{\text{heeling moment}}{\text{displacement}} + 0.04$$

However, in no case is this righting lever to be less than 0.10 m.

2.3.4 For the purpose of calculating the heeling moments in paragraph 2.3.3, the following assumptions shall be made:

- .1 Moments due to crowding of passengers:
  - .1.1 4 persons per square metre;
  - .1.2 a mass of 75 kg for each passenger;
  - .1.3 passengers shall be distributed on available deck areas towards one side of the ship on the decks where muster stations are located and in such a way that they produce the most adverse heeling moment.
- .2 Moments due to launching of all fully loaded davit-launched survival craft on one side:
  - .2.1 all lifeboats and rescue boats fitted on the side to which the ship has heeled after having sustained damage shall be assumed to be swung out fully loaded and ready for lowering;
  - .2.2 for lifeboats which are arranged to be launched fully loaded from the stowed position, the maximum heeling moment during launching shall be taken;

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- .2.3 a fully loaded davit-launched liferaft attached to each davit on the side to which the ship has heeled after having sustained damage shall be assumed to be swung out ready for lowering;
- .2.4 persons not in the life-saving appliances which are swung out shall not provide either additional heeling or righting moment;
- .2.5 life-saving appliances on the side of the ship opposite to the side to which the ship has heeled shall be assumed to be in a stowed position.
- .3 Moments due to wind pressure:
  - .3.1 a wind pressure of  $120\text{N/m}^2$  to be applied;
  - .3.2 the area applicable shall be the projected lateral area of the ship above the waterline corresponding to the intact condition;
  - .3.3 the moment arm shall be the vertical distance from a point at one half of the mean draught corresponding to the intact condition to the centre of gravity of the lateral area".

The following new paragraph 2.4 is added after the existing paragraph 2.3:

"2.4 In intermediate stages of flooding, the maximum righting lever shall be at least 0.05 m and the range of positive righting levers shall be at least 7°. In all cases, only one breach in the hull and only one free surface need be assumed".

In the third sentence of paragraph 5 the phrase "as well as the maximum heel before equalization" is deleted.

The following new sentence is added after the third sentence of paragraph 5:

"The maximum angle of heel after flooding but before equalization shall not exceed 15°".

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The existing text of paragraph 6.2 is replaced by the following:

"In the case of unsymmetrical flooding, the angle of heel for one-compartment flooding shall not exceed 7°. For the simultaneous flooding of two or more adjacent compartments, a heel of 12° may be permitted by the Administration."

Existing paragraph 7 is renumbered as subparagraph 7.1.

The following new subparagraphs 7.2, 7.3 and 7.4 are inserted after new subparagraph 7.1:

"7.2 The data referred to in paragraph 7.1 to enable the master to maintain sufficient intact stability shall include information which indicates the maximum permissible height of the ship's centre of gravity above keel (KG), or alternatively the minimum permissible metacentric height (GM), for a range of draughts or displacements sufficient to include all service conditions. The information shall show the influence of various trims taking into account the operational limits.

7.3 Each ship shall have scales of draughts marked clearly at the bow and stern. In the case where the draught marks are not located where they are easily readable, or operational constraints for a particular trade make it difficult to read the draught marks, then the ship shall also be fitted with a reliable draught indicating system by which the bow and stern draughts can be determined.

7.4 On completion of loading of the ship and prior to its departure, the master shall determine the ship's trim and stability and also ascertain and record that the ship is in compliance with stability criteria in the relevant regulations. The Administration may accept the use of an electronic loading and stability computer or equivalent means for this purpose".

2 Chapter II-1 - Regulation 20-1

The following new regulation 20-1 is added after existing regulation 20.

"Regulation 20-1

Closure of cargo loading doors

1 This regulation applies to all passenger ships.

2 The following doors, located above the margin line, shall be closed and locked before the ship proceeds on any voyage and shall remain closed and locked until the ship is at its next berth:

- .1 cargo loading doors in the shell or the boundaries of enclosed superstructures;
- .2 bow visors fitted in positions, as indicated in paragraph 2.1;
- .3 cargo loading doors in the collision bulkhead;
- .4 weathertight ramps forming an alternative closure to those defined in paragraphs 2.1 to 2.3 inclusive.

Provided that where a door cannot be opened or closed while the ship is at the berth such a door may be opened or left open while the ship approaches or draws away from the berth, but only so far as may be necessary to enable the door to be immediately operated. In any case, the inner bow door must be kept closed.

3 Notwithstanding the requirements of paragraphs 2.1 and 2.4, the Administration may authorize that particular doors can be opened at the discretion of the master, if necessary for the operation of the ship or the embarking and disembarking of passengers, when the ship is at safe anchorage and provided that the safety of the ship is not impaired.



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4 The master shall ensure that an effective system of supervision and reporting of the closing and opening of the doors referred to in paragraph 2, is implemented.

5 The master shall ensure, before the ship proceeds on any voyage, that an entry in the log book, as required in regulation II-1/25, is made of the time of the last closing of the doors specified in paragraph 2 and the time of any opening of particular doors in accordance with paragraph 3".

3 Chapter II-1 - Regulation 22

Stability information for passenger ships and cargo ships

The following new paragraph 3 is added after existing paragraph 2:

"3 At periodical intervals not exceeding five years, a lightweight survey shall be carried out on all passenger ships to verify any changes in lightship displacement and longitudinal centre of gravity. The ship shall be re-inclined whenever, in comparison with the approved stability information, a deviation from the lightship displacement exceeding 2% or a deviation of the longitudinal centre of gravity exceeding 1% of L is found or anticipated."

The following words are added at the end of the first line of existing paragraph 3:

"as required by paragraph 1".

Existing paragraphs 3 and 4 are renumbered as paragraphs 4 and 5.

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