

INTERNATIONAL MARITIME ORGANIZATION



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SUB-COMMITTEE ON SHIP DESIGN AND
EQUIPMENT
52nd session
Agenda item 20

DE 52/20/.....
8 December 2008
ENGLISH ONLY

ANY OTHER BUSINESS

Draft Guidelines for construction, installation, maintenance and inspection/survey of accommodation ladders and gangways

Submitted by Australia, Republic of Korea and the International Association of Classification Societies (IACS)

SUMMARY

Executive summary:	To supplement the information provided in document DE 52/20/Rev.1, amendments are proposed to the text of the draft Guidelines for construction, installation, maintenance and inspection/survey of accommodation ladders and gangways, as modified by the Drafting Group on Amendments to Mandatory Instruments at MSC 84, to incorporate the proposals made by the co-sponsors in MSC 84/3/6 and improvements subsequent to MSC 84.
Strategic direction:	2
High-level action:	2.1
Planned output:	2.1.1.5
Action to be taken:	Paragraph 6
Related documents:	MSC 84/24, paragraphs 3.50 and 3.79, MSC 84/3/6 and DE 52/20/Rev.1

Background

1. This document is submitted to facilitate completion of the draft Guidelines following consideration of DE 50's recommendations and subsequent referral of the matter back to the Sub-Committee, by MSC 84. In this regard, the Sub-Committee should note that this document is submitted jointly by Australia, the Republic of Korea and IACS, who also sponsored MSC 84/3/6 in an attempt to address outstanding issues raised at MSC 83 in relation to the draft Guidelines.

2. At MSC 84, two principal objections were raised with regard to MSC 84/3/6:

- .1 the proposed paragraph 3.4.4 was too specific and did not take into account other types of gangway arrangements which provide direct access from the head of the accommodation ladder to the ship's deck; and

- .2 the proposed paragraph 5.3 opened a loophole in that the shipowner/operator could nominate any load they desired the gangway to be tested which could be less than the design load or operational load for which the gangway arrangement was designed and constructed.

3. Based on the above and in order to assist the Sub-Committee in its consideration of the outcome of MSC 84 in relation to this matter, a revised text of the draft Guidelines is submitted at Annex to this document.

4. This proposal shows amendments to the text developed by the Drafting Group on Amendments to Mandatory Instruments at MSC 84 (DE 52/20/Rev.1) and incorporates the proposals submitted by the co-sponsors in MSC 84/3/6 as modified to take into account the comments summarized in paragraph 2, above. It also takes into account that the Guidelines address:

- .1 the installation, maintenance, testing and inspection/survey of means of embarkation and disembarkation; and
- .2 the design and construction of new accommodation ladders, gangways and winches.

5. In relation to sub-paragraph 2.2 above, the text of sub-paragraph 5.3 of the draft guidelines has been amended to reflect the intention that the “maximum operational load” to which the gangway or accommodation ladder has been tested should be that marked in accordance with 3.5.1 of the guidelines. To ensure clarity, the standard terms “design load” and “maximum operational load” are used throughout the amended text.

Action requested of the Sub-Committee

6. The Sub-Committee is invited to consider the information provided and take action as appropriate.

ANNEX

DRAFT MSC CIRCULAR

**GUIDELINES FOR CONSTRUCTION, INSTALLATION, MAINTENANCE AND
INSPECTION/SURVEY OF MEANS OF EMBARKATION AND DISEMBARKATION**

1 The Maritime Safety Committee, at its [eighty-sixth session (...)], with a view to providing specific guidance on the construction, installation, maintenance and inspection/survey of means of embarkation and disembarkation such as accommodation ladders and gangways required under regulation II-1/3-9 of the 1974 SOLAS Convention, approved the Guidelines for construction, installation, maintenance and inspection/survey of means of embarkation and disembarkation, prepared by the Sub-Committee on Ship Design and Equipment at its fifty-second session, as set out in the annex.

2 Member Governments are invited to bring the attached Guidelines to the attention of shipowners, shipbuilders, designers, manufacturers, port State control authorities and other parties concerned in conjunction with SOLAS regulation II-1/3-9 (Means of embarkation on and disembarkation from ships).

ANNEX

GUIDELINES FOR CONSTRUCTION, INSTALLATION, MAINTENANCE AND INSPECTION/SURVEY OF MEANS OF EMBARKATION AND DISEMBARKATION

1 APPLICATION

This document is intended to provide guidelines for the construction, installation, maintenance and inspection/survey of means of embarkation and disembarkation required under regulation II-1/3-9 of the 1974 SOLAS Convention, adopted by resolution MSC.256(84). Where means of embarkation and disembarkation other than those specifically covered by these Guidelines are fitted, an equivalent level of safety should be provided.

2 CONSTRUCTION

2.1 Accommodation ladders and gangways for means of embarkation and disembarkation which are provided on board ships constructed on or after 1 January 2010 should meet applicable international standards such as ISO 5488:1979, *Shipbuilding – accommodation ladders*, ISO 7061:1993, *Shipbuilding – aluminium shore gangways for seagoing vessels* and/or national standards and/or other requirements recognized by the Administration. Such accommodation ladders and gangways fitted on ships constructed before 1 January 2010 which are replaced after that date should, in so far as is reasonable and practicable, comply with these guidelines.

2.2 The structure of the accommodation ladders and gangways and their fittings and attachments should be such as to allow regular inspection, maintenance of all parts and, if necessary, lubrication of their pivot pin. Special care should be taken to ensure that the welding connection works are properly performed.

2.3 The construction and test of accommodation ladder winches should be in accordance with applicable international standards such as ISO 7364:1983 *Shipbuilding and marine structures – deck machinery – accommodation ladder winches*.

3 INSTALLATION

3.1 Location

As far as practicable, the means of embarkation and disembarkation should be sited clear of the working area and should not be placed where cargo or other suspended loads may pass overhead.

3.2 Lighting

Adequate lighting should be provided to illuminate the means of embarkation and disembarkation, the position on deck where persons embark or disembark and the controls of the arrangement.

3.3 Lifebuoy

A lifebuoy equipped with a self-igniting light and a buoyant lifeline should be available for immediate use in the vicinity of the embarkation and disembarkation arrangement when in use. This paragraph does not intend to prescribe additional lifebuoys other than those required under SOLAS chapter III.

3.4 Arrangement

3.4.1 Each accommodation ladder should be of such a length to ensure that, at a maximum design operating angle of inclination, the lowest platform will be not more than 600 mm above the waterline in the lightest seagoing condition, as defined in SOLAS regulation III/3.13.

3.4.2 The arrangement at the head of the accommodation ladder should provide direct access between the ladder and the ship's deck by a platform securely guarded by handrails and adequate handholds. The ladder should be securely attached to the ship to prevent overturning.

3.4.3 For ships on which the height of the embarkation/disembarkation deck exceeds 20 m above the waterline specified in paragraph 3.4.1 and on other ships for which the Administration considers compliance with the provisions of paragraph 3.4.1 impractical, an alternative means of providing safe access to the ship or supplementary means of safe access to the bottom platform of the accommodation ladder may be accepted.

3.5 Marking

3.5.1 Each gangway or accommodation ladder should be clearly marked at each end with a plate visible to any person approaching either end and showing the restrictions on the safe operation and loading, including the maximum and minimum permitted design angles of inclination, design load, maximum load on bottom end plate, etc. Where the maximum operational load is less than the design load, it should also be shown on the marking plate.

3.6 Test

3.6.1 After installation, the winch and the accommodation ladder should be operationally tested to confirm proper operation and condition of the winch and the ladder after the test.

3.6.2 The winch should be tested as a part of the complete accommodation ladder unit through a minimum of two times hoisting and lowering of the accommodation ladder in accordance with the on-board test requirement specified in applicable international standards such as ISO 7364:1983.

3.6.3 Every new accommodation ladder should be subjected to a static load test of the specified maximum working load upon installation.

3.7 Positioning

3.7.1 Gangways should not be used at an angle of inclination greater than 30° from the horizontal and accommodation ladders should not be used at an angle greater than 55° from the horizontal, unless designed and constructed for use at angles greater than these and marked as such, as required by paragraph 3.5.1.

3.7.2 Gangways should never be secured to a ship's guardrails unless they have been designed for that purpose. If positioned through an open section of bulwark or railings, any remaining gaps should be adequately fenced.

3.7.3 Adequate lighting for means of embarkation and disembarkation and the immediate approaches should be ensured from the ship and/or the shore in hours of darkness.

3.8 Rigging (safety net)

A safety net should be mounted in way of the accommodation ladders and gangways where it is possible that a person may fall from the means of embarkation and disembarkation or between the ship and quayside.

3.9 Verification

Upon installation, the compliance of the entire arrangement with these Guidelines should be verified.

4 MAINTENANCE

4.1 Gangways and accommodation ladders, including associate winch and fittings, should be properly maintained and inspected at appropriate intervals as required by SOLAS regulation III/20.7.2, in accordance with manufacturers' instructions. Additional checks should be made each time the accommodation ladder and gangway is rigged, looking out for signs of distortion, cracks and corrosion. Close examination for possible corrosion should be carried out, especially when an aluminium accommodation ladder/gangway has fittings made of mild steel.

4.2 Bent stanchions should be replaced or repaired and guard ropes should be inspected for wear and renewed where necessary.

4.3 Moving parts should be free to turn and should be greased as appropriate.

4.4 The lifting equipment should be inspected, tested and maintained paying careful attention to the condition of the hoist wire. The wires used to support the means of embarkation and disembarkation should be renewed when necessary, as required by SOLAS regulation II-1/3-9.

4.5 Arrangements should also be made to examine the underside of gangways and accommodation ladders at regular intervals.

4.6 All inspections, maintenance work and repairs of accommodation ladders and gangways should be recorded in order to provide an accurate history for each appliance. The information to be recorded in the log-book should include the date of the most recent inspection, the name of the person or body who carried out that inspection, the due date for the next inspection and the dates of renewal of wires used to support the embarkation and disembarkation arrangement.

5 EXAMINATION AND OPERATIONAL TEST DURING SURVEYS REQUIRED BY SOLAS REGULATIONS I/7 AND I/8

5.1 Accommodation ladders/gangways and davits

5.1.1 Accommodation ladder

5.1.1.1 The following items should be thoroughly examined during annual surveys required by SOLAS regulations I/7 and I/8 and checked for satisfactory condition of the accommodation ladder:

- .1 steps;
- .2 platforms;
- .3 all support points such as pivots, rollers, etc.;

- .4 all suspension points such as lugs, brackets, etc.;
- .5 stanchions, rigid handrails, hand ropes and turntables;
- .6 davit structure, wire and sheaves, etc.; and
- .7 any other relevant provisions stated in these guidelines.

5.1.1.2 At every five-yearly survey, upon completion of the examination required by paragraph 5.1.1.1, the accommodation ladder should be operationally tested with the specified maximum operational load of the ladder.

5.1.2 Gangway

5.1.2.1 The following items should be thoroughly examined during annual surveys required by SOLAS regulations I/7 and I/8 and checked for satisfactory condition of the gangway:

- .1 treads;
- .2 side stringers, cross-members, decking, deck plates, etc.;
- .3 all support points such as wheel, roller, etc.;
- .4 stanchions, rigid handrails, hand ropes; and
- .5 any other relevant provisions stated in these guidelines.

5.1.2.2 At every five-yearly survey, upon completion of the examination required by paragraph 5.1.2.1, the gangway should be operationally tested with the specified maximum operational load of the gangway.

5.2 Winch

5.2.1 During annual surveys required by SOLAS regulations I/7 and I/8, the following items should be examined for satisfactory condition:

- .1 brake mechanism including condition of brake pads and band brake, if fitted;
- .2 remote control system; and
- .3 power supply system (motor).

5.2.2 At every five-yearly survey, upon completion of the examination required by paragraph 5.2.1, the winch should be operationally tested with the specified maximum operational load of the accommodation ladder.

5.3 Tests

5.3.1 The tests specified in 5.1 and 5.2 are for the purpose of confirming the proper operation of the ladder, gangway and/or winch, as appropriate.

5.3.2 The load used for the test should be:

- .1 the design load; or
- .2 the maximum operational load, if this is less than the design load and marked as per 3.5.1; or
- .3 the load nominated by the ship-owner or operator only in those cases where the design load or maximum operational load is not known (e.g., for accommodation ladders or gangways which are provided on board ships constructed prior to 1 January 2010), in which case that nominated load should be used as the maximum operational load for all purposes within these guidelines.

5.3.3 The tests should be carried out with the load applied as uniformly as possible along the length of the ladder or gangway, at an angle of inclination corresponding to the maximum bending moment on the ladder or gangway.

5.3.4 Following satisfactory completion of the applicable test(s) without permanent deformation or damage to the tested item, the load used for that test should be marked as the maximum operational load in accordance with 3.5.1.

5.4 Fittings and davits

During annual surveys required by SOLAS regulations I/7 and I/8, all fittings and davits on the ship's deck associated with accommodation ladders and gangways should be examined for satisfactory condition.

5.5 Means of access to deck

During annual surveys required by SOLAS regulations I/7 and I/8, the fittings or structures for means of access to decks such as handholds in a gateway or bulwark ladder and stanchions should be examined for satisfactory condition.
