

SUB-COMMITTEE ON SHIP DESIGN AND
CONSTRUCTION
4th session
Agenda item 11

SDC 4/11/2
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**REVISED SOLAS REGULATION II-1/3-8 AND ASSOCIATED
GUIDELINES (MSC.1/CIRC.1175) AND NEW GUIDELINES
FOR SAFE MOORING OPERATIONS FOR ALL SHIPS**

Comments on document SDC 4/11

Submitted by the International Chamber of Shipping (ICS)

SUMMARY

Executive summary: This document comments on the report of the Correspondence Group on Safe Mooring Operations regarding the development of draft new Guidelines on design of safe mooring arrangements associated with the draft revised SOLAS regulation II-1/3-8

Strategic direction: 5.2

High-level action: 5.2.1

Output: 5.2.1.1

Action to be taken: Paragraph 16

Related documents: MSC 95/19/2, MSC 95/19/13, MSC 95/INF.3, MSC 95/22; SDC 3/15, SDC 3/15/1, SDC 3/15/2, SDC 3/INF.5 and SDC 4/11

Introduction

1 This document comments on document SDC 4/11 (Denmark and Japan) which provides the report of the Correspondence Group on Safe Mooring Operations and, in particular, on the development of new Guidelines on the design of safe mooring arrangements. This document is submitted in accordance with the provisions of paragraph 6.12.5 of the document on *Organization and method of work of the Maritime Safety Committee and the Marine Environment Committee and their subsidiary bodies* (MSC-MEPC.1/Circ.5).

2 ICS supports the development of a revised SOLAS regulation II-1/3-8 and the draft associated Guidelines on the design of safe mooring arrangements, which seek to enhance the safety of mooring operations by requiring a more considered, human-centred design (HCD) approach to mooring arrangements on board ships of 3,000 gross tonnage and above.

Discussion

3 ICS has concerns that the approach in the draft new Guidelines will provide Administrations, owners, operators, designers and classification societies with potentially confusing guidance on how to demonstrate compliance with the draft revised SOLAS regulation II-1/3-8.

4 In this regard, it is noted that the draft new Guidelines do not provide either:

- .1 prescriptive design requirements developed from a formal safety assessment conducted in accordance with the *Revised guidelines for Formal Safety Assessment (FSA) for use in the IMO rule-making process* (MSC-MEPC.2/Circ.12/Rev.1) or equivalent;
- .2 a goal-based standard for mooring arrangement design developed in accordance with the *Generic guidelines for developing IMO goal-based standards* (MSC.1/Circ.1394/Rev.1) and supported by specific rules and regulations ensuring a specific minimum level of safety; or
- .3 a risk-based design requirement with a clear statement of the level of safety to be achieved.

5 ICS considers that:

- .1 to require compliance with prescriptive design requirements for mooring arrangements is not in accordance with the output agreed at MSC 95 and may preclude innovation in mooring arrangement design and mooring equipment;
- .2 to require a risk-based design approach for mooring arrangements is disproportionate and burdensome, particularly when consideration is given to the steps required in the risk-based design, for example in the *Guidelines for the approval of alternatives and equivalents as provided for in various IMO instruments* (MSC.1/Circ.1455); and
- .3 the most effective means of achieving enhancements in mooring deck safety is anticipated to be through the use of goals and functional requirements for the design of mooring arrangements.

6 In this regard the draft new Guidelines on design of safe mooring arrangements should be further developed in accordance with the *Generic guidelines for developing IMO goal-based standards* (MSC.1/Circ.1394/Rev.1).

7 Recalling that a goal-based standard should be supported by detailed rules and regulations (MSC.1/Circ.1394/Rev.1, paragraph 19), the Sub-Committee's attention is drawn to sections 5 (Achieving the objectives) and 6 (Risk assessment) of the draft new Guidelines (SDC 4/11, annex 2). The draft new Guidelines make clear that it is a risk assessment which should be used to demonstrate that the risks posed by a particular mooring arrangement design are reduced to As Low As Reasonably Practicable (ALARP) (SDC 4/11, annex 2, paragraphs 1.3 and 6.12). Notwithstanding the above, section 5 provides specific recommendations on how the functional objectives in section 4 should be achieved. Clarification is required on precisely what evidence is required to demonstrate compliance with the draft revised SOLAS regulation II-1/3-8.

8 Paragraph 19 of MSC.1/Circ.1394/Rev.1 may also preclude demonstrating compliance with a goal-based standard, unless a risk assessment can be demonstrated as being equivalent to a specific rule or regulation. This could be particularly challenging given the absence of appropriate specific risk acceptance criteria (the defined boundaries of negligible and intolerable levels of individual risk to crew for designs of mooring arrangements) in the draft new Guidelines. The acceptable mooring arrangement criteria in section 7 of the draft new Guidelines are not based on any recognised method for determining acceptable levels of individual risk and are not considered appropriate.

9 Specific proposals for appropriate risk acceptance criteria have not been made in the Group and this is reflected in the report (SDC 4/11, paragraph 28). Agreeing appropriate specific risk acceptance criteria is a potentially complex task which the Group could not have achieved in the time available. By way of an example, it is appropriate to recall task 1 of the EMSA 3 study (SDC 3/3/7) which developed the risk acceptance criteria for assessing the measures to enhance the survivability of passenger ships.

10 It is recognised that ensuring that mooring arrangements are fit for their operational purpose is a design consideration. However, the ICS notes that design requirements and operational procedures are conflated in the draft new Guidelines, particularly in sections 5 and 6 (SDC 4/11, paragraph 28.1 and annex 2). It is considered that operational procedures relating to mooring operations are outside the scope of guidelines on design.

11 Matters other than design may be more effectively addressed through separate new guidelines for safe mooring operations as agreed at MSC 95 (MSC 95/22, paragraph 19.22). Such guidelines could include guidance on selection, identification, use, inspection and maintenance of mooring lines, as appropriate (SDC 4/11, paragraphs 33 to 39 and annex 2). Such guidance should take into account and refer to existing information and guidance produced by Administrations and industry.

Further work on the draft new Guidelines

12 ICS considers that it would be premature to finalize the draft new Guidelines at SDC 4. Further work on the draft Guidelines is necessary in order to address the issues outlined in paragraphs 3 to 11 above to ensure that they are effective and provide clear guidance to Administrations, owners, operators, designers and classification societies. In particular, the following matters should be further considered:

- .1 further alignment of the draft new Guidelines with the requirements in the *Generic guidelines for developing IMO goal-based standards* (MSC.1/Circ.1394/Rev.1);
- .2 separation of design and operational risk management in the draft new Guidelines by means of separate new guidelines for safe mooring operations (MSC 95/22, paragraph 19.22); and
- .3 clarification of the requirements for demonstrating compliance with draft revised SOLAS regulation II-1/3-8. In this regard:
 - .1 if the risk assessment is to be the evidence for demonstrating that risks are ALARP then the draft new Guidelines should include defined boundaries of negligible and intolerable levels of risk in sections 7 (Acceptable mooring arrangements) and, subsequently, section 5 (Achieving the objective) should be deleted; or

- .2 if the measures in section 5 (Achieving the objective) are to be the evidence that the risks are ALARP, then sections 6 (Risk assessment) and 7 (Acceptable mooring arrangements) should be deleted and the additional work, as outlined in paragraph 13 below, should be considered.

13 If clarification of the requirements for demonstrating compliance focus on the measures set out in section 5 of the draft new Guidelines (see paragraph 12.3.2 above), these measures should be:

- .1 validated as risk control options which reduce the risks to ALARP on most or all new ships of 3,000 gross tonnage and above. An appropriate mechanism for this would be an FSA conducted in accordance with MSC-MEPC.2/Circ.12/Rev.1 or equivalent, addressing mooring arrangement risk control options on representative designs for different types and sizes of ship; and
- .2 subsequently reviewed and verified to ensure conformity with the functional requirements in section 4 (Functional requirements) before being included in the draft new Guidelines.

Proposal

14 Taking into account the further work considered necessary (see paragraphs 12 and 13 above), pursuing completion of the draft new Guidelines on design of safe mooring arrangements at this session may not be achievable. Consequently, it may be appropriate to finalize the draft revised SOLAS regulation II-1/3-8.2 (SDC 4/11, annex 1) as follows:*

"2 For ships with a gross tonnage of 3,000 and above constructed on or after [date of entry into force] the mooring arrangement shall be designed to ensure safe and healthy work conditions during mooring operations and to allow appropriate line of sight, supervision and efficiency, based on guidelines **to be developed** by the Organization.²"

15 The proposal in paragraph 14 above recognizes the importance of the work agreed on at MSC 95. At the same time, it recognizes the need for further work to finalize the draft new Guidelines in order to ensure that they are effective and provide clear guidance to Administrations, owners, operators, designers and classification societies on compliance with the draft revised SOLAS regulation II-1/3-8.

Action requested of the Sub-Committee

16 The Sub-Committee is invited to note the discussion in paragraphs 3 to 11; consider the views in paragraphs 12 and 13 regarding the further work necessary to develop and refine the draft new Guidelines; consider the proposal in paragraph 14; and take action as appropriate.

* Tracked changes are created using "grey shading" to highlight all new insertions.