

SUB-COMMITTEE ON SHIP DESIGN
AND CONSTRUCTION
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Agenda item 3

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**AMENDMENTS TO SOLAS REGULATION II-1/8-1 ON THE AVAILABILITY OF
PASSENGER SHIPS' ELECTRICAL POWER SUPPLY IN CASES OF
FLOODING FROM SIDE RAKING DAMAGE**

Comments on Document SDC 5/3

Submitted by CLIA, ICS, INTERFERRY and RINA

SUMMARY

Executive summary: This document comments on the report of the Correspondence Group on Subdivision and Damage Stability regarding the development of draft amendments to SOLAS regulation II-1/8-1 to improve the availability of passenger ships' electrical power supply in cases of flooding from side raking damage.

Strategic direction: 5.2

High-level action: 5.2.1

Output: 5.2.1.13

Action to be taken: Paragraph 21

Related documents: MSC 91/7/7, MSC 93/6/1, MSC 93/6/7, MSC 93/22, SDC 2/3/9, SDC 2/25, SDC 2/WP.3, SDC 4/16, SDC 4/WP.3, SDC 5/1

General

1 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), and comments on document SDC 5/3 (United States), which provides the report of the Correspondence Group on Subdivision and Damage Stability regarding the development of draft amendments to SOLAS regulation II-1/8-1 to improve the availability of passenger ships' electrical power supply in cases of flooding from side raking damage.

Background

2 Following consideration of document MSC 93/6/7 (CLIA) and MSC 93/6/1 (Italy), MSC 93 instructed SDC 2 to include the item of "Double hull in way of main engine rooms" under the existing planned output 5.2.1.13 on amendments to SOLAS chapter II-1 subdivision and damage stability regulations (MSC 93/22, paragraph 6.26.1).

3 SDC 2 considered document SDC 2/3/9 (United States) containing proposed amendments to SOLAS regulation II-1/8-1, to improve the availability of a passenger ship's power supply in cases of flooding due to side raking damage. Three potential main engine-room arrangements were proposed, one being a double side requirement.

4 In this context, the Sub-Committee noted the decision taken by the Subdivision and Damage Stability (SDS) Working Group not to finalize amendments to SOLAS regulation II-1/8-1 due to various concerns expressed regarding the specific aim of the proposed requirement with respect to the existing system redundancy requirement in SOLAS regulation II-1/8-1.2 and general concerns expressed that this was another deterministic requirement that was not in line with the probabilistic damage stability methodology, and that other options should be pursued to achieve the intended outcome (SDC 2/25, paragraph 3.26 and SDC 2/WP.3, paragraph 5.4).

5 During the third and fourth sessions of the SDC, the Sub-Committee considered document SDC 3/3/6 (United States) providing an update to the proposal contained in document SDC 2/3/9 (United States), based on the consideration and comments from SDC 2, and decided to re-established the SDS Correspondence Group, and instructed it to "develop draft amendments to SOLAS regulation II-1/8-1 including functional and performance requirements in order to improve the availability of passenger ships' electrical power supply in cases of flooding from side raking damage, taking into account document SDC 4/WP.3" (SDC 4/16, paragraph 3.32.1).

6 Paragraph 20.5 of document SDC 4/WP.3 states that:

"Any additional requirements to address this matter should be in harmony with the existing SOLAS provisions for safe return to port (SRtP), i.e. regulations II-1/8-1 and II-2/21.4"

7 Existing SOLAS regulation II-1/8-1.2 states that:

"A passenger ship constructed on or after 1 July 2010 shall be designed so that the systems specified in regulation II-2/21.4 remain operational when the ship is subject to flooding of any single watertight compartment."

8 SOLAS regulation II-2/21.4 specifies the systems required to be operational for a ship to be deemed capable of SRtP.

9 The draft new SOLAS regulation II-1/8-1.2.2 (SDC 5/3, annex), which includes two alternative text options that refer to SOLAS regulation II-2/21.4, states the following:

"A passenger ship constructed on or after [date] shall be designed so that [electrical power of sufficient capacity to supply all the systems specified in regulation II-2/21.4, remains] [the electrical power supply for the systems specified in regulation II-2/21.4 remain] available when the ship is subject to flooding from side raking damage with the following assumed extents."

10 However, amendments to the SRtP requirements go beyond the scope of the work originally agreed at MSC 93 or as amended by SDC 3 and subsequently endorsed by MSC 96.

Discussion

11 The co-sponsors were among the participants in the Correspondence Group that raised the concerns referred to in paragraph 16 of SDC 5/3 (United States).

12 In the context of SOLAS regulation II-1/8-1, preservation of a source of electrical power is required for a system listed in SOLAS regulation II-2/21.4 to remain operational following a flooding casualty. SOLAS regulation II-1/8-1.2 contains no specific provisions on what the source of the electrical power should be.

13 The co-sponsors are concerned that both proposed text options (in square brackets) of the draft new SOLAS regulation II-1/8-1.2.2 explicitly link protection from side raking damage with preservation of the supply of electrical power to the systems listed in SOLAS regulation II-2/21.4.

14 Taking into account paragraph 9 of document SDC 5/3 (United States), it is anticipated that the supply or capacity of the necessary electrical power may be achieved using any combination of main, auxiliary or emergency power supplies. Therefore, with respect to electrical power required to ensure the systems in SOLAS regulation II-2/21.4 remain operational and available, the existing SOLAS requirement and the draft new SOLAS have the same objective. The only difference is that the scope of the existing SOLAS regulation II-1/8-1.2 goes beyond electrical power and implies the inclusion of other elements required by the systems so that they remain operational.

15 Notwithstanding the common objective, the threshold beyond which the requirements apply may not be the same or equivalent. This is contrary to the need to harmonize the draft new regulation with the existing requirements for SRtP (SDC 4/WP.3, paragraph 20.5) due to the fact that:

.1 the existing SOLAS regulation II-1/8-1.2 provides for the systems listed in SOLAS regulation II-2/21.4 remaining operational when the extent of damage does not exceed a single watertight compartment; and

.2 draft new SOLAS regulation II-1/8-1.2.2 provides a requirement for the same systems to be supplied with electrical power in order to remain available, when the side raking damage does not exceed a specified damage extent and may not be limited to one watertight compartment.

16 Whilst agreement on the damage extent has yet to be achieved (SDC 5/3, paragraphs 11 to 13), the suggested draft extents do not include a limitation that the entirety of the assumed damage should not extend beyond one watertight compartment.

17 Consequently, the draft new SOLAS regulation II-1/8-1.2.2 *de facto* also amends the SRtP requirement. The result would be that:

.1 the systems listed in SOLAS regulation II-2/21.4 are required to remain operational following water ingress into a single watertight compartment; and

.2 in the event of side raking damage, the electrical power supply is required to be available so that the systems listed in SOLAS regulation II-2/21.4 remain available, even if the damage allows water ingress into more than one watertight compartment.

18 The co-sponsors reemphasize that this would be incompatible with the scope of the work originally agreed at MSC 93, as amended by SDC 3 and subsequently endorsed by MSC 96.

19 Moreover, the outcome results in a draft new SOLAS regulation II-1/8-1.2 which provides for a situation following side raking damage in which even if the systems in SOLAS regulation II-2/21.4 are no longer required to be operational, they are required to still have electrical power provided.

Proposal

20 The co-sponsors recommend that the Sub-Committee in continuing its work on the draft damage extents for side raking damage, further take into account the need to harmonize the proposed new requirements relating to side raking damage with the existing SRtP requirement, in particular with respect to the one compartment threshold.

Action requested of the Sub-Committee

21 The Sub-Committee is invited to consider the comments provided and the proposal in paragraph 20, and take action as appropriate.
