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Review of mandatory requirements regarding watertight doors on cargo ships

Submitted by Liberia, Marshall Islands, New Zealand,
Norway, United States and IACS

SUMMARY

Executive summary: This document invites the Committee to note that document MSC 101/21/16 seeks the agreement of the Maritime Safety Committee regarding a new output on the safety-related issue of harmonizing mandatory requirements relating to watertight doors on cargo ships in a number of IMO mandatory instruments. The document also invites the Committee to agree that, if MSC concurs with the proposal in document MSC 101/21/16 (and that the review of these instruments including MARPOL and the IBC Code should be initiated at SDC 7), then the Marine Environment Protection Committee should be shown as a coordinating organ in the 2020-2021 biennial agenda.

Strategic directions, if applicable: 1 and 6

Output: Not applicable

Action to be taken: Paragraph 16

Related documents: SDC 6/9/1, SDC 6/13 (paragraph 9.8) and MSC 101/21/16

Background

1 SDC 6 considered document SDC 6/9/1 (IACS), which primarily invited the Sub-Committee to review Revision 1 of IACS unified interpretation (UI) SC156 on Doors in watertight bulkheads of cargo ships and passenger ships. The original version of this IACS UI has been used as the basis for the unified interpretations in MSC.1/Circ.1572 of the SOLAS requirements on Doors in watertight bulkheads of passenger ships and cargo ships.

2 However, paragraphs 8 to 10 of document SDC 6/9/1 advised the Sub-Committee as follows:

"8 During the development of Rev.1 of UI SC156, IACS noted that there appears to be some inconsistencies between the requirements in the SOLAS and MARPOL Conventions and ICLL regarding doors in watertight bulkheads. These are:

- .1 the requirements related to hinged watertight doors are only clearly specified in SOLAS; and
- .2 in SOLAS, the requirements for doors in watertight bulkheads vary according to the frequency of use of the doors, i.e. "Norm Closed", "Perm Closed", "Norm Open", "Used", etc. as shown in the table in the unified interpretation. However, the requirements in IMO instruments other than SOLAS are compatible with those in SOLAS for doors in watertight bulkheads to be used while at sea, which are described as "Used" in the table in the unified interpretation; and there are no requirements for doors, other than "Used" doors, in these other instruments.

9 Taking account of the comments in paragraph 8 above, IACS has reviewed the MARPOL Convention, the ICLL, and the IBC and IGC Codes in relation to the requirements therein for doors other than those defined as "used", such as hinged doors which are "permanently closed" and especially hinged doors which are "normally closed" etc. It is apparent that these types of doors are not clearly specified in these IMO instruments. IACS is of the view that it would be reasonable to consider such doors in accordance with the requirements in SOLAS, which have only recently been updated regarding the requirements for doors in watertight bulkheads.

10 IACS wishes to draw the attention of the Sub-Committee to issues discussed in paragraphs 8 and 9 above; and to propose that a discussion be initiated, with a view to improving the consistency of application of these requirements across all conventions and codes."

3 SDC 6 agreed that the proposal to remove the inconsistencies for requirements for doors in watertight bulkheads between SOLAS and other IMO instruments, including MARPOL, the International Convention on Load Lines 1966 (ICLL), and the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code); and the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), while supported in general, would require consideration by MSC, in the form of a new output proposal (SDC 6/13, paragraph 9.8).

4 The co-sponsors of this document have consequently submitted a proposal for such a new output to MSC 101 (MSC 101/21/16). This proposal, which has been submitted in compliance with paragraph 4.6 of the *Organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies* (MSC-MEPC.1/Circ.5/Rev.1), seeks the agreement of the Maritime Safety Committee (MSC) on a new output entitled "Review of the mandatory requirements in the SOLAS, MARPOL and Load Line Conventions and the IBC and IGC Codes regarding watertight doors on cargo ships, to address the inconsistencies that currently exist".

Explanation of the issue

5 SOLAS regulations II-1/13-1.2 and 13-1.3 state:

"2 Doors provided to ensure the watertight integrity of internal openings which are used while at sea are to be sliding watertight doors capable of being remotely closed from the bridge and are also to be operable locally from each side of the bulkhead. Indicators are to be provided at the control position showing whether the doors are open or closed, and an audible alarm is to be provided at the door closure. The power, control and indicators are to be operable in the event of main power failure. Particular attention is to be paid to minimizing the effect of control system failure. Each power-operated sliding watertight door shall be provided with an individual hand-operated mechanism. It shall be possible to open and close the door by hand at the door itself from both sides.

3 Access doors and access hatch covers normally closed at sea, intended to ensure the watertight integrity of internal openings, shall be provided with means of indication locally and on the bridge showing whether these doors or hatch covers are open or closed. A notice is to be affixed to each such door or hatch cover to the effect that it is not to be left open."

Thus, SOLAS requires watertight doors that are used while at sea to be of the sliding type; while watertight doors that are normally closed at sea are not required to be of the "sliding" type (i.e. they may be "hinged" watertight doors).

6 Regulation 28.3.1 of MARPOL Annex I states:

"3 Oil tankers shall be regarded as complying with the damage stability criteria if the following requirements are met:

- .1 The final waterline, taking into account sinkage, heel and trim, shall be below the lower edge of any opening through which progressive flooding may take place. Such openings shall include air-pipes and those which are closed by means of weathertight doors or hatch covers and may exclude those openings closed by means of watertight manhole covers and flush scuttles, small watertight cargo tank hatch covers which maintain the high integrity of the deck, remotely operated watertight sliding doors, and sidescuttles of the non-opening type."

Thus, on oil tankers, MARPOL requires all watertight doors, regardless of their use at sea, to be of the sliding type. The same requirements for watertight doors to be of the sliding type are to be found in paragraph 2.9.2.1 of the IBC Code and paragraph 2.7.1.1 of the IGC Code.

7 Regulation 27(13)(a) of the ICLL states:

"(13) The condition of equilibrium after flooding shall be regarded as satisfactory provided:

- (a) The final waterline after flooding, taking into account sinkage, heel and trim, is below the lower edge of any opening through which progressive downflooding may take place. Such openings shall include air pipes, ventilators (even if they comply with regulation 19(4)) and openings which are closed by means of

weathertight doors (even if they comply with regulation 12) or hatch covers (even if they comply with regulation 16(1) through (5)), and may exclude those openings closed by means of manhole covers and flush scuttles (which comply with regulation 18), cargo hatch covers of the type described in regulation 27(2), remotely operated sliding watertight doors, and sidescuttles of the non-opening type (which comply with regulation 23). However, in the case of doors separating a main machinery space from a steering gear compartment, watertight doors may be of a hinged, quick-acting type kept closed at sea whilst not in use, provided also that the lower sill of such doors is above the summer load waterline."

Thus, the ICLL requires watertight doors to be of the sliding type, except for doors separating a main machinery space from a steering gear compartment, where they may be of the hinged type.

8 Paragraphs 5 to 7 above demonstrate the lack of consistency in the mandatory requirements regarding watertight doors. It is intended that the outcome of the review, in the form of any necessary amendments to the mandatory requirements referred to in paragraphs 5 to 7 above, will provide a justified, reasoned and rational set of consistent requirements regarding the fitting of watertight doors on cargo ships. It is proposed that any such amendments only apply to "new" ships constructed on or after the entry into force of the amendments. It is neither intended nor expected that there will be any significant additional costs to the industry as a consequence of the outcomes from this new output.

Timing

9 Document MSC 101/21/16 recommends that the proposed output should be included in the post-biennial agenda of MSC, with SDC as the associated organ, and should be completed in no more than two sessions. MSC 101 will also be invited to agree that this new output be put on the biennial agenda of SDC and the provisional agenda for SDC 7 (spring 2020), in view of the urgent need to have consistent provisions on the same matter in different instruments.

10 With two sessions to consider the issue in SDC, the outcomes (in terms of any draft amendments to the mandatory instruments within the purview of MSC) would be sent to the MSC meeting in late 2021 for approval, with a view to adoption at the MSC meeting in spring 2022. Consequently, it is expected that any such amendments would enter into force on 1 January 2024. This is important as MSC has agreed that, in the absence of exceptional circumstances, amendments to SOLAS and its related mandatory instruments (in this case the IBC and IGC Codes) should enter into force over a four-year cycle, which for future amendments is expected to be 1 January 2020, 1 January 2024, 1 January 2028 etc.

11 The co-sponsors consider that it will be important, for the sake of global and consistent implementation, that any amendments to the instruments discussed in paragraphs 5 to 7 above, should enter into force on the same date.

Role of the Marine Environment Protection Committee

12 It is noted that amendments to MARPOL and the IBC Code (see paragraph 6 above) fall within the remit of this Committee.

13 Unfortunately, the timing of SDC 6 made it impossible to meet the deadline for submitting documents to this session of the Committee for proposing new outputs.

Proposal

14 Taking into account the foregoing, in particular the issues discussed in paragraphs 9 to 13 above, the co-sponsors propose the Committee should agree, in principle, that, if MSC concurs with the proposal for a new output in document MSC 101/21/16 (and that SDC 7 should commence the technical consideration of this **safety-related issue**), then the Marine Environment Protection Committee should be shown as a coordinating organ in the 2020-2021 biennial agenda.

15 If the Committee concurs with the proposal in paragraph 14 above, it is further proposed that the outcome of SDC 7, which depending on the progress made may include draft amendments to MARPOL Annex I and the IBC Code, should be reported to MEPC 75.

Action requested of the Committee

16 The Committee is invited to consider the foregoing comments and analysis and the proposals in paragraphs 14 and 15 above, and take action as appropriate.
