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Agenda item 12

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**REVIEW OF MANDATORY REQUIREMENTS IN THE SOLAS, MARPOL AND LOAD LINE
CONVENTIONS AND THE IBC AND IGC CODES REGARDING WATERTIGHT DOORS
ON CARGO SHIPS**

Review of mandatory requirements regarding doors in watertight bulkheads

Submitted by Liberia, Marshall Islands and IACS

SUMMARY

Executive summary: This document proposes amendments to the relevant regulations of the MARPOL Convention, the International Convention on Load Lines, 1966, the IBC and IGC Codes to resolve inconsistencies between their requirements applicable to doors in watertight bulkheads

*Strategic direction,
if applicable:* 1

Output: 1.13

Action to be taken: Paragraph 6

Related documents: SDC 6/9/1, SDC 6/13 (paragraph 9.8); MEPC 74/14/5, MEPC 74/18 (paragraph 14.24); MSC 101/21/16 and MSC 101/24 (paragraph 21.25)

Background

1 The Maritime Safety Committee, at its 101st session (5 to 14 June 2019), discussed the proposal in document MSC 101/21/16 and agreed to include in the biennial agenda of the SDC Sub-Committee for the 2020-2021 biennium and the provisional agenda for SDC 7, an output on "Review of mandatory requirements in the SOLAS, MARPOL and Load Line Conventions and the IBC and IGC Codes regarding watertight doors on cargo ships", with a target completion year of 2021.

2 Prior to MSC 101, MEPC, at its seventy-fourth session (13 to 17 May 2019), agreed in principle that, if MSC approved the proposed new output for inclusion in its biennial agenda, then MEPC should be involved as an associated organ.

Discussion

3 During the development of Rev.1 of UI SC156, which was submitted by IACS to SDC 6 (SDC 6/9/1, annex), IACS noted the following inconsistencies between requirements in the SOLAS, MARPOL and Load Line Conventions, 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) regarding doors in watertight bulkheads:

- .1 the requirements related to hinged watertight doors are clearly specified in SOLAS only;
- .2 SOLAS regulation II-1/13-1.2 requires watertight doors that are used while at sea to be of the sliding type; on the other hand, doors that are normally closed at sea are not explicitly required to be of the sliding type, i.e. they can be "hinged" type (SOLAS regulation II-1/13-1.3); while
- .3 if, in the damage stability calculations, watertight doors are considered to be immersed, then:
 - .1 regulation 28.3.1 of MARPOL Annex 1 requires such doors to be of the sliding type; the same requirement appears in paragraph 2.9.2.1 of the IBC Code and paragraph 2.7.1.1 of the IGC Code; and
 - .2 regulation 27(13)(a) of the Load Lines Convention 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;
- .4 SOLAS 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. Requirements applicable to doors in watertight bulkheads that are to be used while at sea (described as "Used") appearing in the IMO instruments other than SOLAS, are compatible with those in SOLAS. However, these other instruments do not address requirements applicable to doors other than "Used" doors:

For example, doors other than those defined as "Used" in SOLAS, such as hinged doors which are "permanently closed" or "normally closed", do not appear to be clearly specified in the MARPOL and Load Lines Conventions, the IBC and IGC Codes.

Proposal

4 To address the above inconsistencies, and for the sake of uniform and consistent implementation of the requirements related to doors in watertight bulkheads, the co-sponsors propose to align the relevant requirements appearing in the above-mentioned instruments as per the draft amendments provided in the annex. SOLAS was used as a basis for this alignment due to the relevant requirements therein being the most recent.

5 Regarding application provisions, the co-sponsors recall paragraph 21.26.1 of document MSC 101/24, which highlights the decision of the Committee to apply these amendments to new ships only.

Action requested of the Sub-Committee

- 6 The Sub-Committee is invited to consider:
- .1 the discussion in paragraph 3 above;
 - .2 the amendments proposed in the annex; and
 - .3 the appropriate way to formulate the application of the amendments to new ships only and take action, as appropriate.

ANNEX*

DRAFT AMENDMENTS TO THE MARPOL CONVENTION, THE INTERNATIONAL CONVENTION ON LOAD LINES, 1966 (ICLL), THE IBC CODE AND THE IGC CODE

Amendments to MARPOL Annex I, regulation 28.3.1

1 Paragraph 3.1 is replaced with the following:

"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, hinged watertight doors that are normally closed at sea, and sidescuttles of the non-opening type."

Amendments to the IBC Code, paragraph 2.9.2.1:

2 Paragraph 2.9.2.1 is replaced with the following:

"2.9.1 Ships subject to the Code shall be capable of surviving the assumed damage specified in 2.5 to the standard provided in 2.8 in a condition of stable equilibrium and shall satisfy the following criteria.

2.9.2 In any stage of flooding:

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

Amendments to the IGC Code, paragraph 2.7.1.1:

3 Paragraph 2.7.1 is replaced with the following:

"2.7 Survival requirements

* Tracked changes are indicated using "strikeout" for deleted text and "grey shading" to highlight all modifications and new insertions, including deleted text.

Ships subject to the Code shall be capable of surviving the assumed damage specified in 2.3 to the standard provided in 2.6 in a condition of stable equilibrium and shall satisfy the following criteria.

2.7.1 In any stage of flooding:

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

4 Amendments to the ICLL, regulation 27(13)(a):

4 Regulation 27(13)(a) is replaced with the following:

"(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*, hinged watertight doors that are normally closed at sea, 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."