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**UNIFIED INTERPRETATION TO PROVISIONS OF IMO SAFETY, SECURITY,
AND ENVIRONMENT-RELATED CONVENTIONS**

**Discussion on the application of SOLAS regulation II-1/17-1 in relation to
MSC.1/Circ.1572/Rev.1**

Submitted by IACS

SUMMARY

Executive summary: This document discusses the application of the individual paragraphs of SOLAS regulation II-1/17-1 to internal and external doors, at or above the bulkhead deck on ro-ro passenger ships

*Strategic direction,
if applicable:* 6

Output: 6.1

Action to be taken: Paragraph 8

Related documents: SDC 6/9/1 and MSC 102/24 (paragraph 17.4)

Background

1 Document SDC 6/9/1 advised the Sub-Committee of the updates IACS made to its unified interpretation UI SC156 on doors in watertight bulkheads of cargo and passenger ships; the updates were issued as IACS UI SC156/Rev.1. The document was referred to the SDS Correspondence Group and further discussed at SDC 7, resulting in amendments to circular MSC.1/Circ.1572. The amendment to the circular was approved by MSC 102 (MSC 102/24, paragraph 17.4) and issued as circular MSC.1/Circ.1572/Rev.1.

Discussion

2 IACS has been reviewing the approved amendments to circular MSC.1/Circ.1572/Rev.1 and, in particular, checking the references to SOLAS chapter II-1 regulations in table 1 of that circular.

3 In the process of the exercise, IACS had spotted a number of differences between MSC.1/Circ.1572/Rev.1 and IACS UI SC156/Rev.1, in way of application of different paragraphs of SOLAS regulation II-1/17-1 with respect to doors at or above the bulkhead deck of ro-ro passenger ships.

4 SOLAS regulation II-1/17-1, as amended by resolution MSC.474(102), contains requirements pertaining to the integrity of the hull and superstructure, damage prevention and control on ro-ro passenger ships, and states:

"1.1 All access from the ro-ro deck that leads to spaces below the bulkhead deck shall have a lowest point which is not less than 2.5 m above the bulkhead deck, unless the access is covered by the provisions of paragraphs 1.2 or 1.3.

1.2 Where vehicle ramps are installed to give access to spaces below the bulkhead deck, their openings shall be able to be closed weathertight to prevent ingress of water below and fitted with alarms and open/close indicators on the navigation bridge. The means of closure shall be watertight if the deck is intended as a watertight horizontal boundary under regulation 7-2.6.

1.3 Subject to regulations 23.3 and 23.6, the Administration may permit the fitting of particular accesses to spaces below the bulkhead deck provided they are necessary for the essential working of the ship, e.g. the movement of machinery and stores, subject to such accesses being made watertight, fitted with alarms and open/close indicators on the navigation bridge.

2 Indicators shall be provided on the navigation bridge for all shell doors, loading doors and other closing appliances which, if left open or not properly secured, could, in the opinion of the Administration, lead to flooding of a special category space or ro-ro space. The indicator system shall be designed on the fail-safe principle and shall show by visual alarms if the door is not fully closed or if any of the securing arrangements are not in place and fully locked and by audible alarms if such door or closing appliances become open or the securing arrangements become unsecured. The indicator panel on the navigation bridge shall be equipped with a mode selection function "harbour/sea voyage" so arranged that an audible alarm is given on the navigation bridge if the ship leaves harbour with the bow doors, inner doors, stern ramp or any other side shell doors not closed or any closing device not in the correct position. The power supply for the indicator system shall be independent of the power supply for operating and securing the doors.

3 Television surveillance and a water leakage detection system shall be arranged to provide an indication to the navigation bridge and to the engine control station of any leakage through inner and outer bow doors, stern doors or any other shell doors which could lead to flooding of special category spaces or ro-ro spaces."

5 The Revised Explanatory Notes (resolution MSC.429(98)/Rev.2) contain two notes relating to SOLAS regulation II-1/17-1 as follows:

.1 the first note clarifies that SOLAS regulations II-1/17-1.1.1 and II-1/17-1.1.3 apply only to direct accesses from a ro-ro space to spaces located below the bulkhead deck. The operation of watertight doors in bulkhead separating a ro-ro space and other spaces as per SOLAS regulation II-1/13.8.1 should be limited to compliance with SOLAS regulation II-1/23.3; and

.2 the second note advises that if a non-watertight vehicle ramp closure is assumed to restrict the flow of water during the calculation of the attained subdivision index A, the vehicle ramp opening should comply with SOLAS regulation II-1/7-2.5.3.4.

6 From the above, the following arguments can be made with respect to the application of requirements of SOLAS regulation II-1/17-1 to internal and/or external doors in ro-ro/passenger ships:

SOLAS regulation II-1/17-1 states:	"Internal access" arguments:	"External access" arguments:
<p>"1.1 Subject to the provisions of paragraphs 1.2 and 1.3, all accesses that lead to spaces below the bulkhead deck shall have a lowest point which is not less than 2.5 m above the bulkhead deck.";</p> <p>(text as amended by resolution MSC.474(102):</p> <p>"All access from the ro-ro deck that leads to spaces below the bulkhead deck shall have a lowest point which is not less than 2.5 m above the bulkhead deck, unless the access is covered by the provisions of paragraph 1.2 or 1.3.");</p>	<ul style="list-style-type: none"> • the Revised Explanatory Notes in resolutions MSC.429(98)/Rev.1 and Rev.2 (RENS) state that SOLAS regulations II-1/17-1.1.1 and II-1/17-1.1.3 apply only to direct accesses from a ro-ro space to spaces located below the bulkhead deck; • such internal openings exclude watertight doors in bulkheads separating a ro-ro space and other spaces as per SOLAS regulation II-1/13.8.1, which should be limited to compliance with SOLAS regulation II-1/23.3 as per RENS; • SOLAS regulation II-1/17-1.1.1 is not applicable for accesses between spaces located below the bulkhead deck, neither for accesses connecting spaces located on or above the bulkhead deck; • accesses could be located above the bulkhead deck, but within an enclosed buoyant space; 	<ul style="list-style-type: none"> • reference in table 1B of MSC.1/Circ.1572/Rev.1 for external watertight boundaries accounts for open-ended ferries;
<p>"1.2 Where vehicle ramps are installed to give access to spaces below the bulkhead deck, their openings shall be able to be closed weathertight to prevent ingress of water below, alarmed and indicated to the navigation bridge.";</p> <p>(text as amended by resolution MSC.474(102):</p>	<ul style="list-style-type: none"> • this applies only to vehicle ramps which directly connect spaces located on or above the bulkhead deck with spaces located below the bulkhead deck. Therefore, it does not apply to vehicle ramps that are solely located below the bulkhead deck; • accesses could be located above the bulkhead deck, but within an enclosed buoyant space; 	<ul style="list-style-type: none"> • reference in table 1B of circular MSC.1/Circ.1572/Rev.1 for external watertight boundaries accounts for open ended ferries;

SOLAS regulation II-1/17-1 states:	"Internal access" arguments:	"External access" arguments:
<p>"Where vehicle ramps are installed to give access to spaces below the bulkhead deck, their openings shall be able to be closed weathertight to prevent ingress of water below and fitted with alarms and open/close indicators on the navigation bridge. The means of closure shall be watertight if the deck is intended as a watertight horizontal boundary under regulation 7-2.6.");</p>		
<p>"1.3 The Administration may permit the fitting of particular accesses to spaces below the bulkhead deck provided they are necessary for the essential working of the ship, e.g. the movement of machinery and stores, subject to such accesses being made watertight, alarmed and indicated on the navigation bridge.";</p> <p>(text as amended by resolution MSC.474(102):</p> <p>"Subject to regulations 23.3 and 23.6, the Administration may permit the fitting of particular accesses to spaces below the bulkhead deck provided they are necessary for the</p>	<ul style="list-style-type: none"> • RENS state that SOLAS regulations II-1/17-1.1.1 and II-1/17-1.1.3 apply only to direct accesses from a ro-ro space to spaces located below the bulkhead deck; • such internal openings exclude watertight doors in bulkheads separating ro-ro spaces and other spaces per SOLAS regulation II-1/13.8.1, which should be limited to compliance with SOLAS regulation II-1/23.3 per RENS; • accesses could be located above the bulkhead deck, but within an enclosed buoyant space; 	

SOLAS regulation II-1/17-1 states:	"Internal access" arguments:	"External access" arguments:
essential working of the ship, e.g. the movement of machinery and stores, and subject to such accesses being made watertight, fitted with alarms and open/close indicators on the navigation bridge.");		
"2 Indicators shall be provided on the navigation bridge for all shell doors, loading doors and other closing appliances...";	<ul style="list-style-type: none"> • the requirement for installation of indicators system to mitigate the occurrence and/or impact of flooding of ro-ro spaces through watertight doors does not distinguish between internal and external openings; • the phrase "all shell doors, loading doors and other closing appliances" does not limit the application to only external or internal doors; 	
"3 Television surveillance and a water leakage detection system shall be arranged to provide an indication of any leakage through inner and outer bow doors, stern doors or any other shell doors which could lead to flooding of special category spaces or ro-ro spaces.";	<ul style="list-style-type: none"> • SOLAS regulation II-1/17-1.3 states that it applies to: <ul style="list-style-type: none"> - inner bow doors (internal access); - outer bow doors (external access); - stern doors (external access); - any other shell doors (external access); • SOLAS regulation II-1/17-1.3 does not apply to other types of accesses (either internal or external). 	

7 Based on the analysis in paragraph 6, IACS proposes that the references to SOLAS regulation II-1/17-1 contained in table 1 of circular MSC.1/Circ.1572/Rev.1 be amended as follows:

Note: for clarity only passenger ship parts of the table, for doors at or above the bulkhead deck, are shown.

Position relative to bulkhead or freeboard deck	Frequency of use while at sea	References to SOLAS regulation in circular MSC.1/Circ.1572/Rev.1	Application proposed by IACS
Table 1A: doors in internal watertight bulkheads	Used	II-1/17-1.1.1 II-1/17-1.1.2 II-1/17-1.1.3	II-1/17-1.1.1 II-1/17-1.1.3 II-1/17-1.2 II-1/17-1.3

Position relative to bulkhead or freeboard deck	Frequency of use while at sea	References to SOLAS regulation in circular MSC.1/Circ.1572/Rev.1	Application proposed by IACS
	Permanently closed	II-1/17-1.1.1 II-1/17-1.1.2 II-1/17-1.1.3	II-1/17-1.1.1 II-1/17-1.1.2 II-1/17-1.1.3 II-1/17-1.2 II-1/17-1.3
Table 1B: doors in external watertight boundaries below equilibrium or intermediate waterplane	Normally closed	II-1/17-1.1.1 II-1/17-1.1.2 II-1/17-1.3	II-1/17-1.1.1 II-1/17-1.1.2 II-1/17-1.1.3 II-1/17-1.2 II-1/17-1.3
	Permanently closed	II-1/17-1.1.1 II-1/17-1.2 II-1/17-1.3	II-1/17-1.1.1 II-1/17-1.1.2 II-1/17-1.1.3 II-1/17-1.2 II-1/17-1.3

Actions requested of the Sub-Committee

8 The Sub-Committee is invited to consider the above information and, in particular, advise on:

- .1 the application of SOLAS regulation II-1/17-1 to internal and external doors on ro-ro passenger ships, as summarized in circular MSC.1/Circ.1572/Rev.1; and
- .2 the revisions of MSC.1/Circ.1572/Rev.1 as discussed in principle in paragraph 6 and the proposal in paragraph 7, and take action, as appropriate.
