

SUB-COMMITTEE ON SHIP SYSTEMS AND  
EQUIPMENT  
4th session  
Agenda item 11

SSE 4/11/X  
27 January 2017  
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**REVISED SOLAS REGULATIONS II-1/13 AND II-1/13-1 AND OTHER RELATED  
REGULATIONS FOR NEW SHIPS**

**Comments on SSE 4/11**

**Submitted by Japan, the Marshall Islands, ICS and CLIA**

**SUMMARY**

*Executive summary:* This document comments on the report of the Correspondence Group on Anti-crushing Protection to Watertight Doors and highlights matters of significance arising from the work and the additional information that is considered necessary to further inform consideration of the application of Anti-crushing protection (ACP) to watertight doors on new ships.

*Strategic direction:* 5.2

*High-level action:* 5.2.1

*Output:* 5.2.1.5

*Action to be taken:* Paragraph 8

*Related documents:* SSE 3/16, SDC 2/3/7, MSC 95/WP.12, MSC 95/INF.4; and SSE 4/11

**Introduction**

1 This document comments on document SSE 4/11 (European Commission) which provides the report of the Correspondence Group on Anti-crushing Protection to Watertight Doors, and in particular consideration of the appropriateness of a mandatory requirement to fit anti-crushing protection (ACP) to watertight doors on new ships. It is submitted in accordance with the provisions of paragraph 6.12.5 of the *Revised Guidelines on the organization and method of work of the Maritime Safety Committee and the Marine Environment Committee and their subsidiary bodies* (MSC-MEPC.1/Circ.4/Rev.4).

**Discussion**

2 The majority of the co-sponsors participated in the correspondence group on Anti-crushing protection to watertight doors coordinated by the European Commission.

Notwithstanding agreement in a number of areas related to potential functional requirements for ACP, there were some important and significant issues upon which a lack of consensus was evident, in particular:

- .1 whether ACP should be optional or mandatory in SOLAS (SSE 4/11, paragraph 14);
- .2 whether existing procedures to prevent crushing accidents involving watertight doors are inadequate (SSE 4/11, paragraph 15); and
- .3 whether a technical measure would improve or compromise safety for passengers, seafarers and ships (SSE 4/11, paragraph 15).

3 Although it was not within the terms of reference of the correspondence group to resolve these matters, their significance for further work on consideration of anti-crushing or equivalent protection should not be underestimated. Nor should the need for objective evidence to support their further consideration. In this regard, no evidence has been provided in SDC 2/3/7 (Austria *et al*), MSC 95/WP.12 (Secretariat) or MSC 95/INF.4 (European Commission) which indicates that:

- .1 procedures for the opening, transiting and closing of watertight doors or the design of watertight doors on passenger or cargo ships are inadequate and contribute to an intolerable level of individual risk. ICS has reviewed the incidents referred to in MSC.95/WP.12, annex 2, paragraph 6 and the conclusions of the accident reports provided by the UK MAIB (**Royal Princess** (2001) and **Euro Voyager** (2008)). The report into the accident on the **King of Scandinavia** (2006) could not be found. It is clear that failures to follow established procedures for the safe operation of watertight doors, rather than an inadequacy in the design or function of such doors, resulted in these accidents;
- .2 technical measures would effectively mitigate the consequences of a failure to follow demonstrably effective procedures for the opening, transiting and closing of watertight doors. On the contrary, such devices could actually increase risky behaviours and the risk of crushing accidents if the opening, transiting and closing of watertight doors is done on the assumption that crushing is no longer a risk (the *Peltzman Effect*);
- .3 sufficiently robust technical measures are actually available for installation and application on passenger and cargo ships, taking into account the requirements of SOLAS; and
- .4 as a risk control option designed to address the individual risk of a crushing incident, the fitting of ACP does not have a negative, intolerable effect on the watertight integrity and survivability of a ship, and the safety of all persons on board (currently up to 8900 people). It is unjustified to assert that introducing additional complexity to the closing of watertight doors, by adding sensors and new modes of operation, would not impact on the watertight integrity of a ship.

4 The co-sponsors consider that in the absence of the evidence outlined in paragraph 3 above, it will be difficult to achieve informed consensus on the issues referred to in paragraph 2 above. Indeed, it may not be prudent to attempt to resolve these issues without further evidence of the potential effectiveness and consequences of the application of ACP to watertight doors on new ships.

5 This submission is not intended to suggest that accidents involving watertight doors are acceptable. The purpose is to highlight that this work raises questions regarding the inter-play between mitigation of individual and societal risk which should be carefully considered.

### **Proposal**

6 In the absence of the appropriate evidence, further work on revisions to SOLAS regulations II-1/13 and II-1/13-1 relating to ACP should be deferred until such evidence is available for consideration by the Sub-Committee.

7 The co-sponsors consider that it may be appropriate for interested member States and international organizations to submit evidence, in the form of a formal safety assessment (FSA) carried out 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) on the application of ACP to watertight doors on new ships. In particular the FSA should quantify the following to inform the rule-making process:

.1 the current level of individual risk associated with the operation of watertight doors without ACP across the global fleet;

.2 the expected reduction in individual risk resulting from the application of ACP on new ships when compared with alternative risk control options; and

.3 the expected impact on the societal risk posed by the introduction of additional modes of failure in watertight doors and the consequences for the watertight integrity of new ships.

### **Action requested of the Sub-Committee**

8 The Sub-Committee is invited to note the discussion in paragraphs 2 to 5 and the proposals in paragraph 6 and 7, and take action as appropriate.