



SUB-COMMITTEE ON SHIP SYSTEMS AND
EQUIPMENT
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Agenda item 12

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**DEVELOPMENT OF AMENDMENTS TO SOLAS CHAPTER II-2 AND THE FSS CODE
CONCERNING DETECTION AND CONTROL OF FIRES IN CARGO HOLDS
AND ON THE CARGO DECK OF CONTAINERSHIPS**

Comments on document SSE 12/12

Submitted by IACS

SUMMARY

Executive summary: This document provides complementary proposals to the report of the Correspondence Group on Fire Protection 2 (SSE 12/12), regarding the detection and control of fires in cargo holds and on the cargo deck of containerships.

*Strategic direction,
if applicable:* 7

Output: 7.15

Action to be taken: Paragraph 17

Related document: SSE 12/12

Introduction

1 This document is submitted in accordance with the provisions of paragraph 6.12.5 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.6) and provides complementary proposals to the report of the Correspondence Group on Fire Protection 2 contained in document SSE 12/12 (Norway).

2 SSE 11 re-established the Correspondence Group on Fire Protection 2 (FP) to discuss matters emanating from agenda item 12 on detection and control of fires in cargo holds and on the cargo deck of containerships; and agenda item 16 on fire safety systems to reduce the fire risk of ships carrying new energy vehicles, including BEVs. IACS participated in the Correspondence Group and appreciates the efficient leadership of its coordinator (Norway) and the significant progress achieved over the year. A key aspect of the work in progress regarding the detection and control of fires in cargo holds and on the cargo deck of containerships is the plan to require fixed water monitors on board containerships, capable of spraying water on containers stored on the open deck.

3 As a complement to the work already carried out by the Correspondence Group, IACS would like to offer its additional input to the specification of fixed water monitors for the consideration of the Sub-Committee within the scope of the development of amendments to SOLAS chapter II-2 and the FSS Code concerning the detection and control of fires in cargo holds and on the cargo deck of containerships.

Discussion

4 Several members of IACS have gained practical experience of fixed water monitors installed on board containerships through the application of dedicated additional class notations, which have been applied voluntarily by some shipowners.

5 In addition, it is noted that amendments to SOLAS regulation II-2/20 (resolution MSC.550(108)), which have entered into force on 1 January 2026, require the installation of fixed water monitors on board ro-ro ships to cover weather decks where vehicles are intended to be stored. A detailed specification for these fixed water monitors has been adopted by resolution MSC.555(108), amending chapter 7 of the FSS Code.

6 Based on practical experience and existing specifications for fixed water monitors, IACS offers considerations complementary to the work of the Correspondence Group, as follows.

Proposal for draft amendments to SOLAS regulation II-2/10.7.3 (annex 3 to document SSE 12/12)

7 IACS recommends referencing the *Guidelines for the design, performance, testing and approval of mobile water monitors used for the protection of on-deck cargo areas of ships designed and constructed to carry five or more tiers of containers on or above the weather deck* (MSC.1/Circ.1472) in SOLAS regulation II-2/10.7.3 for detailed specifications regarding the number and capacity of fixed fire monitors, ensuring a comprehensive, goal-based and consistently applicable approach, as follows:*

"7.3.2.1 Ships designed to carry five or more tiers of containers on or above the weather deck shall carry fixed and mobile water monitors² in order to reach the top tier container and supply seawater to all open deck cargo areas, as follows:

- [.1 The number and arrangement of fixed water monitors shall be such that their combined use provides coverage of the entire deck cargo area, with the capacity to reach the top of the uppermost container, based on the Guidelines developed by the Organization². [taking into account [the length of throw determined by the test according to the guidelines] and the ship's container stowage configuration and structural layout.]

² [Revised] guidelines for fixed and mobile water monitor (MSC.1/Circ.1472[Rev.1])"

8 Further, IACS recommends consolidating all requirements for the control and monitoring of fixed water monitors under MSC.1/Circ.1472, ensuring alignment with the existing requirements between SOLAS and the FSS Code for monitors covering weather decks on ro-ro ships, as follows:

"7.3.2.2 The fixed and mobile water monitor shall be approved in accordance with the guidelines developed by the Organization³. ~~The fixed water monitor shall be capable~~

* Modifications are provided in grey shading.

~~of remote operation from a control position such as the navigation bridge. The manual operation of fixed water monitors shall be available at the installed location.~~
The mobile water monitors, all necessary hoses, fittings and required fixing hardware shall be kept ready for use in a readily accessible location outside the cargo area. [The mobile water monitors shall be ready for use in less than 10 minutes.]"

9 The distribution of requirements between SOLAS and the FSS Code for fixed water monitors covering weather decks on ro-ro ships has resulted in certain SOLAS requirements being moved into MSC.1/Circ.1472, which is a set of guidelines and, therefore, not mandatory. IACS considers that the most appropriate approach to specify detailed requirements for fixed water monitors for deck cargo areas on containerships is to incorporate these provisions into the FSS Code in due course.

10 IACS proposes to use a similar approach as provided in resolution MSC.555(108) and move the pump capacity requirements, when the fixed water monitors are supplied by the fire main, from SOLAS to MSC.1/Circ.1472 to align with the existing distribution between SOLAS and the FSS Code for fixed water monitors covering weather decks on ro-ro ships, i.e. delete new draft SOLAS regulation II-2/10.7.3.2.5 and introduce new text into MSC.1/Circ.1472 as per the proposal in paragraph 14 below.

11 Also, IACS proposes to remove the capacity of fixed water monitors from the draft new SOLAS regulation II-2/10.7.3.2.7 in favour of specifying it in MSC.1/Circ.1472 as per proposal in paragraph 12. The suggested change to the draft regulation is as follows:

"7.3.2.7 The minimum capacity of each ~~fixed or~~ mobile water monitor shall be 1,000 litres per minute (l/min) at the pressure required by SOLAS regulation II-2/10.2.1.6, or as otherwise".

Proposal for draft amendments to MSC.1/Circ.1472 (annex 4 of document SSE 12/12)

12 In order to avoid any ambiguity regarding the performance of fixed water monitors, IACS proposes to supplement the principal requirements with a new provision 4.1 according to which fixed water monitors should deliver the water to the top of the uppermost containers on the deck cargo area:

"4 Principal requirements for fixed water monitors

4.1 The fixed monitor(s) should be capable of delivering water to the top of the uppermost container on the deck cargo area."

13 IACS proposes to align the requirements for fixed water monitors with that for ro-ro passenger ships' weather decks and to include a performance-based requirement in relation to the area to be covered. In line with the functional requirement "containment and extinction of any fire in the space of origin", the fixed water monitors should be able to cover the top of any two container bays (the vertical separation of the cargo bays should be provided by mobile water monitors or other means). To reflect that, the following addition is proposed:

"4.2 The combined capacity of all fixed monitors should be sufficient to deliver 2.0 L/min per square metre of any 2 adjacent container bays, but in no case should the output of any monitor be less than 1,250 L/min. Even distribution of water should be ensured".

14 In line with the amendments to the FSS Code for fixed water-based fire-fighting systems for ro-ro spaces, vehicle spaces and special category spaces (chapter 7, regulation 2.5.6), IACS proposes to supplement MSC.1/Circ.1472 with requirements regarding segregation and pump capacity, as follows:

"4.9 The system may be supplied by the fire main, or a dedicated pump providing a continuous supply of seawater. Where the ship's fire pumps are used to feed the monitor(s):

- .1 it should be possible to segregate the ship's fire main from the monitor(s) by means of a valve in order to operate both systems separately or simultaneously; and
- .2 the capacity of the pumps should be sufficient to serve both systems simultaneously, including two jets of water at the required pressure from the fire main system. In case carriage of dangerous goods is foreseen on board, capacity for four jets of water at the required pressure should be provided".

15 For effective fire fighting, it is essential to continuously monitor the pump performance/conditions and that of the fixed water monitors, for instance, to initiate immediate countermeasures in case of a pump failure. Therefore, it is proposed that pump condition information is continuously available at the water monitors and the continuously manned central control station, as follows:

"4.10 The controls of the pump supplying water to the water monitors should be available locally and from the continuously manned central control station. Controls for the fixed water monitors should be available locally".

16 In order to verify that the fixed water monitors meet the required performance regarding the area covered and the control of the fixed monitors, IACS proposes to add the two topics to the list of onboard testing, as follows:

"5.2 Onboard testing

The operational performance of each [fixed and] mobile water monitor is to be tested on board, [with a maximum wind velocity of 5 m/s]. The test is to verify that:

- .1 the mobile water monitor can be securely fixed to the ship structure;
- .2 the mobile water monitor jet reaches the top tier of containers with all required monitors and water jets from fire hoses operated simultaneously;
- .3 the fixed water monitor can achieve the required coverage; and
- .4 the fixed water monitor control is operated properly."

Action requested of the Sub-Committee

17 The Sub-Committee is invited to consider the proposals in paragraphs 7 to 16 and to take action, as appropriate.