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| SUB-COMMITTEE ON SHIP SYSTEMS AND EQUIPMENT  8th session  Agenda item 10 | SSE 8/10/[XX]  07 January 2021  Original: ENGLISH  Pre-session public release: |

**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 SSE 8/10**

**Submitted by Germany, Liberia, Panama, Philippines, IACS, ICS, International Group of P&I Associations, ITF, WSC**

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| **SUMMARY** | |
| *Executive summary:* | This document sets out the need for a Formal Safety Assessment (FSA) in accordance with IMO Guidelines, and recommends an approach to the regulatory review process with appropriate focus on risk prevention and goal-based standards. The document finally proposes the establishment of an FSA Group of Experts to review the outcomes of a study by the European Maritime Safety Agency (EMSA), as available, as well as any other feedback, submitted to the Group by interested Member States and international organizations, with a view for the Sub-Committee to develop, as appropriate, 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. |
| *Strategic direction, if applicable:* | 6, 7 |
| *Output:* | Not applicable |
| *Action to be taken:* | Paragraph 14 |
| *Related documents:* | SSE 8/10 |

1 This document is submitted in accordance with paragraph 6.12.4 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) and comments on

document SSE 8/10.

2 The co-sponsors note with appreciation document SSE 8/10. In particular and with reference to the proposal for a roadmap in paragraph 3 of that document, the co-sponsors, while acknowledging the value of its direction, would like to elaborate in support of its need to perform the risk assessment and develop regulations based on the IMO recognized approach of the formal safety assessment (FSA) so as to be able to capture and assess the totality of risks and risk control options.

**New output**

3 Following discussion, and having noted, in particular, the need for a holistic risk-based approach and prioritization of risk prevention and mitigation enhancement when developing amendments, the Maritime Safety Committee, in its 103rd session, agreed to include in the biennial agenda of the SSE Sub-Committee for 2022-2023 and the provisional agenda for SSE 8 an output on "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", with a target completion year of 2025, in association with the CCC Sub-Committee as and when requested by the SSE Sub-Committee. The Committee also agreed that:

.1 the amendments to be developed should apply to new ships;

.2 the output was to amend regulations in SOLAS chapter II-2 and the FSS Code to enhance provisions for early fire detection and effective control of fires in containerized cargoes stowed on and under deck of containerships; and

.3 the amendments to be developed should enter into force on 1 January 2028, provided that they were adopted before 1 July 2026 (MSC 103/21, paragraphs 18.8 – 18.9).

**Need for a Formal Safety Assessment**

4 The co-sponsors support that fire detection and protection measures be reviewed as per the new output, in order to identify possible areas of enhancement of risk mitigation. However, based on a long list of cargo fire incidents and lessons learnt on board containerships, it is recognised that the efficiency of fire detection and control is dependent on a number of factors. These include but are not limited to the chemical nature, stowage location, accessibility, packaging of the cargo from which the fire originates, nature of, and knowledge of the nature of, surrounding cargo, and – importantly – the accuracy of the information provided to the carrier used for its stowage and handling decisions. Such factors and variables need to be considered carefully in the review process.

5 In view of the complex nature of the subject matter, applying the Organization’s *Revised guidelines for formal safety assessment (FSA) for use in the IMO rule-making process* (MSC-MEPC.2/Circ.12/Rev.2) is considered necessary, so as to include the following steps (s. 3.1.1 thereof):

.1 identification of hazards;

.2 risk analysis;

.3 risk control options;

.4 cost-benefit assessment; and

.5 recommendations for decision-making.

**Recommended approach to the regulatory review process**

6 At the same time, it is crucial that a regulatory review be done in conjunction with an assessment of risk prevention and mitigation in order to reduce the magnitude and frequency of containership fires/explosions. Without tackling this, it is almost certain that any regulation adopted today, which is based solely on post incident risk factors without taking sufficient notice of risk prevention and mitigation, will be out of date in a few years.

7 The above approach is integral to fulfilling the goal of a socially responsible and environmentally sustainable transport sector, to which both the Organization and the co-sponsors subscribe, for two reasons:

1. Mitigating the risk of fires/explosions in the first place is more likely to reduce seafarer injuries and fatalities as well as protect the marine environment from dangerous chemicals and other hazardous cargo and material carried or used on ships; and
2. a reduced risk factor is more manageable on board ships, due to increasing the efficiency of fire extinguishing arrangements and entailing less exposure of crew to conditions that normally require assistance from specialised fire-fighting services.

8 According to the *Revised guidelines for formal safety assessment (FSA) for use in the IMO rule-making process* (MSC-MEPC.2/Circ.12/Rev.2), an FSA may also be useful in those situations where there is a need for risk reduction but the required decisions regarding what to do are unclear, regardless of the scope of the project. As shown in paragraphs 6-7, the current circumstances provide for such a situation, and, as such, an FSA will enable the need and benefits of proposed changes to be properly established, so as to give Member States a clearer perception of the scope of the proposals and an improved basis on which they take decisions. Furthermore, this decision-making process is already facilitated by MSC 103’s decision that the new output is to be completed in association with the CCC Sub-Committee as and when requested by the SSE Sub-Committee.

9 In addition to the above, the co-sponsors agree that any regulatory amendments to be made should be in accordance with the *Generic Guidelines for Developing IMO Goal-Based Standards* (MSC.1/Circ.1394/Rev.2).

**European Maritime Safety Agency (EMSA) Study**

10 The co-sponsors further note that the European Maritime Safety Agency (EMSA) is currently finalising arrangements to commence a safety risk study on containerised cargo fires, following the structure of an FSA as described in IMO's Guidelines (MSC-MEPC.2/Circ.12/Rev.2). The duration of the study is one year and the final report is expected at the end of 2022.

11 The study is intended to include the following tasks and objectives:

1. hazard identification: identify and prioritize a list of scenarios considering the risk relating to the transport of containerised cargo and the risk of fire inside a containerised unit;
2. risk analysis: for the hazards identified and prioritized, develop a detailed investigation of the causes, initiating events, frequency and consequences;
3. risk control options (RCOs): identify and analyse risk control options for the following categories: i) prevention, ii) detection/decision, iii) containment and iv) fire extinguishing;
4. cost effectiveness assessment: calculate and compare cost effectiveness associated with the implementation of each risk control option; and
5. recommendations for decision making: list of recommendations to support the implementation of the RCOs identified as cost effective in the reduction of risk associated to occurrence of cargo fires onboard containerships.

Full specifications of EMSA’s study entitled ‘Study Investigating Cost Efficient Measures for Reducing the Risk from Cargo Fires on Container Vessels (Cargosafe)’ can currently be found on the following website: <https://etendering.ted.europa.eu/document/document-file-download.html?docFileId=107786>.

12 Without prejudice to other current or future studies and initiatives on this matter based on an FSA approach, which could also provide important input to the regulatory review, the co-sponsors submit that this study would satisfy the recommendations put forward in paragraphs 4-8 above, and that its recommendations could be considered by the Sub-Committee. This should be done in parallel with feedback to be submitted by interested Member States and international organizations in the regulatory review process.

**Proposal**

13 Taking into consideration the recommendations and information provided in paragraphs 4-12 of this document, as well as the specific needs of the new output as approved by MSC 103, the co-sponsors propose, in the interest of saving valuable time, that the Sub-Committee invite the 105th session of MSC to establish an FSA Group of Experts, to work intersessionally, and to:

.1 review the outcomes of EMSA’s ‘Study Investigating Cost Efficient Measures for Reducing the Risk from Cargo Fires on Container Vessels (Cargosafe)’, as available, as well as any other feedback, submitted to the Group by interested Member States and international organizations, in the regulatory review process, including any other studies and initiatives on this matter embodying an FSA approach; and

.2 report to the Sub-Committee as an instructed subsidiary body,

with a view for the Sub-Committee to develop, as appropriate, 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, in accordance with the above recommendations and the *Generic Guidelines for Developing IMO Goal-Based Standards* (MSC.1/Circ.1394/Rev.2).

**Action requested of the Committee**

14 The Committee is invited to consider the proposal in paragraph 13 and take action, as appropriate.