

MARITIME SAFETY COMMITTEE  
101st session  
Agenda item 3

MSC 101/3/10  
15 April 2019  
Original: ENGLISH  
Pre-session public release:

## CONSIDERATION AND ADOPTION OF AMENDMENTS TO MANDATORY INSTRUMENTS

### Comments on document MSC 101/3 regarding draft amendments to paragraph 9.5 of the IGF Code

Submitted by ICS, IACS and SGMF

#### SUMMARY

*Executive summary:* This document provides comments on document MSC 101/3 regarding the draft amendments to paragraph 9.5 of the IGF Code and proposes the inclusion of additional text in order to ensure the applicability of leakage detection requirement for pipes carrying liquefied fuel

*Strategic direction, if applicable:* 2

*Output:* 2.3

*Action to be taken:* Paragraph 16

*Related documents:* CCC 4/3/1, CCC 4/12; CCC 5/WP.3; MSC 99/8/1, MSC 99/22; MSC-MEPC.1/Circ.5; MSC 100/8, MSC 100/11/1 and MSC 100/20

#### 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.1) and provides comments on document MSC 101/3 (Secretariat) regarding the draft amendments to paragraph 9.5 of the IGF Code.

#### Background

2 The Sub-Committee on Carriage of Cargoes and Containers (CCC), at its fourth session, having considered document CCC 4/3/1 (IACS) under the agenda item on "Amendments to the IGF Code and development of guidelines for low-flashpoint fuels", instructed the Working Group on Amendments to the IGF Code and Development of Guidelines for Low-flashpoint Fuels to consider the draft amendments to paragraph 9.5 as contained in paragraphs 4 to 10 of document CCC 4/3/1.

3 The Sub-Committee endorsed the draft amendments prepared by the Working Group, as set out in annex 1 to document CCC 4/12, and invited the Committee to approve them with a view to adoption at MSC 100 (CCC 4/12, paragraph 3.44).

4 The Maritime Safety Committee, at its ninety-ninth session, in considering the action requested of it as discussed in paragraph 3 above, discussed document MSC 99/8/1(Denmark). Subsequently, the Committee agreed to hold the approval of the draft amendments to parts A and A-1 of the IGF Code in abeyance and instructed CCC 5, taking into account the above views and document MSC 99/8/1, to reconsider the draft amendments to regulation 9.5.6 of the IGF Code and report the outcome to MSC 100 as an urgent matter (MSC 99/22, paragraph 8.5).

5 The Sub-Committee on Carriage of Cargoes and Containers (CCC), at its fifth session, having considered draft amendments to regulation 9.5.6 of the IGF Code, taking into account documents MSC 99/8/1 and CCC 5/3/5, decided not to modify the text as originally drafted and endorsed by CCC 4, as set out in annex 1 of CCC 4/12.

6 ICS had made related interventions at CCC 4 and CCC 5 highlighting that any separate leakage protection provisions for liquefied gas pipes should retain the safety critical requirements for leakage detection. Based on the ICS intervention at CCC 5, the Working Group on Amendments to the IGF Code and Development of Guidelines for Low-flashpoint Fuels had noted some merits in adding an extra clarification, but rejected the proposal following a majority view that the addition would not add any value (CCC 5/WP.3, paragraph 5).

7 MSC 100 considered document MSC 100/11/1 (ICS and SGMF), providing comments on document MSC 100/11 regarding draft amendments to paragraph 9.5 of the IGF Code and proposing the inclusion of additional text in order to ensure the applicability of leakage detection requirements for pipes carrying liquefied fuel, i.e. to amend paragraph 9.5.6 (CCC 4/12, annex 1) by using wording similar to that used in paragraph 6.4.5.3. Notwithstanding the support that the submission received, the Committee agreed to the text as prepared by the CCC Sub-Committee (CCC 4/12, annex 1) and approved the draft amendments to parts A and A-1 of the IGF Code, as set out in annex 10, while noting that the views on this matter were divided and that further proposals could still be submitted at the adoption stage (MSC 100/20, paragraph 11.5).

8 The co-sponsors believe that the approved new requirements in paragraph 9.5.6 of part A-1 of the IGF Code, as provided in annex 10 of MSC 100/20, introduces ambiguity in this safety critical provision that inadvertently reduces existing safety requirements by not specifying any requirement for leakage detection for pipes carrying liquefied fuel, which may result in systems being designed with possible dangerous consequences.

## Discussion

9 The existing paragraph 9.5.1 of part A-1 of the IGF Code reads as follows:

"9.5.1 Where fuel pipes pass through enclosed spaces in the ship, they shall be protected by a secondary enclosure. This enclosure can be a ventilated duct or a double wall piping system. The duct or double wall piping system shall be mechanically underpressure ventilated with 30 air changes per hour, and gas detection as required in 15.8 shall be provided. Other solutions providing an equivalent safety level may also be accepted by the Administration."

10 As per the amendments proposed in CCC 4/3/1 (IACS) which has subsequently been approved at MSC 100, paragraph 9.5.1 of part A-1 of the IGF Code has been modified to be applicable only to gaseous fuels and the following new paragraph 9.5.6 has been introduced in order to provide related specific requirements for liquefied fuel pipes:

"9.5.6 Liquefied fuel pipes shall be protected by a secondary enclosure able to contain leakages. If the piping system is in a fuel preparation room or a tank connection space, the Administration may waive this requirement.

The secondary enclosure shall be able to withstand the maximum pressure that may build up in the enclosure in case of leakage from the fuel piping. For this purpose, the secondary enclosure may need to be arranged with a pressure relief system that prevents the enclosure from being subjected to pressures above their design pressures."

11 By comparing the texts in paragraphs 9 and 10 above, it is apparent that the requirement for leakage detection has not been carried over to the approved new provision specifically applicable to liquefied fuel pipes. The authors of document CCC 4/3/1(IACS) that initially proposed the new paragraph 9.5.6 have clarified that the original intention of the additional text was not to waive leakage detection for any secondary enclosure protecting liquefied fuel pipes.

12 Paragraph 15.8.1.2 of part A-1 of the IGF Code requires permanently installed gas detectors to be fitted in all ducts around fuel pipes. It is not clear if this requirement is applicable to the secondary enclosures around liquefied fuel pipes as required in the new paragraph 9.5.6.

13 As per the comments received at MSC 100, it is noted that the definition of the term gas in paragraph 2.2.18 of the IGF Code includes both gaseous and liquid phases of the fluid at the respective range of vapour pressures. However, there are no specific definitions for either gas detection or leakage detection. The co-sponsors consider that gas detection using permanently installed gas detectors is only one of the numerous types of leakage detection systems. In this regard, the co-sponsors recognize that since gas detection as required by paragraph 15.8 might not be practical for liquefied fuel pipes, alternative leakage detection systems such as pressure monitoring of vacuum insulated piping are applicable and should therefore be specifically required.

14 The co-sponsors consider that in order to ensure that the critical safety requirement for positive timely detection of leakages is enforced with no ambiguity, leakage detection for secondary enclosures around all liquefied fuel pipes should be explicitly required. In this regard, the co-sponsors believe that appending paragraph 9.5.6 with similar wording to that used in paragraph 6.4.5.3 of the IGF Code on leakage detection would be sufficient.

## Proposal

15 It is proposed to amend paragraph 9.5.6 of annex 1 of CCC 4/12 as follows (modifications are shown with new text underlined):

"9.5.6 Liquefied fuel pipes shall be protected by a secondary enclosure able to contain leakages. If the piping system is in a fuel preparation room or a tank connection space, the Administration may waive this requirement. Where gas detection as required in 15.8.1.2 is not fit for purpose, the secondary enclosures around liquefied fuel pipes shall be provided with leakage detection by means of pressure or temperature monitoring systems, or any combination thereof.

The secondary enclosure shall be able to withstand the maximum pressure that may build up in the enclosure in case of leakage from the fuel piping. For this purpose, the secondary enclosure may need to be arranged with a pressure relief system that prevents the enclosure from being subjected to pressures above their design pressures."

**Action requested of the Committee**

16 The Committee is invited to consider the proposed text in paragraph 15 of this document and take action, as appropriate.

---