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UNIFIED INTERPRETATION OF PROVISIONS OF IMO SAFETY, SECURITY, ENVIRONMENT, FACILITATION, LIABILITY AND COMPENSATION-RELATED CONVENTIONS

Draft amendments of unified interpretation of paragraph 9.2.2 of the IGF Code (MSC.1/Circ.1670)

Submitted by IACS

SUMMARY

Executive summary:	This document contains a proposal for amending the unified interpretation of paragraph 9.2.2 of the IGF Code, as set out in MSC.1/Circ.1670.
Strategic direction, if applicable:	7
Output:	7.1
Action to be taken:	Paragraph 10
Related documents:	CCC 7/11/6 and MSC 108/20

Introduction

1 Paragraph 9.2.2 of the IGF Code states:

> "the piping system for fuel transfer to the consumers shall be designed in a way that a failure of one barrier cannot lead to a leak from the piping system into the surrounding area causing danger to the persons on board, the environment or the ship; and".

2 MSC 107 approved the interpretation of the IGF Code prepared by CCC 8, as MSC.1/Circ.1670. The interpretation provides specific guidance for the above-mentioned functional requirement of the IGF Code, as follows:

> "To comply with part A-1, paragraphs 9.2.2, 9.6.1 and 7.3.6.3 of the IGF Code, two independent safety barriers should be in place, while, as far as practicable, using a minimum of flange connections. There should be no single common flange or other component where one single failure itself may overcome both primary and secondary barriers and may result in a gas leak into the surrounding area causing danger to the persons on board, the environment or the ship.

A single common flange (with two sealing systems) may be accepted at the fuel connection to the gas consumers including GCUs, boilers and components on the engine, such as gas regulating units".

3 IACS understands that the above interpretation accepts the use of single common flanges for connections to gas consumers and components on the grounds that the use of such flanges is essential for the maintenance work after they are put into service.

Discussion

4 In document CCC 7/11/6, IACS expressed its concern regarding the absence hitherto of acknowledgement and consideration of the typical flange failure scenario, i.e. the loosening of bolts, resulting in flange failure when the pipe length becomes exposed to sudden movements. Therein, IACS pointed out that the interpretation should introduce measures to minimize such a failure, even in connections where the use of a single common flange was accepted.

5 Having applied the interpretation in MSC.1/Circ.1670 since its approval and publication, IACS members maintain their above concern and remain steadfast in their earlier conclusion that failure mitigating measures need to be introduced.

6 To address the above, IACS considers it necessary for the interpretation to contain the provision for the designer to document the technical grounds which would demonstrate the impracticability of the use of other types of connections (e.g. double flanges) and that the functional requirements of paragraph 9.2.2 of the IGF Code are not compromised even when single common flanges are used.

7 Additionally, IACS offers improvements to the existing wording of MSC.1/Circ.1670 to facilitate the understanding of single common flanges, gas consumers and components covered by the interpretation.

Consideration of the safeguards (MSC-MEPC.1/Circ.5/Rev.6)

8 In accordance with paragraph 4.44 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), the following safeguards were assessed as follows:

.1 UIs are not meant to amend mandatory requirements in Conventions and associated instruments: The proposed draft amendments to MSC.1/Circ.1670 are intended to ensure that the functional requirements of paragraph 9.2.2 of the IGF Code are met. Also, they offer an improved clarity of the understanding of single common flange, gas consumers and gas regulating units, without intending to amend the mandatory requirements of paragraph 7.3.6.3 of the IGF Code specifying that the piping system shall be joined by welding with a minimum of flange connections.

.2 UIs should not go beyond the interpretation of requirements: Draft amendments to MSC.1/Circ.1670 emphasize the need to meet the functional requirements of the IGF Code and do not go beyond the interpretation of requirements. The additions are in line with the conclusion in paragraph 19.6.2 of the report of MSC 108 (MSC 108/20), which reads:

".2 UIs are useful in that they are meant … to provide other more specific guidance;".

.3 UIs should not contradict the text of requirements: Draft amendments to MSC.1/Circ.1670 are in accordance with the requirements of paragraphs 7.3.6.3 and 9.2.2 of the IGF Code and, therefore, do not contradict the text of those requirements.

Proposal

9 Based on the above discussion, IACS prepared draft amendments to MSC.1/Circ.1670, provided in the annex to this document, for the consideration of the Sub-Committee.

Action requested of the Sub-Committee

10 The Sub-Committee is invited to consider the foregoing, the proposal in paragraph 9 and draft amendments of MSC.1/Circ.1670 as set out in the annex, and take action as appropriate.

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ANNEX

DRAFT REVISION OF MSC.1/Circ.1670 ON UNIFIED INTERPRETATION OF THE IGF CODE (REGARDING PART A-1, PARAGRAPH 9.2.2)

The following changes are offered: *

PART A-1 SPECIFIC REQUIREMENTS FOR SHIPS USING NATURAL GAS AS FUEL

Chapter 9 Fuel supply to consumers

9.2 Functional requirements

Paragraph 9.2.2 states:

"the piping system for fuel transfer to the consumers shall be designed in a way that a failure of one barrier cannot lead to a leak from the piping system into the surrounding area causing danger to the persons on board, the environment or the ship"

Interpretation

To comply with part A-1, paragraphs 9.2.2, 9.6.1 and 7.3.6.3 of the IGF Code, two independent safety barriers should be in place, while, as far as practicable, using a minimum of flange connections. There should be no single common flange or other component where one single failure itself may overcome both primary and secondary barriers and may result in a gas leak into the surrounding area causing danger to the persons on board, the environment or the ship.

A single common flange (ensuring ventilation flow with two sealing systems) may be accepted at the fuel connection to the gas consumers including internal combustion engines, GCUs, boilers and components ~~on the engine~~, such as gas ~~regulating~~ valve units provided that the technical justification is submitted to the Administration or its recognized organization demonstrating ~~.~~:

.1 the impracticability of the installation of a double flange connection (two independent flanges, one on the gas pipe and one on the secondary enclosure); and

.2 compliance of a single common flange with the safety criterion in paragraph 9.2.2 of the IGF Code (i.e. no leak from the piping system into the surrounding area in case of failure of one sealing system), including at least the consideration of the rupture or loosening of bolts, depending on arrangement of components, which should not result in flange failure when piping is exposed to a sudden movement (e.g. hog and sag of the ship or excessive vibration).

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* Tracked changes are indicated using "grey shading" to highlight new insertions and "strikethrough" to highlight deletion of the text.