

SUB-COMMITTEE ON CARRIAGE OF  
CARGOES AND CONTAINERS  
10th session  
Agenda item 15

CCC 10/INF.10  
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## ANY OTHER BUSINESS

### IACS unified interpretation GF 20 of paragraph 5.3 of the Interim guidelines for the safety of ships using methyl/ethyl alcohol as fuel (MSC.1/Circ.1621)

Submitted by IACS

#### SUMMARY

*Executive summary:* This document informs the Sub-Committee of IACS unified interpretation GF 20 of paragraph 5.3 of MSC.1/Circ.1621 regarding arrangements for methyl/ethyl alcohol fuel tanks.

*Strategic direction, if applicable:* 7

*Output:* 7.1

*Action to be taken:* Paragraph 16

*Related documents:* None

## Background

1 The *International Code of Safety for Ships using Gases or other Low-flashpoint Fuels* (the IGF Code) provides an international standard for ships using low-flashpoint fuel, other than ships covered by the *International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk* (the IGC Code).

2 At present, the IGF Code contains only detailed prescriptive requirements for natural gas (predominantly methane) as fuel. All other gases or low-flashpoint fuels must apply the "alternative design" process.

3 To support the "alternative design" process of the IGF Code and to provide an international standard for ships using methyl/ethyl alcohol as fuel, the Maritime Safety Committee, at its 102nd session, approved the *Interim guidelines for the safety of ships using methyl/ethyl alcohol as fuel* as set out in MSC.1/Circ.1621.

4 The ninth session of the CCC Sub-Committee has updated the work plan for the development of the IGF Code and safety provisions for alternative fuels as set out in annex 3 of document CCC 9/WP.3. If time permits, CCC 10 will start to discuss the development of mandatory provisions regarding methyl/ethyl alcohols.

5 IACS supports the work plan as updated by CCC 9 to develop the mandatory safety standards for the use of methyl/ethyl alcohol to minimize the risk to the ship, its crew and the environment.

6 Based on the experience gained to date in the application of MSC.1/Circ.1621, IACS members, acting as recognized organizations, have identified provisions of MSC.1/Circ.1621 which need further clarification to facilitate their universal and uniform implementation. This document informs the Sub-Committee of IACS unified interpretation GF 20 of paragraph 5.3 of MSC.1/Circ.1621 on the *Interim guidelines for the safety of ships using methyl/ethyl alcohol as fuel*.

## Introduction

7 Paragraph 5.3 of MSC.1/Circ.1621 states:

"5.3.1 Tanks containing fuel should not be located within accommodation spaces or machinery spaces of category A.

5.3.2 Integral fuel tanks should be surrounded by protective cofferdams, except on those surfaces bound by shell plating below the lowest possible waterline, other fuel tanks containing methyl/ethyl alcohol, or fuel preparation space.

5.3.3 The fuel containment system should be abaft of the collision bulkhead and forward of the aft peak bulkhead.

5.3.4 Fuel tanks located on open decks should be protected against mechanical damage.

5.3.5 Fuel tanks on open decks should be surrounded by coamings and spills should be collected in a dedicated holding tank.

5.3.6 Special consideration should be given to chemical tankers using methyl/ethyl alcohol cargoes as fuel."

8 The key element of MSC.1/Circ.1621 relates to the provision of protective cofferdams around the methyl/ethyl alcohol fuel tanks. At the same time, the guidelines recognize the miscibility of methyl/ethyl alcohols in water, giving the provision for location of fuel tanks next to the shell plating below the lowest possible waterline.

9 IACS members have faced challenges while applying some of the provisions of paragraph 5.3 of MSC.1/Circ.1621, in particular regarding the content of paragraph 5.3.1 providing for tanks containing fuel not to be located within machinery spaces of category A, in combination with paragraph 5.3.2 providing for integral fuel tanks being surrounded by protective cofferdams, except on those surfaces bound by shell plating below the lowest possible waterline, other fuel tanks containing methyl/ethyl alcohol, or fuel preparation space.

10 It is considered that the cofferdams perform a number of safety functions to achieve an equivalent level of safety to conventional fuel oil installations, including:

- .1 provision of a secondary barrier and safe collection space to prevent a release from the fuel tank reaching non-hazardous areas;
- .2 facilitation of the detection of a leak from the tank; and
- .3 protection of the fuel tank from external factors, such as collision and dropped objects, and, to a degree, fires.

11 Also, it is recognized that:

- .1 methyl alcohol is toxic to human life and flammable;
- .2 ethyl alcohol is flammable; and
- .3 the probability of a fire or explosion in a machinery space as a result of a fuel release is to be minimized in the design.

## Discussion

12 Based on the foregoing and with regard to paragraph 5.3.1 of MSC.1/Circ.1621, methyl/ethyl alcohol fuel tanks are not to be located within accommodation spaces or machinery spaces of category A. However, IACS considers that integral methyl/ethyl alcohol tanks may be placed between the aftmost and foremost boundaries of the machinery spaces of category A, provided that a cofferdam of at least 600 mm width with A-60 insulation is fitted between the tank and the machinery space. If the tank is located in a separate space, the boundary between that space (which is the required cofferdam) and the engine room would be an A-60 bulkhead. Therefore, the combination of the cofferdam and A-60 insulation effectively makes the fuel tank a tank which is arranged in a separate space.

13 With regard to the provision for surrounding methyl/ethyl alcohol fuel tanks by cofferdams in paragraph 5.3.2 of MSC.1/Circ.1621 and taking also into account the content of paragraphs 5.3.4 and 5.3.5, IACS considers that it is reasonable to exempt the arrangement of cofferdams between the fuel tank and an area on open deck. The exemption would be permitted, provided the arrangement has been considered by the risk assessment as per paragraph 4.2 of MSC.1/Circ.1621, taking into account the use of the area, fire, toxicity and possible additional construction and survey requirements.

14 With regard to the provision of cofferdams around methyl/ethyl alcohol fuel tanks on chemical tankers in paragraph 5.3.6 of MSC.1/Circ.1621, IACS considers that methyl/ethyl alcohol fuel tanks in cargo area of chemical tankers are not required to be surrounded by protective cofferdams. However, the compatibility of cargo in the adjacent cargo tanks is to be considered by the risk assessment.

15 Therefore, IACS has developed and adopted its unified interpretation GF 20, as in the annex of this document. This unified interpretation will be uniformly implemented by IACS members on ships contracted for construction on or after 1 July 2025, to which the flag Administration has required the application of MSC.1/Circ.1621.

## Action requested of the Sub-Committee

16 The Sub-Committee is invited to note the information in this document.

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## ANNEX

### IACS UNIFIED INTERPRETATION GF 20 OF PARAGRAPH 5.3 OF MSC.1/Circ.1621

#### Arrangements of fuel tanks in methyl/ethyl alcohol fuelled vessels

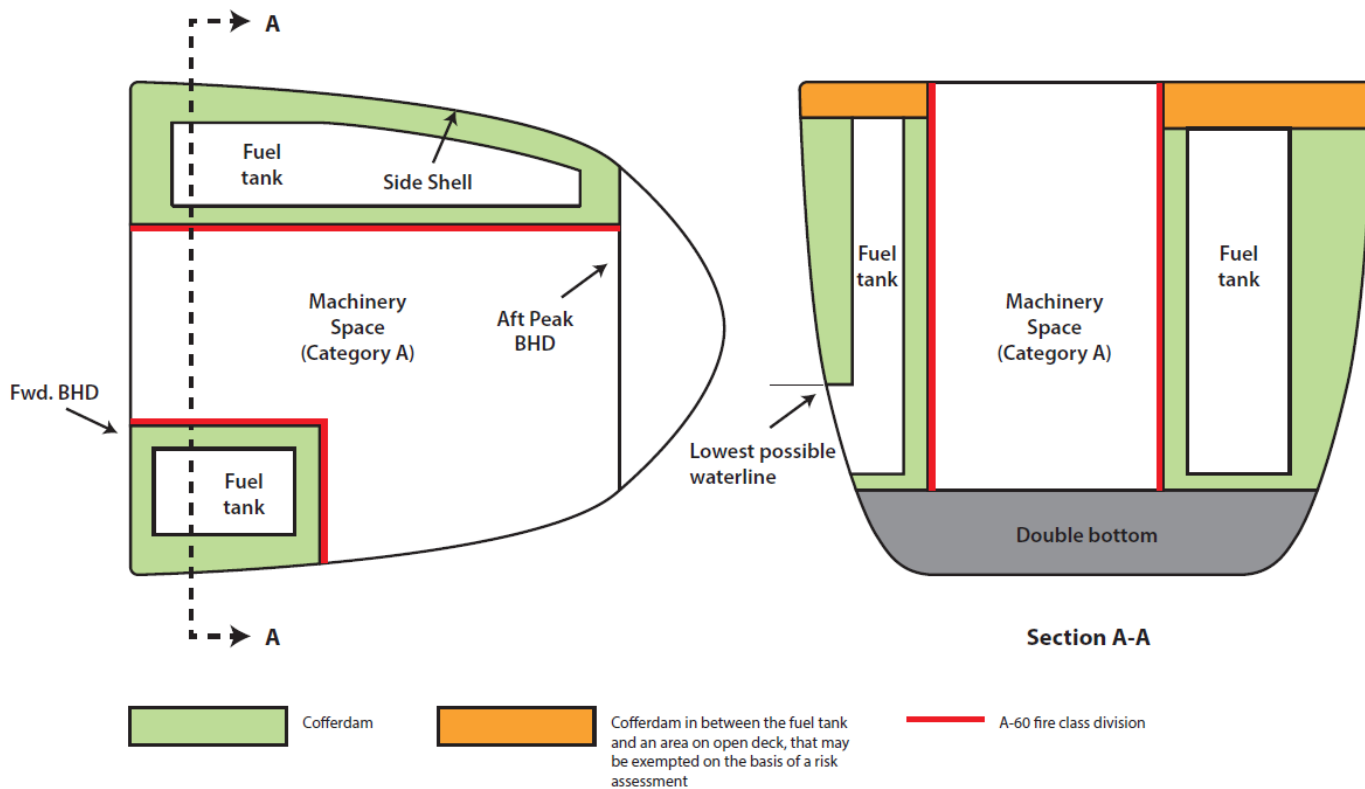
##### **Paragraph 5.3 of MSC.1/Circ.1621 on the *Interim guidelines for the safety of ships using methyl/ethyl alcohol as fuel states:***

- "5.3 General provisions
- 5.3.1 Tanks containing fuel should not be located within accommodation spaces or machinery spaces of category A.
- 5.3.2 Integral fuel tanks should be surrounded by protective cofferdams, except on those surfaces bound by shell plating below the lowest possible waterline, other fuel tanks containing methyl/ethyl alcohol, or fuel preparation space.
- 5.3.3 The fuel containment system should be abaft of the collision bulkhead and forward of the aft peak bulkhead.
- 5.3.4 Fuel tanks located on open decks should be protected against mechanical damage.
- 5.3.5 Fuel tanks on open decks should be surrounded by coamings and spills should be collected in a dedicated holding tank.
- 5.3.6 Special consideration should be given to chemical tankers using methyl/ethyl alcohol cargoes as fuel."

##### **Interpretation**

- 1 With regard to paragraph 5.3.1 of MSC.1/Circ.1621, integral methyl/ethyl alcohol tanks may be placed between the aftmost and foremost boundaries of the machinery spaces of category A, provided that a cofferdam of at least 600 mm width with A-60 insulation is fitted between the tank and the machinery space. Integral tanks arranged according to this unified interpretation are not regarded as being within machinery space of category A.
- 2 With regard to paragraph 5.3.2 of MSC.1/Circ.1621, it is possible to exempt the arrangement of cofferdams between the fuel tank and an area on open deck. Exemption would be permitted, provided the arrangement has been considered by the risk assessment as per paragraph 4.2 of MSC.1/Circ.1621, taking into account the use of the area, fire, toxicity, and possible additional construction and survey requirements.
- 3 With regard to paragraph 5.3.6 of MSC.1/Circ.1621, methyl/ethyl alcohol fuel tanks in cargo area of chemical tankers are not required to be surrounded by protective cofferdams, however the compatibility of cargo in the adjacent cargo tanks is to be considered by the risk assessment.

- 4 Typical acceptable arrangements of fuel tanks in methyl/ethyl alcohol fuelled vessels are shown below.



**Note:**

- 1 This unified interpretation is to be uniformly implemented by IACS members on ships contracted for construction on or after 1 July 2025, to which the flag Administration has required the application of MSC.1/Circ.1621.
- 2 The "contracted for construction" date means the date on which the contract to build the ship is signed between the prospective owner and the shipbuilder. For further details regarding the date of "contract for construction", refer to IACS Procedural Requirement (PR) No.29.