

SUB-COMMITTEE ON CARRIAGE OF
CARGOES AND CONTAINERS
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Agenda item 8

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**UNIFIED INTERPRETATION OF PROVISIONS OF IMO SAFETY, SECURITY AND
ENVIRONMENT-RELATED CONVENTIONS**

**Deck water spray systems (paragraphs 11.3.1, 11.3.3 and 11.3.4 of the IGC Code)
(IACS UI GC22)**

Submitted by IACS

SUMMARY

Executive summary: The annex to this document provides a copy of IACS Unified Interpretation (UI) GC22 on deck water spray systems, which has been developed to facilitate the global and consistent implementation of the requirements in paragraphs 11.3.1, 11.3.3 and 11.3.4 of the IGC Code (resolution MSC.370(93))

Strategic direction, if applicable: 6

Output: 6.1

Action to be taken: Paragraph 8

Related documents: None

Introduction

1 Paragraphs 11.3.1.7, 11.3.3.1 and 11.3.4 of the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), as amended by resolution MSC.370(93), state the following:

- .1 "11.3.1 On ships carrying flammable and/or toxic products, a water-spray system, for cooling, fire prevention and crew protection shall be installed to cover:
 - .7 exposed lifeboats, liferafts and muster stations facing the cargo area, regardless of distance to cargo area; and";
- .2 "11.3.3 The capacity of the water-spray pumps shall be capable of simultaneous protection of the greater of the following:

- .1 any two complete athwartship tank groupings, including any gas process units within these areas; or";
- .3 "11.3.4 The boundaries of superstructures and deckhouses normally manned, and lifeboats, liferafts and muster areas facing the cargo area, shall also be capable of being served by one of the fire pumps or the emergency fire pump, if a fire in one compartment could disable both fire pumps."

Discussion

2 The need to develop a unified interpretation in relation to the provisions identified in paragraph 1 above was demonstrated by requests received by IACS from industry, in particular regarding: the understanding of what constitutes "two complete athwartship tank groupings"; the interconnections between the spray and fire systems; and the capacity of the fire pumps serving water spray systems and protection of exposed survival craft with water spray.

3 IACS has reviewed the text of the 'old' version of the IGC Code, (resolution MSC.5(48), as amended) and the 'revised' version of the Code (resolution MSC.370(93) and hereinafter referred to as "the Code"). As a general comment, in the view of IACS, the provisions in the Code clearly and deliberately increase the requirements relating to deck spray protection.

4 Regarding paragraph 11.3.1.7 of the Code, it is the understanding of IACS that the remotely located liferaft (SOLAS regulation III/31.1.4) is a survival craft and therefore requires fire protection similar to other exposed lifesaving appliances. It is noted that a typical arrangement on smaller ships is that the remotely located liferaft is located close to the forecandle bulkhead, within the cargo area defined in paragraph 1.2.7 of the Code. IACS considers that any water spray system required to protect the areas and structures, including the one required by paragraph 11.3.1.6 of the Code, may also be utilized for protection of remote liferafts, provided that the spray is adequately arranged. For larger ships, a typical location of the remote raft would be forward of the cargo tanks, beyond the cargo area, as defined in paragraph 1.2.7 of the Code, and often sheltered by deck structure. However, due to the extension of the cargo area for firefighting purposes, as stated in paragraph 11.1.4 of the Code, such a position will become "exposed" even if separated from cargo tanks with voids/cofferdams and should be protected by a water-spray system.

5 Regarding paragraph 11.3.3.1 of the Code and the term "two complete athwartship tank groupings", IACS considers that this means:

- .1 any two groups of tanks where a "group" is defined as tanks located in the transverse direction from ship side to ship side. Where there is only one cargo tank occupying a hold space from ship side to ship side, it should be considered as a "grouping" for the purposes of this provision; and
- .2 an area equal to the combined area of the two largest tank groupings including any gas process units within these areas.

6 Regarding paragraph 11.3.4 of the Code, after discussion, IACS has concluded that the general intention of the Code is to allow the possibility to connect the supply from the fire main to the deck spray system, on the condition that this supply has sufficient capacity to meet this goal. Consequently, the size and capacity of the emergency fire pump needs to satisfy this requirement and supply sufficient quantity of fire water to two jets of water and deck water spray zones, as required by the Code.

7 Based on the above, and in order to facilitate the global and consistent implementation of these mandatory provisions, IACS has developed and adopted Unified Interpretation (UI) GC22. UI GC22 is provided in the annex to this document. The Sub-Committee is invited to note that this UI will be uniformly implemented by IACS Societies on ships constructed on or after 1 July 2019, unless they are provided with written instructions to apply a different interpretation by the Administration on whose behalf they are authorized to act as a recognized organization.

Action requested of the Sub-Committee

8 The Sub-Committee is invited to note the discussion above and the attached IACS Unified Interpretation and take action, as appropriate.

ANNEX

GC22 Water spray system

(Apr 2018)

Interpretation of sections 11.3.1, 11.3.3 & 11.3.4 of the INTERNATIONAL CODE FOR THE CONSTRUCTION AND EQUIPMENT OF SHIPS CARRYING LIQUEFIED GASES IN BULK (Resolution MSC.370(93))

Regulation

IGC Code 2016 edition, Chapter 11 reads as follows:

11.3.1 On ships carrying flammable and/or toxic products, a water-spray system, for cooling, fire prevention and crew protection shall be installed to cover:

...

.7 exposed lifeboats, liferafts and muster stations facing the cargo area, regardless of distance to cargo area; and

...

11.3.3 The capacity of the water-spray pumps shall be capable of simultaneous protection of the greater of the following:

.1 any two complete athwartship tank groupings, including any gas process units within these areas; or

...

11.3.4 The boundaries of superstructures and deckhouses normally manned, and lifeboats, liferafts and muster areas facing the cargo area, shall also be capable of being served by one of the fire pumps or the emergency fire pump, if a fire in one compartment could disable both fire pumps.

Interpretation

a) Survival crafts protection

With reference to sub-paragraph .7 of IGC Code 11.3.1, the survival crafts on board including remote survival crafts (ref. SOLAS III/Reg. 31.1.4) facing the cargo area shall be protected by a water-spray system taking into consideration cargo area extension for fire-fighting purposes as stated in 11.1.4.

Remote liferafts located in areas covered by water-spray protection as required in sub-paragraph .6 may be considered as adequately protected.

Note:

1. This Unified Interpretation is to be uniformly implemented by IACS Societies on ships constructed on or after 1 July 2019.

b) Tank groups in cargo area

Expression "two complete athwartship tank groupings" in sub-paragraph .1 of IGC Code 11.3.3 means any two groups of tanks where one group is defined as tanks located in transverse direction from ship side to ship side. Where there is only one cargo tank occupying a hold space from ship side to ship side, it will be considered as a "grouping" for the purpose of this interpretation.

"Any two complete athwartship tank groupings" represents an area equal to the combined area of the two largest tank groupings including any gas process units within these areas.

c) Fire pumps used as spray pumps:

11.3.4 highlights requirements for availability of fire pumps for water supply to the spray system for personnel and survival craft and muster station protection. The supply of fire water shall be redundant.

In view of the above in cases when the emergency fire pump is used to meet this requirement, its capacity, in addition to being capable of maintaining two jets of water as required by FSS Code Chap.12.2.2.1.1, shall be increased taking into account the spray application rates stated in 11.3.2.1, but limiting coverage to boundaries of normally manned superstructures and deckhouses, survival crafts and their muster areas.

For the purpose of this interpretation:

The expression "one of the fire pumps or emergency fire pump" is related to fire pumps located outside the space where spray pump(s) are located.

The expression "fire in one compartment", means a compartment where fire pump(s) serving the water-spray system in accordance with 11.3.3 are located.

The expression "both fire pumps" means the fire pumps required in accordance with SOLAS II-2/ Reg. 10.2.2.2

End of Document
