INTERNATIONAL MARITIME ORGANIZATION

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

Draft unified interpretation regarding the onboard discharge test of a dry chemical powder fire-extinguishing system (paragraph 11.4.8 of the IGC Code)

Submitted by IACS and SIGTTO

SUMMARY

Executive summary:	Taking account of the discussion at SSE 5, this document provides a new draft unified interpretation (UI) regarding the onboard discharge test of a dry chemical powder fire-extinguishing system, as required by paragraph 11.4.8 of the IGC Code, with a view to facilitating the global and consistent implementation of these mandatory requirements
Strategic direction, if applicable:	6
Output:	6.1
Action to be taken:	Paragraph 9
Related documents:	SSE 5/12/4, SSE 5/12/10 and SSE 5/17 (paragraphs 12.9 to 12.11)

Introduction

1 Paragraph 11.4.8 of the IGC Code (resolution MSC.370(93)) (hereafter referred to as the Code) states:

> "11.4.8 After installation, the pipes, valves, fittings and assembled systems shall be subjected to a tightness test and functional testing of the remote and local release stations. The initial testing shall also include a discharge of sufficient amounts of dry chemical powder to verify that the system is in proper working order. All distribution piping shall be blown through with dry air to ensure that the piping is free of obstructions."

Background

2 In document SSE 5/12/4, IACS sought clarification regarding the vague expression "sufficient amounts of dry chemical powder".

3 IACS' presentation of SSE 5/12/4 at SSE 5 was supplemented by a video filming of this discharge testing and IACS advised the Sub-Committee of the following challenges that were being encountered when implementing the provisions of paragraph 11.4.8 of the Code:

.1 the difficulty to completely prevent powder splash into the marine environment, despite the efforts of those conducting the test;

.2 the negative effect on the marine environment (in particular, fisheries), as well as the working environment, as a result of the discharge of this chemical powder;

.3 the disruption to the shipbuilding process (hampering the ship's painting process) and the risk presented to already installed onboard sensitive and safety critical electronic (e.g. communications and navigation) systems from the high-pressure discharge of tiny particles of dry powder as a result of undertaking this large-scale test;

.4 the refilling of significant amounts of powder on board that came with a risk of moisture getting into the powder after the conduct of this discharge for testing, compared to the filling of the tank at the manufacturer’s factory prior to delivery to the ship;

.5 the risk of the system being left with residues of dry powder in it, which could later lead to clogging; and

.6 whether the main purpose of the "discharge of powder" test was to confirm that the system, as installed, could provide enough pressure to send the powder through any monitor/hand hose line with the required throwing range, noting that the onboard air blow through testing would confirm the effectiveness of the piping installation, as required by the last sentence of this paragraph of the IGC Code.

4 Taking into account the considerations explained in paragraph 3 above, IACS proposed the following draft UI of the term "sufficient amounts of dry chemical powder":

"Testing arrangements such as, but not limited to, the discharge from one monitor and one hand hose line, may be accepted instead of discharging dry chemical powder from all the monitors and hose line(s) on board, if it is verified that dry chemical powder is discharged properly from at least one monitor and the one hand hose line arranged in the most onerous location."

5 Taking account of the comments and views expressed in document SSE 5/12/10 (SIGTTO), which emphasized that the installation function test required by paragraph 11.4.8 of the IGC Code was essential to test the system fully, SSE 5 did not endorse the proposed UI and invited IACS, SIGTTO and other interested delegations to note the comments made and take action, if deemed appropriate (SSE 5/17, paragraph 12.11).

Discussion

6 Having reviewed the outcome of SSE 5, the co-sponsors are of the view that:

.1 the term "sufficient amounts of dry chemical powder" is a vague expression, which hinders the global and consistent implementation of the mandatory requirements of paragraph 11.4.8 of the Code;

.2 the discharge of "sufficient amounts of dry chemical powder" does not require discharge of the entirety of the installed quantity of dry powder; and

.3 the issues discussed in paragraph 3 above represent legitimate concerns that should be taken into account in the further consideration of this issue.

7 However, the co-sponsors recognize the views of the clear majority of the delegations that spoke on this issue at SSE 5, in particular, that the conduct of such discharge testing could allow the detection of defects not identified during the ship's construction, which could then lead to catastrophic consequences when the system was in service. In this regard, it appears that these delegations were of the view that the requirements of the last sentence of paragraph 11.4.8 of the Code ("All distribution piping shall be blown through with dry air to ensure that the piping is free of obstructions") was unnecessary, on the basis that the verification of the piping being free of obstructions was verified by the conduct of the discharge of dry powder through the system.

Proposal

8 Taking account of paragraphs 6 and 7 above and pending the consideration of a draft amendment to paragraph 11.4.8 of the Code, which is considered to be imperative to definitively resolve this issue, the co-sponsors provide for consideration the following draft UI as an interim measure:

"Testing arrangements should involve the discharge using dry chemical powder from all monitors and hand hose lines on board but it is not required that there is a full discharge of the installed quantity of dry powder. This testing can also be used to satisfy the requirement that the piping is free of obstructions, in lieu of blowing through with dry air all the distribution piping. However, after the completion of this testing, the system, including all monitors and hand hose lines, should be blown through with dry air but only for the purpose of the system subsequently being clear from any residues of dry chemical powder."

Action requested of the Sub-Committee

9 The Sub-Committee is invited to consider the foregoing and the draft UI provided in paragraph 8 above and take action, as appropriate.