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DANGEROUS GOODS, SOLID CARGOES AND CONTAINERS

Carriage requirements for instruments that test the atmosphere of enclosed spaces

Submitted by Australia, the International Group of Protection and Indemnity Associations (P&I Clubs) and the International Association of Classification Societies (IACS)

SUMMARY

Executive summary: This document discusses and provides comments upon the decision of DSC 17 relating to developing carriage requirements for instruments that test the atmosphere of enclosed spaces

Strategic direction: 5.2

High-level action: 5.2.2

Planned output: 5.2.2.6

Action to be taken: Paragraph 10

Related documents: Resolution A.1050(27); DSC 17/17 and MSC 91/13

Introduction

1 This document is submitted in accordance with paragraph 6.12.5 of *the Guidelines on the Organization and method of work of the Maritime Security Committee and Marine Environment Protection Committee and their subsidiary bodies* (MSC-MEPC.1/Circ.4/Rev.2) and provides comments on MSC 91/13 and paragraphs 5.19 and 5.21 of DSC 17/17 i.e.:

5.19 ... together with the Sub-Committee's recommendation that the highest priority be given with regard to urgently developing SOLAS requirements for oxygen meters.

5.21 Subsequently, the Sub-Committee invited Member States and international organizations to forward any comments and views on the above Justification to MSC 91.

Discussion

2 It is noted that the work to develop mandatory carriage requirements for such instruments is a continuation of the work the Organization has recently undertaken in updating the recommendations for entering enclosed spaces aboard ships (resolution A.1050(27)) and the amendments to SOLAS regulation III/19 that have been developed to mandate emergency training and drills for crew members with enclosed space entry or rescue responsibilities.

3 In this regard, it is noted that the amendments to SOLAS regulation III/19 are consistent with the provisions of paragraph 3.3 of the annex to resolution A.1050(27) i.e.:

The company should elaborate a procedural implementation scheme which provides for ... a schedule of regular onboard drills for crews.

4 It is considered that any mandatory provisions relating to carriage requirements for instruments that test the atmosphere of enclosed spaces, should similarly be consistent with and take due account of the relevant provisions of resolution A.1050(27). In this context, the relevant provisions in the resolution are in paragraphs 7.1 and 7.2 of the annex i.e.:

7.1 Appropriate testing of the atmosphere of a space should be carried out with properly calibrated equipment by persons trained in the use of the equipment.

7.2 For entry purposes, steady readings of all of the following should be obtained:

- .1 21% oxygen by volume by oxygen content meter;
Note: National requirements may determine the safe atmosphere range.*
- .2 not more than 1% of lower flammable limit (LFL) on a suitably sensitive combustible gas indicator, where the preliminary assessment has determined that there is potential for flammable gases or vapours; and*
- .3 not more than 50% of the occupational exposure limit (OEL)* of any toxic vapours and gases.*

5 The resolution clearly refers to "*appropriate testing of the atmosphere*" and the testing is not restricted to testing merely the oxygen level in the space.

6 It is noted that the testing of the atmosphere of cargo spaces is already addressed in a number of mandatory instruments. On bulk carriers, this is addressed in SOLAS regulation VI/3.1 i.e.:

When transporting a solid bulk cargo which is liable to emit a toxic or flammable gas, or cause oxygen depletion in the cargo space, an appropriate instrument for measuring the concentration of gas or oxygen in the air shall be provided together with detailed instructions for its use.

On tankers, this is addressed by SOLAS regulation II-2/4.5.7.1 i.e.:

Tankers shall be equipped with at least one portable instrument for measuring oxygen and one for measuring flammable vapour concentrations ...

On chemical tankers, this is addressed by section 13.2 of the IBC Code i.e.:

13.2.1 Ships carrying toxic or flammable products or both shall be equipped with at least two instruments designed and calibrated for testing for the specific vapours in question. If such instruments are not capable of testing for both toxic concentrations and flammable concentrations, then two separate sets of instruments shall be provided.

13.2.2 Vapour-detection instruments may be portable or fixed. If a fixed system is installed, at least one portable instrument shall be provided.

7 Noting the above existing mandatory provisions relating to carriage requirements for instruments that can test the atmosphere of cargo spaces; it is considered these new provisions that are being considered are primarily focussed on testing the atmosphere of non-cargo enclosed spaces, including, but not limited to, ballast tanks, (non-cargo) oil tanks, void spaces, chain lockers, steering gear spaces, inerted spaces adjacent to cargo spaces and sewage tanks. It is considered that only testing for oxygen in any enclosed space is not necessarily sufficient for evaluating whether it is safe to enter. It is also considered that the following extract from paragraph 7.4 of the annex to resolution A.1050(27) needs to be considered:

"It should be noted that testing for flammability or oxygen content does not provide a suitable means of measuring for toxicity, nor vice versa".

8 Noting the already extensive mandatory requirements in IMO instruments to test atmospheres for more than just oxygen, it is considered that it will not provide any significant technical problem or delay to the work of the DSC Sub-Committee in developing carriage requirements for instruments that test the atmosphere of enclosed spaces, in a manner that is consistent with the provisions of paragraph 7.2 of resolution A.1050(27).

9 Notwithstanding the above comments, it is proposed that the development of mandatory requirements for instruments that test the atmosphere of enclosed spaces, should also consider the possible duplication of equipment on board as a consequence of such new provisions being considered together with the other related existing provisions. In this regard, it is noted that in addition to the provisions discussed in paragraph 6 above, SOLAS regulation II-2/4.5.7.2 states:

Suitable portable instruments for measuring oxygen and flammable vapour concentrations in double-hull spaces and double-bottom spaces shall be provided ...

Action requested of the Committee

10 The Committee is invited to consider the comments provided above and to decide as appropriate.
