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Agenda item 6

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**DEVELOPMENT OF FURTHER MEASURES TO ENHANCE THE SAFETY OF SHIPS
RELATING TO THE USE OF FUEL OIL**

**Unified interpretation of SOLAS regulation II-2/4.6
concerning flashpoint documentation**

Submitted by IBIA

SUMMARY

Executive summary: This document proposes a unified interpretation of SOLAS chapter II-2 concerning the required documentation of flashpoint as adopted at MSC 106 to help clarify the meaning of the regulatory text in resolution MSC.520(106). Noting also that corresponding regulatory text has been adopted as amendments to MARPOL annex VI in resolution MEPC.362(79), and hence a corresponding UI would be proposed there too.

*Strategic direction,
if applicable:* 1

Output: 1.29

Action to be taken: Paragraph 15

Related documents: MSC.520(106); MSC 106/19/Add.1; MEPC.362(79); MEPC 79/15/Add.1 and MSC 105/5/1

Background

1 The Maritime Safety Committee, at its 106th session (MSC 106) adopted resolution MSC.520(106) containing amendments to chapter II-2 of SOLAS regarding flashpoint to further enhance the safety of ships using conventional oil-based fuel oils (oil fuel). These amendments are shown in annex 2 of document MSC 106/19/Add.1 and will enter into force on 1 January 2026.

2 A corresponding requirement, amending appendix V of MARPOL Annex VI, was adopted by the Marine Environment Protection Committee at its seventy-ninth session (MEPC 79) in resolution MEPC.362(79), and is due to enter into force on 1 May 2024. The amendments are shown in annex 4 of document MEPC 79/15/Add.1.

3 Resolution MSC.520(106) introduced new requirements in chapter II-2, regulation 4.6 for the oil fuel supplier's representative to provide the following documentation regarding flashpoint:

".6 ships carrying oil fuel shall prior to bunkering be provided with a declaration signed and certified by the oil fuel supplier's representative, that the oil fuel to be supplied is in conformity with paragraph 2.1 of this regulation, and the test method used for determining the flashpoint. A bunker delivery note for the oil fuel delivered to the ship shall contain either the flashpoint specified in accordance with standards acceptable to the Organization,* or a statement that the flashpoint has been measured at or above 70°C**;"

* ISO 2719:2016, Determination of flash point – Pensky-Martens closed cup method, Procedure A (for Distillate Fuels) or Procedure B (for Residual Fuels).

** This information may be included in the bunker delivery note according to MARPOL Annex VI/18.

4 Subsequently, in alignment with the amendments to SOLAS chapter 2-II, MEPC.362(79) added the following new requirement to appendix V of MARPOL Annex VI regarding information to be included in the bunker delivery note (regulation 18.5):

"The flashpoint (°C) specified in accordance with standards acceptable to the Organization,* or a statement that the flashpoint has been measured at or above 70°C; following amendments to appendix V of that regulation."

The footnote (*) refers to the ISO 2719:2016 test method for determination of flashpoint (Pensky-Martens closed cup method).

Scope for confusion

5 The text of these amendments is the outcome of detailed deliberations at several MSC working group meetings and in the intersessional Correspondence Group on Development of Further Measures to Enhance the Safety of Ships Relating to the Use of Fuel Oil, and in the Drafting Group at MSC 106 prior to adoption.

6 SOLAS regulation II-2/4.2.1 sets a 60°C minimum limit for flashpoint in oil fuels, unless specifically provided for use in emergency generators, where oil fuel with a flashpoint of not less than 43°C may be used.

7 The standard ISO 2719:2016 test method is a very time-consuming test since it requires the gradual heating of the test sample under very controlled conditions with stepped assessments as to whether there has been a sufficient accumulation of vapour which on application of the test ignition source results in a 'flash'. Furthermore, knowledge of the actual flash point has no technical value to the user other than to inform that it is above the required minimum.

8 In practice, laboratories typically undertake a single screening "go-no-go" test at 70°C where, if no "flash" is observed, allows the reporting of a result that the 'flash-point is above 70°C' in that the test as undertaken has shown that the oil fuel in question did not have a flashpoint at or below 70°C. Only in those instances where a "flash" is observed at 70°C will the test programme then go on to determine the actual flashpoint value which, in the majority of cases will be found to be 60°C or above.

9 In document MSC 105/5/1 (IBIA), it was highlighted that when it has been determined that the fuel has a flashpoint above 70°C, this is considered sufficient to guarantee that it is above the 60°C minimum. The actual flashpoint may be significantly higher, but it is time-consuming to establish the exact flashpoint above this level. Document MSC 105/5/1 therefore recommended requiring only values below 70°C to be specifically documented. This was recognized in the drafting of the regulatory text.

10 During deliberations at the Drafting Group at MSC 106 prior to adoption of the amendments, and subsequently in interactions with industry participants, it has become evident that while this is perfectly clear and logical to those who have participated in developing the regulatory text, it is not equally clear to relevant stakeholders who are not familiar with the thinking behind it; including port State control officers, ship engineers and oil fuel suppliers. That means, the amendments could be open to misunderstandings, which is concerning and unhelpful if various parties have different ideas about what the regulation actually means.

11 The confusing element is the part that requires "either the flashpoint" or "a statement that the flashpoint has been measured at or above 70°C". Some take this to mean that the flashpoint limit has been increased from 60°C to 70°C. Others find it difficult to distinguish between the requirement for a flashpoint value expressed in °C and the statement that it has been measured above 70°C as they are not familiar with the reasoning behind this requirement, i.e. that once testing has established that the oil fuel has a flashpoint of at least 70°C, it can be concluded that the fuel has a flashpoint above the 60°C, the minimum required under SOLAS.

What needs to be clarified?

12 The ISO 2719:2016 test method for determination of flashpoint (Pensky-Martens closed cup method) will provide a specified temperature when an ignition source produces a "flash" in the sample. If this flash occurs at a temperature below 70°C, that actual value should be reported on the BDN. If, however, the sample is heated to 70°C and then tested without producing a flash, there will not be an actual measured flashpoint temperature to report, but this is sufficient to establish that the flashpoint is above the 60°C minimum, and thus meeting the requirement allowing for a statement to be made that the flashpoint has been measured at or above 70°C. If continued heating and testing of the sample has been carried out beyond 70°C and produced a flash, there will be a specific flashpoint temperature that can be reported, but it should be understood that undertaking or continuing the test beyond 70°C is not required.

Proposals

13 The following interpretation is proposed to SOLAS chapter II-2:

Regulation 4.6 reads: "ships carrying oil fuel shall prior to bunkering be provided with a declaration signed and certified by the oil fuel supplier's representative, that the oil fuel to be supplied is in conformity with paragraph 2.1 of this regulation, and the test method used for determining the flashpoint. A bunker delivery note for the oil fuel delivered to the ship shall contain either the flashpoint specified in accordance with standards acceptable to the Organization,* or a statement that the flashpoint has been measured at or above 70°C;***"

Interpretation

The test method will provide a specified temperature when an ignition source produces a "flash" in the sample. If this flash occurs when the sample has been heated to a temperature below 70°C, this temperature should be reported on the bunker delivery note. If, however, the sample is heated to 70°C and then tested without producing a flash, there will not be an actual measured flashpoint temperature to report, but this is sufficient to establish that the flashpoint is above the 60°C minimum and thus allow for a statement to be made that the flashpoint has been measured at or above 70°C. If heating and testing of the sample has been carried out beyond 70°C and produced a flash, there will be a specific temperature that can be reported, but it should be understood that undertaking or continuing the test beyond 70°C is not required.

14 It is proposed that MSC requests MEPC to consider the same interpretation for appendix V of MARPOL Annex VI regarding information to be included in the bunker delivery note (regulation 18.5).

Action requested of the Committee

15 The Committee is invited to consider the information in this document and the proposed draft unified interpretation in paragraph 13 above, together with the proposal that a request be made to MEPC for alignment with this in unified interpretation as per paragraph 14 above, and take action as appropriate.
