

SUB-COMMITTEE ON POLLUTION
PREVENTION AND RESPONSE
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Agenda item 6

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REDUCTION OF THE IMPACT ON THE ARCTIC OF BLACK CARBON EMISSIONS FROM INTERNATIONAL SHIPPING

Comments on document PPR 12/6

Submitted by ISO

SUMMARY

Executive summary: This document provides comments on document PPR 12/6 (FOEI et al.) and provides advice to PPR 12 on a recommended approach to defining the characteristics of "polar fuels", taking marine distillates grades DMA and DMZ as benchmarks, while also considering other suitable fuels.

*Strategic direction,
if applicable:* 3

Output: 3.3

Action to be taken: Paragraph 9

Related documents: PPR 11/18 and PPR 12/6

Introduction

1 This document is submitted in accordance with the provisions of paragraph 6.12.5 of the *Organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies* (MSC-MEPC.1/Circ.5/Rev.5) and provides comments on document PPR 12/6 (FOEI et al.).

2 PPR 11 invited ISO to consider the development of a polar fuel standard, which might include the hydrogen-to-carbon (H/C) ratio, and provide advice to PPR 12 on how to define the critical characteristics of a polar fuel. This would include the already established marine distillates grades of DMA, DMZ and the corresponding DF grades, but also encompass other suitable fuels.

3 ISO/TC 28/SC 4/WG6 welcomes the opportunity to participate in the discussion on how to define a "polar fuel" during a working group on prevention of air pollution from ships at PPR 12.

Discussion

4 ISO/TC 28/SC 4/WG6 published ISO/TR 18588:2023 *Petroleum products — Characterization of marine fuels by viscosity-gravity constant*, showing that not only Viscosity Gravity Constant (VGC) but also density, which is an already measured property of marine fuels, can be used as an indicator for the nature of the fuel. It showed that VGC values near 0.80 or density down near 900 kg/m³ are indicative for the fuel to be more paraffinic in nature, while a density near 990 kg/m³ or higher are indicative for the fuel to lean more towards aromatic nature.

5 For the reasons given in document PPR 11/6/2 (ISO), ISO/TC 28/SC 4/WG6 does not support using H/C ratio of marine fuels as an indicator for what could be considered to be a so called "cleaner" or a more paraffinic or aromatic marine fuel.

6 Document PPR 12/6 refers to the use of cleaner fuels. The term "cleaner fuels" is ambiguous and while reference can be made to grades such as ISO 8217 DMA and DMZ, it could be denoted as more refined fuels being distillate fuels containing no residuum which adhere to specific limits on defined characteristics, making it independent of any ISO 8217 grade or edition of the standard.

7 Directed by ISO 8217:2024, characteristics, available test methods and limits that can be considered during the discussion for defining polar fuels, in addition to regulatory sulphur and flash point requirements, are proposed as follows:

- .1 density: maximum 890 kg/m³ as measured by ISO 3675 or ISO 12185;
- .2 viscosity: maximum 6,000 mm²/s as measured by ISO 3104;
- .3 carbon residue content by mass – Micro method on the 10% volume distillation residue: maximum 0.30% as measured by ISO 10370. This characteristic is included to restrict "sooting propensity" of the fuel; and
- .4 cetane index or cetane number: minimum 40 with cetane index as measured by ISO 4264 or cetane number as measured by ISO 5165 or ASTM D6890/EN 15195 or ASTM D7668/EN 16715 or ASTM D8183/EN 17155.

8 The question can be raised whether the definition of a polar fuel should also address other reported issues associated with the type/nature of the fuel used, such as the cleanup of VLSFO/ULSFO spills, which is however not a Black Carbon/combustion-related issue but rather a fuel handling issue related to the more paraffinic nature/cold flow properties of these fuels.

Action requested of the Sub-Committee

9 The Sub-Committee is invited to consider the information in this document, in particular the proposals set out in paragraph 7, and take action as appropriate.
