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REDUCTION OF GHG EMISSIONS FROM SHIPS

Comments on documents MEPC 76/7/4 and MEPC 76/7/5

Submitted by IACS

SUMMARY

Executive summary:	This document proposes modifications to the draft guidelines on survey and certification of the attained EEXI, as set out in annex 2 to the report of the Correspondence Group on the Development of Technical Guidelines on Carbon Intensity Reduction (TOR 1) in document MEPC 76/7/4, and comments on the report of the Correspondence Group on the Development of Technical Guidelines on Carbon Intensity Reduction (TOR 2) in document MEPC 76/7/5
Strategic direction, if applicable:	3
Output:	3.2
Action to be taken:	Paragraph 12
Related documents:	MEPC 76/3, MEPC 76/7/4, MEPC 76/7/5, MEPC 76/INF.7 and MEPC 76/INF.8

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.2) and comments on documents MEPC 76/7/4 and MEPC 76/7/5 (China et al.).

Background

2 The seventy-fifth session of the Committee (MEPC 75) established a Correspondence Group on the Development of Technical Guidelines on Carbon Intensity Reduction, under the joint coordination of China, Japan and the European Commission. The draft technical guidelines supporting the EEXI and CII framework were finalized by the Correspondence Group under its TOR 1 and TOR 2, respectively, and submitted to the Committee for further consideration with a view to adoption at MEPC 76.

3 This document proposes modifications to the draft guidelines on survey and certification of the attained EEXI developed under TOR 1.2 and provides comments on some issues highlighted in the report of the Correspondence Group on the Development of Technical Guidelines on Carbon Intensity Reduction (TOR 2).

Discussion and proposals

Using numerical calculations as a replacement of model tests (relating to TOR 1.2)

4 According to paragraph 2.3 of the draft guidelines on survey and certification of the attained energy efficiency existing ship index (EEXI) ("draft guidelines"), as set out in annex 2 to document MEPC 76/7/4, numerical calculations can be considered as equivalent to model propeller open water tests and can be used to complement model tests. Numerical calculations can be used to evaluate the effect of additional hull features on ships' performance. IACS takes the view that the usage of numerical calculations could be expanded, following the technical progress achieved on the numerical simulation and calculation, and be allowed, under certain conditions, to replace model tests. As an example, in model tests where the EEDI draught was not considered originally, it would be possible to complement these with numerical calculations.

5 Accordingly, the following modifications to paragraph 2.3 are proposed:*

> "2.3 *Tank test* means model towing tests, model self-propulsion tests and model propeller open water tests. Numerical calculations may be accepted ~~as equivalent to model propeller open water tests or used~~ to complement the tank tests conducted (e.g. to evaluate the effect of additional hull features such as fins, etc. on ships' performance), or as a replacement of model tests provided that the methodology and numerical model used have been validated/calibrated against parent hull sea trials and/or model tests, with the approval of the verifier."

6 From paragraph 4.2.2.7 of the draft guidelines, it can be inferred that the EEDI V_{ref} can be obtained from model tests and numerical calculations. However, there is no guidance on how numerical calculations may be used together with model tests. An interpretation could be that when previous model test data are available, numerical calculations can be used to calibrate an estimated speed-power curve under a draught which is different to the EEDI condition, or validate against these model tests which were subsequently used for attained EEDI calculations at the design stage. As suggested in paragraphs 4 and 5 above, numerical calculations may be accepted as a replacement of model tests. In this regard, numerical calculations could be used independently.

7 To reflect the above consideration, modifications to sub-paragraph 7 of paragraph 4.2.2 of the draft guidelines are proposed as follows:

> ".7 an estimated speed-power curve under the EEDI condition, or under ~~the design~~ a different load draught to be calibrated to the EEDI condition, obtained from tank test and/or numerical calculations, if available."

8 With regard to paragraph 4.2.8 of the draft guidelines, IACS notes the use of "tank test or numerical calculations", which may be seen as contradicting paragraph 2.3 and

* Here and further in the text, tracked changes are indicated using "strikeout" for deleted text and "grey shading" and underlined to highlight all modifications and new insertions, including deleted text.

paragraph 4.2.2.7 of the draft guidelines. Based on the observations, IACS suggests amending paragraph 4.2.8 of the draft guidelines as follows:

> "4.2.8 The estimated speed-power curve obtained from the tank test and/or numerical calculations and/or the sea trial results calibrated by the tank test should be reviewed on the basis of the relevant documents in accordance with the EEDI Survey and Certification Guidelines, the defined quality standards (e.g. ITTC 7.5-03-01-02 and ITTC 7.5-03-01-04 in ~~its~~ their latest revisions) and the verification of the numerical setup with parent hull or the reference set of comparable ships."

9 For consistency, expressions relating to the tank test and numerical calculations in example 2 under section 2 of the appendix and section 4 of the appendix in the draft guidelines are suggested to be modified to "tank test and/or numerical calculations" and "model test results and/or numerical calculations", respectively.

The CII of individual ships for trial purposes on a voluntary basis (relating to TOR 2.1)

10 IACS can see the benefit of using trial CIIs on a voluntary basis to gain sufficient supporting data for further consideration, taking into account the limitation of the current IMO DCS. As the data would be used for decision making in the review, as stated in the draft new regulation 28.11 of MARPOL Annex VI (MEPC 76/3, annex 1), IACS would like to seek clarity on whether or not it is expected that this voluntary data will be verified. If it is to be verified, then additional amendments to the *2017 Guidelines for Administration verification of ship fuel oil consumption data* (resolution MEPC.292(71)) would be necessary to provide the provision of additional information and documentation necessary for such verification. Clarification or further consideration on how this data will be aggregated in the context of the review may also be necessary.

Other comments/proposals on the CII of individual ships (relating to TOR 2.1)

11 IACS noted the suggestion raised by some members of the Correspondence Group that the Statement of Compliance (SoC) be amended to include space for comments to provide an opportunity for ships to explain the inferior CII performance. From the perspective of implementation, IACS suggests that the question whether Administrations should verify the variety of explanations should be carefully considered, noting that the SoC should be a statement of fact. If the explanation needs to be verified, then further consideration should be given to how this should be done, particularly where performance is linked to commercial matters which are outside the remit of regulation by IMO and flag State Administrations, and what actions need to be taken in case the explanation is not considered appropriate.

Action requested of the Committee

12 The Committee is invited to consider the proposals under paragraphs 5, 7, 8 and 9 regarding TOR 1.2 and the comments provided under paragraphs 10 and 11 regarding TOR 2, and take action as appropriate.