

MARINE ENVIRONMENT PROTECTION
COMMITTEE
74th session
Agenda item 5

MEPC 74/5/11
6 March 2019
Original: ENGLISH

AIR POLLUTION AND ENERGY EFFICIENCY

Mandatory reporting of Attained EEDI values

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SUMMARY

Executive summary: During MEPC 73, the Committee discussed a proposal to require mandatory reporting of attained EEDI values to expand the data available to IMO Member States, industry and other interested parties. Broad support was expressed for the proposal made in document MEPC 73/5/5, and the Committee, having agreed in principle, invited submissions to MEPC 74 on the proposed draft amendments. This document proposes draft amendments to MARPOL Annex VI for consideration of the Committee. If adopted, these amendments will result in a complete statistical profile of attained EEDI values and related information that will help Member States, industry and other parties better evaluate design trends across the fleet.

*Strategic direction,
if applicable:* 3

Output: 3.6

Action to be taken: Paragraph 10

Related documents: MEPC 73/19, MEPC 73/5/5; resolutions MEPC.308(73), MEPC.254(67) and MEPC 70/18/Add.1

Discussion

1 Regulations 19, 20, and 21 of chapter 4, MARPOL Annex VI stipulate the requirements for calculating the attained Energy Efficiency Design Index (EEDI) and required EEDI values for new ships beginning on 1 January 2013 (Phase 0) and for subsequent phases identified in regulation 21 of MARPOL Annex VI.

2 While the *2018 Guidelines on the Method of Calculation of the Attained Energy Efficiency Design Index (EEDI) for new ships* (resolution MEPC.308(73)) sets forth detailed

requirements for calculating EEDI values for new ships and the *2014 Guidelines on survey and certification of the Energy Efficiency Design Index (EEDI)* (resolution MEPC 254(67), as amended) sets forth the relevant guidelines on survey and certification of the EEDI, reporting of attained EEDI values of ships subject to regulation 21 is voluntary.

3 As reported in document MEPC 73/5/5, an examination of the verified EEDI values reported to the IMO GISIS database and a comparison of new ship data reported under the IHS Fairplay database reveals substantial gaps in the number of ships reporting attained and verified EEDI values to IMO. Following the submittal of a new tranche of data in October 2018 and February 2019, the number of ships with verified EEDI values in the IMO database has improved, but the number of ships included within the database remains low. While the number of ships included in the voluntary IMO database has improved to a limited extent over the last 6 to 12 months, the value of a more complete database to assess design trends over time can easily be obtained through a simplified mandatory reporting requirement.

4 Member States, industry and other interested parties would all benefit from a database that reflects a full set of verified EEDI values and related information that may be used to evaluate design trends underway since the IMO EEDI regulations took effect.

5 During discussion of this matter at MEPC 73, broad support for the proposal was given by the Committee and, as stated in paragraph 5.68 of document MEPC 73/19, "the proposed mandatory reporting of EEDI values having received support from several delegations, the Committee agreed to them in principle, and invited further submissions to MEPC 74, commenting on draft amendments to MARPOL Annex VI concerning mandatory reporting of EEDI values, as set out in the annex to document MEPC 73/5/5.". It should also be noted that during MEPC 73 Finland proposed that the required information included in the appendix set out in the annex to document MEPC 73/5/5 should be expanded to include an additional item to indicate whether a given ship has been constructed with an ice-class designation. The proposed reporting elements have now been amended to reflect this suggestion.

6 To ensure data anonymity consistent with that provided under the IMO Ship Fuel Oil Consumption Database, data submitted under this proposal would be subject to the same data anonymization conditions stipulated in the *2017 Guidelines for the Development and Management of the IMO Ship Fuel Oil Consumption Database* (resolution MEPC.293 (71)). For example, the ship identification number would be available only to the IMO Secretariat for data management purposes and specific tonnage figures should be rounded to two significant digits. Should the Committee proceed with the amendments proposed in this document, the co-sponsors recommend providing a standard data format for reporting as a new appendix 5 to the 2018 EEDI Guidelines (see annex 2), and develop other guidance as it deems appropriate.

Proposal

7 The co-sponsors propose amendments to regulation 20 of MARPOL Annex VI that would require mandatory reporting by the Administration or recognized organization of:

- .1 verified attained EEDI values and related information* for ships already subject to Phase 0 and Phase 1; and
- .2 verified EEDI values and related information for any future new ship covered by regulation 21 of MARPOL Annex VI.

* See annex 2 for a list of specific data elements.

8 Draft amendments to regulation 20 of MARPOL Annex VI are set out in annex 1 to this document.

9 In addition to the proposed draft amendments to MARPOL Annex VI, the co-sponsors also propose draft amendments to the *2018 Guidelines on the Method of Calculation of the Attained Energy Efficiency Design Index (EEDI) for new ships* (resolution MEPC.308 (73)), as set out in annex 2, in order to provide a list of specific data elements to be reported under the aforementioned draft amendments to MARPOL Annex VI and a standard format to submit EEDI information to be included in the EEDI database.

Action requested of the Committee

10 The Committee is invited to consider the comments and proposals contained in this document and take action as appropriate.

ANNEX 1

DRAFT AMENDMENTS TO REGULATION 20 OF MARPOL ANNEX VI

Regulation 20 of MARPOL Annex VI shall be amended by adding a new paragraph 3, as follows:

"3 For each ship subject to regulation 21, the Administration or any organization duly authorized by it shall report the information specified in the Guidelines to be developed by the Organization* via electronic communication:

- .1 within [30] days of completing the survey required under regulation 5.4 of this Annex; or
- .2 within [90] days following [insert date of entry into force of amendment] for a ship delivered prior to [insert date of entry into force of amendment]."

Note: paragraph 3.2 serves to require the submittal of the required information for covered ships (subject to a required EEDI under MARPOL Annex VI) delivered after 1 January 2013, but before the effective date when paragraph 3 applies.

* Refer to the 2018 *Guidelines on the Method of Calculation of the Attained Energy Efficiency Design Index (EEDI) for new ships* (resolution MEPC.208 (73)), as may be amended by the Organization.

ANNEX 2

DRAFT AMENDMENT TO THE 2018 GUIDELINES ON THE METHOD OF CALCULATION OF THE ATTAINED ENERGY EFFICIENCY DESIGN INDEX (EEDI) FOR NEW SHIPS (RESOLUTION MEPC.308 (73))

1 A new section 3 is added, as follows:

"3 Mandatory Reporting of Attained EEDI Values and Related Information

3.1 In accordance with regulation 20.3 of MARPOL Annex VI, the Administration or any organization duly authorized by it shall report the information specified in the Guidelines to be developed by the Organization via electronic communication:

3.2 Information to be reported are as follows:

- .1 applicable EEDI phase (*e.g. phase 1, phase 2, etc.*);
- .2 identification number (IMO Secretariat use only);
- .3 ship type;
- .4 common commercial size reference as appropriate;
- .5 DWT or GT (as appropriate);
- .6 year of delivery;
- .7 required EEDI value;
- .8 attained EEDI value;
- .9 dimensional parameters (length L_{pp} (m), breadth B_s (m), and draught (m));
- .10 V_{ref} (knots) and P_{ME} (kW);
- .11 use of innovative technologies (4th and 5th terms in the EEDI equation, if applicable);
- .12 short statement (200 words or less) describing the principal design elements or changes employed to achieve the attained EEDI (as appropriate);
- .13 type of fuel used in the calculation of the attained EEDI, and for dual fuel engines, the f_{DFgas} ratio; and
- .14 ice-class designation (if applicable).

3.3 A standardized reporting format for Mandatory Reporting of Attained EEDI Values and Related Information is presented in appendix 5."

2 A new appendix 5 is added, as follows:

"Appendix 5
Standard format to submit EEDI information to be included in the EEDI database

IMO number (1)	Type of ship (2)	Common commercial size (3)	Capacity (4)		Dimensional parameters			Year of delivery	Applicable phase	Required EEDI	Attained EEDI	Vref (knot) (9)	P _{ME} (kW) (10)	Type of fuel (11)	f _{DF} gas (12)	Ice-class (13)	EEDI 4th term (Installation of innovative electrical technology)		EEDI 5th term (Installation of innovative mechanical technology)		Short statement (200 words or less) as appropriate describing the principal design elements or changes employed to achieve the attained EEDI (15)	
			DWT	GT (5)	Lpp (m) (6)	Bs (m) (7)	Draught (m) (8)										Yes/No	Name, outline and means/ways of performance of technology (14)	Yes/No	Name, outline and means/ways of performance of technology (14)		

Note:

- (1) IMO number to be submitted for Secretariat use only.
- (2) As defined in regulation 2 of MARPOL Annex VI.
- (3) Common commercial size reference as appropriate (e.g. TEU for containership, CEU (RT43) for ro-ro cargo ship (vehicle carrier), cubic metre for gas carrier and LNG carrier...), if applicable, should be provided.
- (4) The exact DWT or GT, as appropriate, should be provided. The Secretariat should round the DWT or GT data up to the nearest 500 when these data are subsequently provided to MEPC. (For containerships, 100% DWT should be provided while 70% of DWT should be used when calculating the EEDI value).
- (5) GT should be provided for a cruise passenger ship having non-conventional propulsion as defined in regulations 2.39 and 2.41, respectively, of MARPOL Annex VI. Both DWT and GT should be provided for a ro-ro cargo ship (vehicle carrier) as defined in regulation 2.33 of MARPOL Annex VI.
- (6) As defined in paragraph 2.2.13 of the *2018 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships* (resolution MEPC.308(73), as amended) The exact Lpp should be provided. The Secretariat will round the Lpp data up to the nearest 10 when these data are subsequently provided to MEPC.
- (7) As defined in paragraph 2.2.16 of the *2018 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships* (resolution MEPC.308(73), as amended) The exact Bs should be provided. The Secretariat will round the Bs data up to the nearest 1 when these data are subsequently provided to MEPC.
- (8) As defined in paragraph 2.2.15 of the *2018 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships* (resolution MEPC.308(73), as amended) The exact draught should be provided. The Secretariat will round the draught data up to the nearest 1 when these data are subsequently provided to MEPC.
- (9) As defined in paragraph 2.2.2 of the *2018 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships* (resolution MEPC.308(73), as amended) The exact Vref should be provided. The Secretariat will round the Vref data up to the nearest 0.5 when these data are subsequently provided to MEPC.
- (10) As defined in paragraph 2.2.5.1 of the *2018 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships* (resolution MEPC.308(73), as amended) The exact P_{ME} should be provided. The Secretariat will round the P_{ME} data up to the nearest 100 when these data are subsequently provided to MEPC.
- (11) As defined in paragraph 2.2.1 of the *2018 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships* (resolution MEPC.308(73), as amended) or other (to be stated). In case of a ship equipped with a dual-fuel engine, type of "primary fuel" should be provided.
- (12) As defined in paragraph 2.2.1 of the *2018 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships* (resolution MEPC.308 (73), as amended), if applicable.
- (13) Ice class, which was used to calculate correction factors for ice-classed ships as defined in paragraphs 2.2.8.1 and 2.2.11.1 of the *2018 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships* (resolution MEPC.308(73), as amended), if applicable, should be provided.
- (14) In the case that the innovative energy efficiency technologies are already included in the *2013 Guidance on treatment of innovative energy efficiency technologies for calculation and verification of the attained EEDI* (MEPC.1/Circ.815), the name of technology should be identified. Otherwise, name, outline and means/ways of performance of the technology should be identified.
- (15) To assist IMO in assessing relevant design trends, provide a short statement as appropriate, describing the principal design elements or changes employed to achieve the attained EEDI.

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