

Merchant Marine Circular

Panama Maritime Authority
General Directorate of Merchant Marine
Control and Compliance Department

MERCHANT MARINE CIRCULAR MMC-257

- To:** Ship-Owners/Operators, Company Security Officers, Legal Representatives of Panamanian Flagged Vessels, Panamanian Merchant Marine Consulates and Recognized Organizations (ROs).
- Subject:** Implementation of the Energy Efficiency Design Index (EEDI), the Energy Efficiency Existing Ship Index (EEXI).
- Reference:**
- a) Law No. 17 of November 9, 1981, adopting the International Convention for the Prevention of Pollution from Ships (MARPOL), 1973;
 - b) Law No. 1 of October 25, 1983, adopting the International Convention for the Prevention of Pollution from Ships (MARPOL), Protocol 1978;
 - c) Law No. 30 of March 26, 2003, adopting the International Convention for the Prevention of Pollution from Ships (MARPOL), Protocol 1997;
 - d) Resolution No. 106-OMI-108-DGMM dated November 29, 2012, adopting Resolution MEPC 203(62) dated July 15, 2011 - Inclusion of regulations on energy efficiency for ships in MARPOL Annex VI;
 - e) Resolution No. 107-OMI-256-DGMM dated May 24, 2022, adopting Resolution MEPC.328(76) dated on 17 June 2021 - 2021 Revised MARPOL Annex VI.

1. PURPOSE

- 1.1.** 2013 Guidelines for calculation of reference lines for use with the Energy Efficiency Design Index (EEDI), 2013 Guidelines for calculation of reference lines for use with the Energy Efficiency Design Index (EEDI), The purpose of this Circular is to inform users that 2021 Revised MARPOL Annex VI which will enter into force on 1 November 2022, introducing the regulations on the calculation, survey and certification of the attained Energy Efficiency Design Index (EEDI) for new ships, the attained Energy Efficiency Existing Ship Index (EEXI), the Ship Energy Efficiency Management Plan (SEEMP Part III) and the Carbon Intensity Indicators (CII), as a mandatory measure to reduce the carbon intensity of international shipping, working towards the levels of ambition set out in the initial IMO Strategy on reduction of GHG emissions from ships. This amendment has been adopted by the IMO through the Resolution MEPC.328(76) and adopted by the Republic of Panama through Resolution No. 107-OMI-256-DGMM dated May 24, 2022.



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2. BACKGROUND

- 2.1. To mitigate climate change due to international shipping, the International Maritime Organization (IMO) adopted both technical and operational requirements to reduce carbon intensity of international shipping.
- 2.2. At MEPC 62 MARPOL Annex VI was amended, introducing the Energy Efficiency Design Index (EEDI) as a mandatory technical requirement for new ships along with the operational Ship Energy Efficiency Management Plan (SEEMP) as a measure for each ship with regards to its energy efficiency.
- 2.3. Later on, the MEPC 76 adopted amendments to MARPOL Annex VI introducing new regulations for all ships to calculate their Energy Efficiency eXisting Ship Index (EEXI) and the Annual Operational Carbon Intensity Indicator (CII), to strength the IMO strategy for reducing GHG emissions from ships.
- 2.4. This year the MEPC 78 adopted a series of guidelines to support the implementation of the short-term measure to reduce ships' carbon intensity in accordance with the timelines set out in the Initial IMO GHG Strategy, which will support the requirements entering into force on 1 November 2022.

3. RECOMMENDED GUIDELINES

- 3.1. The following documents should be used as recommended by the International Maritime Organization:
 - 3.1.1. MEPC.1/Circ.855/Rev.2 Adopted on 14 January 2019 - 2014 Guidelines on Survey and Certification of the Energy Efficiency Design Index (EEDI), as amended (Resolution MEPC.254(67), as amended by Resolution MEPC.261(68) and Resolution MEPC.309(73);
 - 3.1.2. Resolution MEPC.308(73) dated 26 October 2018 - 2018 Guidelines on the Method of Calculation of the Attained Energy Efficiency Design Index (EEDI) for New Ships, amended by Resolutions MEPC.322(74) dated 17 May 2019 and MEPC.332(76) dated 17 June 2021.
 - 3.1.3. Resolution MEPC.231(65) Adopted on 17 May 2013 - 2013 Guidelines for calculation of reference lines for use with the Energy Efficiency Design Index (EEDI);



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- 3.1.4. Resolution MEPC.254(67) dated 17 October 2014 - 2014 Guidelines on survey and certification of the Energy Efficiency Design Index (EEDI), amended by Res.MEPC.261(68) and Res.MEPC.309(73);
- 3.1.5. Resolution MEPC.350(78) dated 10 June 2022 - Guidelines on the method of calculation of the attained Energy Efficiency Existing Ship Index (EEXI);
- 3.1.6. Resolution MEPC. 351(78) dated 10 June 2022 - 2022 Guidelines on survey and certification of the attained Energy Efficiency Existing Ship Index (EEXI).

4. APPLICABILITY

- 4.1. Required Energy Efficiency Design Index (Required EEDI) is the maximum value of attained EEDI. Applicable to each ship of 400 gross tonnage and above, falling into one of the categories in regulations 2.2.5 (bulk carrier), 2.2.7 (combination carrier), 2.2.9 (containership), 2.2.11 (cruise passenger ship including those having non-conventional propulsion delivered on or after 1 September 2019), 2.2.14 to 2.2.16 (gas carrier, general cargo ship, LNG carrier including those having conventional or non-conventional propulsion, delivered on or after 1 September 2019), 2.2.22 (refrigerated cargo carrier), and 2.2.26 to 2.2.29 (ro-ro cargo ship, ro-ro cargo ship (vehicle carrier), ro-ro passenger ship, tanker) according to the reduction factors set for, ship type, size, applicable building date phase, and correspondent reference line value.
- 4.2. Attained Energy Efficiency Design Index (Attained EEDI) is the EEDI value achieved by an individual ship in accordance with regulation 22 of MARPOL Annex VI. Applicable to each ship of 400 gross tonnage and above, falling into one of the categories in regulations 2.2.5 (bulk carrier), 2.2.7 (combination carrier), 2.2.9 (containership), 2.2.11 (cruise passenger ship including those having non-conventional propulsion delivered on or after 1 September 2019), 2.2.14 to 2.2.16 (gas carrier, general cargo ship, LNG carrier including those having conventional or non-conventional propulsion, delivered on or after 1 September 2019), 2.2.22 (refrigerated cargo carrier), and 2.2.26 to 2.2.29 (ro-ro cargo ship, ro-ro cargo ship (vehicle carrier), ro-ro passenger ship, tanker) and shall indicate the estimated performance of the ship in terms of energy efficiency, and be accompanied by the EEDI technical file that contains the information necessary for the calculation of the attained EEDI and that shows the process of calculation.
- 4.3. Required Energy Efficiency eXisting Ship Index (EEXI) is the maximum value of attained EEXI that is allowed by regulation 25 of MARPOL Annex VI for the specific ship type and size. Applicable to each ship of 400 gross tonnage and above, falling into one of the categories in regulations 2.2.5 (bulk carrier), 2.2.7 (combination carrier), 2.2.9

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(containership), 2.2.11 (cruise passenger ship including those having non-conventional propulsion), 2.2.14 to 2.2.16 (gas carrier, general cargo ship, LNG carrier including those having conventional or non-conventional propulsion), 2.2.22 (refrigerated cargo carrier), and 2.2.26 to 2.2.29 (ro-ro cargo ship, ro-ro cargo ship (vehicle carrier), ro-ro passenger ship, tanker) according to the reduction factors set for, ship type, size, and correspondent EEDI reference line value.

4.4. Attained Energy Efficiency eXisting Ship Index (EEXI) is the EEXI value achieved by an individual ship in accordance with regulation 23 of MARPOL Annex VI. Applicable to each ship of 400 gross tonnage and above, falling into one of the categories in regulations 2.2.5 (bulk carrier), 2.2.7 (combination carrier), 2.2.9 (containership), 2.2.11 (cruise passenger ship including those having non-conventional propulsion), 2.2.14 to 2.2.16 (gas carrier, general cargo ship, LNG carrier including those having conventional or non-conventional propulsion), 2.2.22 (refrigerated cargo carrier), and 2.2.26 to 2.2.29 (ro-ro cargo ship, ro-ro cargo ship (vehicle carrier), ro-ro passenger ship, tanker) and shall indicate the estimated performance of the ship in terms of energy efficiency, and be accompanied by the EEXI technical file which contains the information necessary for the calculation of the attained EEXI and which shows the process of the calculation.

4.5. No-applicability – MARPOL Annex VI regulation 19.2 and 19.3

4.5.1. Ships registered under Panama flag for international service solely engaged in voyages **restricted to specific areas** within jurisdictional waters of the Republic of Panama will not apply the EEDI and EEXI requirements. In these cases, ships will only have SEEMP part I. Furthermore, the appropriate measures to ensure compliance as reasonable and practicable in case of ships registered under Panama flag for international service **and operating within jurisdictional waters** of the Republic of Panama (no-restricted area), will be determined by this Administration and informed as appropriate.

4.5.2. Attained EEDI, Attained EEXI, Required EEDI and Required EEXI shall not apply to ships not propelled by mechanical means, platforms including FPSOs, FSUs and Drilling Rigs, ships which have non-conventional propulsion, and to category A ships as defined in the Polar Code.

5. IMPLEMENTATION

5.1. MARPOL Annex VI new requirements shall enter into force on 1 November 2022. Therefore, **5.1.** on or after 1 January 2023, vessels under the scope of EEXI requirements must comply with by their first annual, intermediate or renewal of the International Air Pollution Prevention



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Certificate (IAPP), or the initial survey before the ship enters service for the International Energy Efficiency Certificate (IEEC).

- 5.2. For each ship to which attained EEDI applies, it may be taken as the attained EEXI if the value of the attained EEDI is equal to or less than that of the required EEXI required. In this case, the attained EEXI shall be verified based on the EEDI technical file (Refer to MARPOL Annex VI regulation 23.3).

6. INSTRUCTIONS TO RECOGNIZED ORGANIZATIONS

- 6.1. Recognized Organizations (ROs) authorized to issue the International Energy Efficiency Certificate (IEEC) on behalf of the Republic of Panama, shall carry out the verification process of the attained EEDI and attained EEXI calculations, based on the correspondent Technical File, taking into account the guidelines developed by IMO (refer to 3.1.2 and 3.1.5 above) .
- 6.2. Following to the provisions MARPOL Annex VI regulation 22.3, ROs shall report for each ship subject to Required EEDI via electronic to IMO (eedi@imo.org) the required and attained EEDI values and related information, as specified in Appendix 5 “Standard Format to Submit EEDI Information to be Included in the EEDI Database” of Resolution MEPC.332(76), as follows:
- Within seven (7) months of completing the survey required in MARPOL Annex VI regulation 5.4, or
 - Within seven (7) months following 1 April 2022 for ships delivered prior to 1 April 2022 (1 November 2022 in case of each ship subject to EEDI since 1 January 2013).
- 6.3. International Energy Efficiency Certificate (IEEC) issued by the authorized ROs shall be reported as per the provisions of MMC-324 and subject to the fees imposed by this Administration as stated in the Resolution J.D. No. 076-2021 dated October 28, 2021, amended by Resolution J.D. No. 011-2022 dated February 24, 2022, and the MMC-324.

October, 2022 – References updated, and entire text was revised on the basis of 2021 revised MARPOL Annex VI.

November 2021 – References were updated, and entire text was revised.

November 2012.



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Inquiries concerning the subject of this Merchant Marine Circular or any other request should be forward to:

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