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AIR POLLUTION AND ENERGY EFFICIENCY

Recent design efficiency trends, the EEDI and implications for the work of IMO

Submitted by CSC

SUMMARY

Executive summary: The Clean Shipping Coalition comments here on the findings of a new study into the design efficiency of ships that includes the most recent data on ships built in 2016. The study finds that a considerable number of ships in different ship categories already comply with phase 2 and even phase 3 requirements, providing further evidence that EEDI requirements need strengthening. The study also finds, however, that design efficiency improvements appear to have stalled in 2016, with the average design efficiency of new bulk carriers, tankers and gas carriers being worse in 2016 than in 2015. Of equal concern is the study's finding that a surprisingly large share of the ships that entered the fleet in 2016 had efficiency (EIV) scores well above the reference line, sometimes as much as 50%, suggesting that there may be non-compliance with the EEDI.

Strategic direction: 7.3

High-level action: 7.3.2

Output: 7.3.2.5

Action to be taken: Paragraph 11

Related documents: MEPC 68/INF.25, MEPC 68/3/27; MEPC 69/INF.9, MEPC 69/5/5, MEPC 69/INF.29; MEPC 70/5/21, MEPC 70/INF.36 and MEPC 71/INF.33

Introduction

1 This document is submitted in accordance with the provisions of paragraph 6.12.5 of the document *on 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) and provides comments on document MEPC 71/INF.33.

2 In 2015, CE Delft carried out a study for CSC members Seas at Risk and Transport & Environment which analysed how the design efficiency of new ships has changed, using a simplified version of the EEDI called the EIV (the formula used for calculating EEDI reference lines). The study included ships built between 2009 (the first year that ship EIV values were not included in the calculation of the EEDI reference line) and mid-2014. That report was submitted to MEPC 68 as document MEPC 68/INF.25. An update including data from 2015 and the second half of 2014 was undertaken in 2016 and submitted to MEPC 69 as document MEPC 69/INF.29. The study in document MEPC 71/INF.33 is a further update with data on ships that entered the fleet during 2016.

Study findings

3 This study finds that based on an analysis of EIVs, the average design efficiency of new ships has improved in recent years. However this improvement trend seems to have stalled in 2016.

4 An analysis of the estimated EEDI (eEEDI) of new ships, (calculated using the empirical relation that the EEDI is about 10% lower than the EIV) shows that of the ships that entered the fleet in 2016, 14% of bulk carriers, 52% of containerships, 23% of tankers, 21% of gas carriers and 55% of general cargo ships, had an eEEDI at least 30% below the reference line.

5 Nevertheless, the average design efficiency of new bulk carriers, tankers and gas carriers was worse in 2016 than in 2015. Moreover, the share of ships below the reference line and the share of ships meeting or exceeding the Phase 1, Phase 2 or Phase 3 required EEDI values decreased in 2016. The design efficiency of containerships and general cargo carriers was more or less at the same level in 2016 as in 2015.

6 While recognizing that there are uncertainties, a further concern is that a surprisingly large share of ships that entered the fleet in 2016 had EIVs well above the EEDI reference line, sometimes by more than 50%. This trend does not appear to be limited to specific ship types: often the variation in EIVs between ships of the same type and a similar size is very large, spanning values from well below the reference line to values well above it. This suggests that there is a large variation in the design efficiency that is not determined by ship type-specific requirements.

7 The finding that a considerable number of the ships have EEDIs well above the reference lines also points to potential non-compliance with existing requirements. Some of these ships might have exemptions under the EEDI but there is no publically available information to verify this and regrettably the IMO's EEDI database is no help. If indeed there are cases of non-compliance, due for example to exemptions, then this information needs to be communicated to the IMO and released as part of the database. If, however, non-compliance is due to other factors, it needs to be investigated by the Committee and resolved.

8 We are further of the view that shipowners should be required to properly populate the IMO database with EEDI scores, information on adopted new technologies and other relevant data, including speed data. Policy makers need to be able to determine whether and how the EEDI is achieving its goals and what, if anything, additional is required to ensure the EEDI makes a full and effective contribution to the decarbonization of the sector.

Implications for IMO's work

9 The Clean Shipping Coalition was disappointed that at MEPC 70 the opportunity was not taken to strengthen the EEDI by bringing forward the 2025 target to 2022 and adopting a new phase 4 target. Despite all the evidence, a small number of States argued at the time that the strengthening of the IMO's only climate measure should be delayed until after MEPC 71. The 2016 results in this study back up the earlier evidence of over-compliance many years in advance by a significant number of new ships not only to the phase 2 but also the phase 3 requirements. The evidence is clear; at present the EEDI regulation is not driving improvements in the efficiency of new ships and, in addition to a strengthened phase 3, ambitious new future phases are needed.

10 As part of the IMO's comprehensive GHG strategy, we believe that a more fundamental review of the EEDI is now needed, and that it should include the setting of a new phase 4 and phase 5 in order that innovative ship design makes a positive contribution to the decarbonization of the sector. The long life of ships means this work is not something that can be left to a later stage but must be undertaken immediately. Improved design efficiency of newly built ships is an obvious low-hanging fruit and will drive the uptake of energy efficient technologies. Failing to require ships built in the 2020s to be more efficient than business as usual will, on the other hand, make it much harder for the sector to meet any long-term GHG emission reduction commitments.

Action requested of the Committee

11 The Committee is invited to take note of the information above, the findings of the study, and their implications for IMO's work, and in particular to consider:

- .1 incorporating an early comprehensive review of the EEDI into the Organisation's work on a *comprehensive* strategy on the reduction of GHG emissions from ships;
- .2 strengthening existing EEDI requirements and establishing new future EEDI requirements so that the EEDI properly contributes to decarbonization early in the second half of the century;
- .3 developing the EEDI database such that the status of EEDI compliance of all ships is transparent and reasons for non-compliance made clear; and
- .4 requiring shipowners to populate the IMO database with EEDI scores, information on adopted new technologies and other relevant data.