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AIR POLLUTION AND ENERGY EFFICIENCY

Comments on documents MEPC 74/5/2 and MEPC 74/5/12 concerning EEDI reduction beyond phase 2

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SUMMARY

Executive summary: The co-sponsors comment on the report of the Correspondence Group which has considered EEDI beyond phase 2 provided in document MEPC 74/5/2 (Japan) and recommend that the Committee should support the proposals of the Correspondence Group for most ship types. Additionally, the co-sponsors comment on document MEPC 74/5/12 (WSC) and recommend that the Committee should support the proposals provided by WSC for containerships.

Strategic direction if applicable: 3

Output: 3.5

Action to be taken: Paragraph 15

Related documents: MEPC 73/19, MEPC 73/WP.7; MEPC 74/5/2 and MEPC 74/5/12

Introduction

1 This document provides comments on documents MEPC 74/5/2 (Japan) and MEPC 74/5/12 (WSC); is submitted in accordance with provisions of paragraphs 6.12.5 of the Committees' Method of work; and provides recommendations for the consideration of the Committee with respect to EEDI Phase 3 start years and reduction rates for gas carriers, general cargo ships, LNG carriers, refrigerated cargo carriers, combination carriers and cruise passenger ships having non-conventional propulsion.

2 At MEPC 73, the Committee considered the matter of EEDI beyond Phase 2 and agreed that EEDI Phase 3 would enter into force in 2025 with the previously agreed reduction rates for tankers, bulk carriers, ro-ro passenger ships, ro-ro cargo ships and ro-ro cargo (vehicle carriers) (MEPC 73/19, paragraph 5.53 and 5.81).

3 At MEPC 73 the Committee re-established the correspondence group which had been considering the matter of EEDI beyond Phase 2. The final report of the Correspondence Group is provided in document MEPC 74/5/2. Unfortunately, as a result of the time available to review data ship performance and technology, the co-sponsors were unable to provide detailed proposals to the Correspondence Group on the matter of EEDI Phase 3 reduction for all of the ship types which they were invited to consider.

Discussion – Combination carriers

4 At MEPC 73, the Committee agreed to implement EEDI Phase 3 in 2025 for bulk carriers and tankers with no changes to the reduction rate. A combination carrier shares the same attributes as bulk carriers and tankers in terms of hull design and faces the same challenges in achieving EEDI Phase 3, particularly with respect to further reducing EEDI values whilst maintaining sufficient power to manoeuvre safely in adverse conditions.

5 It would be both inconsistent and illogical to agree to an early implementation of EEDI Phase 3 in 2022 for combination carriers given that the Organization has already recognized that this date is impracticable for bulk carriers and tankers.

Discussion – Gas carriers and LNG carriers

6 During the deliberations of the Working Group which considered EEDI matters at MEPC 73, some members expressed a view that gas carriers and LNG carriers were similar in design (MEPC 73/WP.7 paragraph 24). This was in response to the very limited data available for LNG carriers. LNG carriers are a type of gas carrier; however, the design of ships built to carry different gases differs significantly. LNG carriers generally utilize either Type B or membrane type cargo containment systems, with the cargo refrigerated to -163°C , and have high design speeds (typically 19.5 knots). LPG carriers generally utilize Type A cargo containment systems operating at -50°C and have more modest design speeds (typically 16 knots). Therefore, if comparing the two principal types of gas carrier, the different cargo containment systems, different cargo temperatures and associated refrigeration systems and differing service speeds means that they are markedly different in design. This has already been recognized by IMO, as evidenced by the fact that LNG carriers and LPG carriers are addressed separately in regulation 21 of MARPOL VI. A further significant factor is that LNG carriers generally operate on boil-off natural gas fuel which has a significantly lower carbon factor (C_i) than the oil fuel combusted by other gas carriers. The proposal of the Correspondence Group to start EEDI Phase 3 in 2022 for larger gas tankers, and in 2025 for smaller gas carriers, with a start year of 2025 for LNG carriers, is considered to be a pragmatic compromise which balances ambition with a practical recognition of the challenges facing small gas carriers.

Discussion – Refrigerated cargo carriers

7 It is considered that there is insufficient data available to support early implementation of EEDI Phase 3 for refrigerated cargo carriers. Refrigerated cargo carriers carry time-sensitive cargo and tend to have hull forms optimized for higher speeds and are provided with greater installed propulsion power than, for example, general cargo ships. The refrigeration systems necessary to maintain cargo temperatures and climate control also impose a significant power demand relative to a similar-sized general cargo ship. It cannot be assumed that data which is available for general cargo ships is representative of refrigerated cargo carriers; although refrigerated cargo carriers and general cargo ships shared many design aspects in the past, this is no longer the case.

8 Should EEDI Phase 3 start in 2022 for refrigerated cargo carriers, it is the considered opinion of ship designers, ship builders and operators that this would prevent new construction of such ships. The very limited data in the IMO EEDI database accurately reflects a very limited number of new builds for this ship type.

9 The very limited number of new builds means that there would be no significant emissions benefit from advancing the date to 2022; however, doing so would risk preventing any further new construction of refrigerated cargo carriers.

Discussion – Containerships

10 At MEPC 73, an initial agreement in principle to introduce EEDI Phase 3 in 2022 for all containerships with a reduction rate of 40% was subsequently amended following a WSC proposal to introduce EEDI Phase 3 in 2022 for all containerships but with a sliding scale for the reduction rate. This sliding scale would start at 30% for small containerships, with more of a graduated scale of increasing reduction rates for larger containerships.

11 The co-sponsors consider that increasing the required EEDI Phase 3 reduction rate to 40% along with early implementation in 2022 would be impractical for feeder containerships. The net effect would most probably be a surge of new construction prior to the EEDI phase 3 implementation date followed by a significant reduction in new orders for smaller containerships.

12 Although introducing an EEDI reduction rate of 40% for small containerships in 2022 is not supported, it is considered practical to increase the required reduction rate for larger containerships. The co-sponsors recommend that the Committee should support the proposal submitted by WSC in document MEPC 74/5/12 to introduce a variable reduction rate based on ship size.

Discussion – Cruise passenger ships having non-conventional propulsion

13 The co-sponsors remind the Committee that regulation 19.3 of MARPOL Annex VI requires that cruise passenger ships having non-conventional propulsion delivered on or after 1 September 2019 to satisfy the EEDI requirements provided in MARPOL VI regulations 20 and 21. For this reason, there is very little EEDI data for this ship type. For many cruise passenger ships with non-conventional propulsion, preliminary EEDI data on hand has not yet been subject to third party verification by classification societies or flag Administrations, or both. Shipowners note inconsistencies in the available data, likely attributable to ambiguity in interpretation of various parameters when calculating EEDI, and are actively working to resolve uncertainties to pursue verification. In light of the complexity and long lead time associated with cruise ship new build contracts, some of which being already in place for ships to be delivered beyond 2023, the potential commercial implications of any change to existing timelines would be significant. Accordingly, the co-sponsors recommend retention of 2025 as the start date for Phase 3 for this ship type.

Recommendations

14 The co-sponsors recommend that EEDI Phase 3 should be implemented in accordance with the proposals provided in documents MEPC 74/5/2 and MEPC 74/5/11, as follows:

Ship Type	Size	EEDI Phase 3 1 Jan 2022 and onwards	EEDI Phase 3 1 Jan 2025 and onwards
Bulk carrier**	20,000 DWT and above	-	30
	10,000 to 20,000 DWT	-	0-30*
Gas carrier	15,000 DWT and above	30	-
	2,000 to 14,999 DWT	-	0-30*
Tanker**	20,000 DWT and above	-	30
	4,000 to 20,000 DWT	-	0-30*
Containership	10,000 to 14,999 DWT	15-30*	-
	15,000 to 39,999 DWT	30%	-
	40,000 to 79,999 DWT	35%	-
	80,000 to 119,999 DWT	40%	-
	120,000 to 199,999 DWT	45%	-
	200,000 DWT and above	50%	-
General cargo ship	15,000 DWT and above	30	-
	3,000 to 15,000 DWT	0-30*	-
Refrigerated cargo carrier	5,000 DWT and above	-	30
	3,000 to 5,000 DWT	-	0-30*
Combination carrier	20,000 DWT and above	-	30
	4,000 to 20,000 DWT	-	0-30*
LNG carrier	10,000 DWT and above	-	30
Ro-ro cargo ship (vehicle carrier)**	10,000 DWT and above	-	30
Ro-ro cargo ship**	2,000 DWT and above	-	30
	1,000 to 2,000 DWT	-	0-30*
Ro-ro passenger ship**	1,000 DWT and above	-	30
	250 to 1,000 DWT	-	0-30*
Cruise passenger Ship having nonconventional propulsion	85,000 GT and above	-	30
	25,000 to 85,000 GT	-	0-30*
* = Reduction factor to be linearly interpolated between the two values dependent upon ship size. The lower value of the reduction factor is to be applied to the smaller ship size.			
** = Already agreed by the Committee			

Action requested of the Committee

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