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AIR POLLUTION AND ENERGY EFFICIENCY

Phase 3 EEDI standards for containerships

Submitted by WSC

SUMMARY

Executive summary: During MEPC 73, the Committee invited proposals to MEPC 74 concerning the revision of the Phase 3 EEDI standards. In addition, some members of the Committee specifically invited the World Shipping Council to submit a proposal for revision of the Phase 3 EEDI standards applicable to containerships. This document responds to the invitation of the Committee, proposing a revision of the Phase 3 EEDI standards for containerships using a graduated set of standards differentiated by size.

*Strategic direction,
if applicable:* 3

Output: 3.6

Action to be taken: Paragraph 16

Related documents: MEPC 73/19 and MEPC 74/5/11

Introduction

1 The Committee is currently considering modifications to the Phase 3 EEDI standards applicable to various ship types, including containerships. At the conclusion of the discussions on the Phase 3 EEDI standards at MEPC 73, the Committee noted that the Correspondence Group could give further consideration to the matter and "invited concrete proposals to MEPC 74 for further consideration, with a view to approval at that session" (MEPC 73/19, paragraph 5.83). This document responds to that invitation and sets forth a proposal to revise the Phase 3 EEDI standards applicable to containerships.

Background

2 At MEPC 73 the Committee briefly discussed a series of proposals concerning different ship types. In this context, two specific questions were considered:

- .1 whether the Phase 3 standard should be advanced from 1 January 2025 to 1 January 2022; and
- .2 whether the current Phase 3 standard should be modified.

3 With respect to containerships there was general agreement in the Committee that the Phase 3 standards could be moved forward to 1 January 2022.

4 With respect to the second question as to how the Phase 3 EEDI standards for containerships should be modified, three views were offered to the Committee. Japan proposed that the Phase 3 EEDI standard should be changed to 40% for containerships of 40,000 DWT and above, while maintaining the current Phase 3 standard of 30% for containerships smaller than 40,000 DWT. In the second case, the European Union proposed that the Phase 3 standard should be changed to 40% for all containerships regardless of size. In the third case, WSC argued that an appropriate approach would be to maintain the 30% standard for the smallest containerships, while applying a graduated standard to larger containerships with standards of 35% and 40% applied to containerships of intermediate size and a 45% standard to the largest containerships.

5 The Committee decided not to make a decision on which of these approaches was the most appropriate and invited concrete proposals on the matter to be submitted for consideration at MEPC 74. In addition, the Committee invited the Correspondence Group to further consider what changes to the Phase 3 EEDI standards may be appropriate.

6 The Correspondence Group on the EEDI Review beyond Phase 2 subsequently considered the specific issue of Phase 3 EEDI standards for containerships. The comments received reflected broad agreement that the Phase 3 standards for containerships could be moved forward to 1 January 2022. In addition, the majority of Correspondence Group members supported a graduated approach for the containership Phase 3 standards differentiated by size.

Discussion

7 To obtain as much insight as possible, DNV-GL undertook an assessment of data available for the container fleet in the IMO EEDI Database and related information found in the IHS Fairplay database. The available data was broken into specific size segments (measured by both deadweight tonnage and approximate TEU size bands); the data reveals four relevant observations:

- .1 above 40,000 DWT, verified attained EEDI values for the best and worst verified EEDI values in the intermediate and larger containership size segments show reasonably limited variance. This suggests that the reported data is not disparate and that the best and worst performers are not widely separated;
- .2 above 120,000 DWT, verified attained EEDI values exhibit even tighter bands between the best and worst EEDI scores, and between 140,000 and 190,000 DWT the separation between best and worst EEDI scores is very limited;
- .3 in contrast, small containerships below 40,000 DWT exhibit a wide range of variance between the best and worst EEDI values indicating that these ships are subject to a much broader set of commercial and technical demands that lead to very different EEDI scores; and

.4 on the whole, attained EEDI values improve as ship size increases above 40,000 DWT.

8 WSC also considered the number of ships in different size segments and the relevant percentage of fuel consumption and emissions generated across the overall container fleet. While specific numbers and percentages will vary over time as fleet composition is constantly changing, the following is worth taking note of: by way of example, there are approximately 1,370 small containerships today between 15,000 and 40,000 DWT accounting for roughly 16% of containership emissions. For larger containerships above 40,000 DWT, there are approximately 2,750 ships, but they carry the vast majority of cargo and constitute roughly 75% of containership emissions.* Consequently, an approach that focuses more aggressive EEDI requirements on the larger ships can be expected to produce a better result. Moreover, the larger ships can take advantage of design advantages and economies of scale relative to the much larger cargo volumes that they transport.

9 Also relevant to this decision is what building trends and changes in fleet composition (e.g. growth or decline of specific size segments) may be reasonably anticipated in the future newbuilding market. While any observation concerning future newbuilding is by definition subject to considerable uncertainty, Alphaliner recently offered the following assessment:

"The high extra costs implied by the IMO 2020 sulphur rule should lead to volume consolidation on larger ships from 2020 in order to spread the extra costs on a greater number of boxes per sailing. This would suggest an acceleration in the use of large ships and loop mergers/restructurings, with a 'hollowing' of the smaller size ranges (say under 3,000 TEU, although it is difficult to be accurate for such projections).

Also, the 1,000-1,200 TEU size range will likely see a slow decline, already visible as most of the orders passed during the past few years concern ships aimed at niche trades, ordered by the local carriers themselves with the specs / container mix adapted to their niches."

10 The decision on what modifications are appropriate to the Phase 3 containership standards should, in WSC's judgement, consider the preceding fleet composition trends, statistical considerations, and probable market developments. Each of these factors is subject to uncertainty, but each is relevant to constructing a proposal that can be expected to lead to a good public policy outcome.

Proposal

11 Considering the preceding information, WSC supports moving the Phase 3 EEDI standard to 1 January 2022.

12 With respect to the Phase 3 reduction factors, WSC believes that the most appropriate modification of the Phase 3 EEDI standards for containerships is one that maintains the Phase 3 EEDI reduction factor of 30% for small containerships that are subject to a wide range of specialized requirements and whose verified EEDI standards are subject to considerable variation. For the smallest containerships covered by the regulations (containerships between 10,000 and 14,999 DWT), WSC proposes increasing the reduction factor from the current 0-30 range to a range of 15-30 because it is believed that a zero point starting point is inappropriate for Phase 3.

* Alphaliner Fleet Database January 2019.

13 Considering the efficiency of scale realized by larger containerships as well as the available data, WSC recommends that containerships over 40,000 DWT would be subject to a graduated set of standards that increase with size. The full set of graduated standards includes Phase 3 standards for the largest ships with standards of 40%, 45%, and 50% applicable to those ships that carry the most cargo and offer the lowest carbon emissions on a TEU / mile basis. A change in the required reduction rate of 30 to 35% is proposed for smaller, intermediate containerships between 40,000 and 79,999 DWT as recent new building activity is low in this size segment and the available data is limited.

14 WSC proposes a graduated approach as follows:

Phase 3 EEDI standards applicable to containerships would apply on 1 January 2022 as applicable under regulation 21 as follows:

Ship type	Size	Proposed Phase 3 Reduction Factor
Containership	10,000 - 14,999 DWT	15-30*%
	15,000 - 39,999 DWT	30%
	40,000 - 79,999 DWT	35%
	80,000 - 119,999 DWT	40%
	120,000 - 199,999 DWT	45%
	200,000 DWT and above	50%

*Reduction factor to be linearly interpolated between the two values dependent upon vessel size. The lower value of the reduction factor is to be applied to the smaller ship size.

15 The above approach increases the effective Phase 3 requirement for all container size segments while maintaining the 30% reduction factor applicable to small containerships of 15,000 – 39,999 DWT in size. The proposed standards are consistent with available data. Most importantly, the proposed standards apply the most stringent standards to those ships that generate the most emissions in the fleet and are capable of being designed to the more stringent energy efficiency design standards. Moreover, the proposal should produce a superior environmental result when compared to a flat 40% standard, while also being sensitive to the different operating requirements and design challenges that apply to different ship sizes.

Action requested of the Committee

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