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PREVENTION OF AIR POLLUTION FROM SHIPS

Comments on the interim guidelines on the method of calculation of the Energy Efficiency Design Index for new ships based on a study on tests and trials of the EEDI formula

Submitted by Austria, Bulgaria, the Czech Republic, Estonia, France, Germany, Hungary, Ireland, Latvia, Lithuania, Luxembourg, the Netherlands, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom and the European Commission

SUMMARY

Executive summary:	The European Commission, in cooperation with the European Maritime Safety Agency (EMSA), conducted a study on tests and trials of the Energy Efficiency Design Index as developed by IMO. The study provides test results and an overview of technological options to do reduce the attained EEDI.
Strategic direction:	7.3
High-level action:	7.3.1
Planned output:	7.3.1.3
Action to be taken:	Paragraph 11
Related documents:	MEPC/Circ.681, MEPC/Circ.682, MEPC 59/24, MEPC 59/24/Add.1 and MEPC 60/4

Introduction

1 This document is submitted in accordance with paragraph 4.10.5 of the Guidelines on the organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies (MSC-MEPC.1/Circ.2) and provides comments to issues related to the Energy Efficiency Design Index as identified in document MEPC 60/4 by the Secretariat.

Background

2 During discussions at MEPC 59, the Committee recognized the need to develop the Energy Efficiency Design Index for new ships in order to stimulate innovation and technical development of all the elements influencing ship energy efficiency from its initial design. The Committee agreed to circulate interim Guidelines on the method of calculation of the Energy Efficiency Design Index for new ships and invite Member Governments and observer organizations to use the interim Guidelines for the purpose of tests and trials on a voluntary basis.

3 Therefore, the European Commission (EC), in cooperation with the European Maritime Safety Agency (EMSA), commissioned a study in order to obtain additional information on the following main elements:

.1 tests of the EEDI formula on conventional ship types;

.2 assessment of the appropriateness of the baselines; and

.3 identifying best practices with respect to design elements that can reduce the EEDI value.

Objectives

4 The main objective of this study has been to provide the EC (EMSA) with tests and trials on the Energy Efficiency Design Index (EEDI) for ships with conventional propulsion systems in order to evaluate the applicability of the index to these categories of ships and to identify potential design or equipment improvement that can reduce the EEDI value. The focus was on ships delivered after 2007 or currently under construction in various ship building regions around the world.

Main outcomes

5 The calculation method for the EEDI is mature and simple, and the index can be calculated for ships representing the majority of world DWT capacity. However, the calculated index value does not express the actual transport efficiency of a ship since it is only calculated for a single design point and not for the complete operation and loading profile. For the same reason the index values of different types of ships are not directly comparable with each other.

6 It is essential to identify clearly the ship types where the EEDI actually is a comparable measure of efficiency and to recognize the consequences of establishing limitations for the index value.

7 It is demonstrated through examples that the EEDI would in many cases lead to power limitations for new ships. This, in turn, would standardize design speeds at a certain level depending on ship type and size.

8 Regarding the applicability of the EEDI, it is concluded that the current approach could be feasible, with certain reservations, for ocean-going cargo ships, e.g., over 15,000 – 20,000 DWT depending on ship type, which have uniform design criteria, i.e. tankers, bulk carriers, containerships, LNG-carriers, LPG carriers, ro-ro vehicle carriers and the largest general cargo ships. These ships account for the majority of CO_2 emissions from shipping.

9 Nevertheless, the current EEDI approach is so far less suitable for certain ship types, small sizes vessels and for ships designed for a certain route or special purpose as well as for ice class ships, ro-ro and ro-pax, e.g., short sea shipping.

10 The final report is available at: http://www.emsa.europa.eu/end185d012d003.html (zip-file under related news).

Action requested of the Committee

11 The Committee is invited to consider the information provided and take action as appropriate.