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PREVENTION OF AIR POLLUTION FROM SHIPS

Comments on MEPC 59/4/2 and MEPC 59/4/4 and an additional approach to addressing maritime GHG emissions

Submitted by the United States

SUMMARY

Executive summary:	This document provides comments on documents MEPC 59/4/2 (Secretariat), MEPC 59/4/4 and MEPC 59/INF.10. It also proposes a new approach to address maritime GHG emissions by establishing mandatory efficiency standards for new and existing ships using the EEDI and allowing ships to trade efficiency credits. The system would drive significant improvements across the world's fleet with explicit and mandatory benchmarks to address fuel efficiency and reduce GHG emissions
Strategic direction:	7.3
High-level action:	7.3.1
Planned output:	7.3.1.3
Action to be taken:	Paragraph 16
Related documents:	GHG-WG 2/2/1, GHG-WG 2/2/7, GHG-WG 2/2/14 and GHG-WG 2/2/16

Introduction

1 This document is submitted in accordance with paragraph 4.10.5 of the IMO guidelines on the organization and method of work, MSC-MEPC.1/Circ.2. It comments on documents MEPC 59/4/4 and MEPC 59/INF.10, which presents the Second IMO GHG Study 2009 and MEPC 59/4/2 (Secretariat), which presents the outcome of the second intersessional GHG Working Group meeting (GHG-WG 2).

2 One of the conclusions of the Second IMO GHG Study 2009 is that a "mandatory Energy Efficiency Design Index for new ships is a cost effective solution that can provide an incentive to

improve the design efficiency of new ships. However, its environmental effect is limited because it only applies to new ships". MEPC 59/4/2 provides draft interim guidelines for calculating the Energy Efficiency Design Index (EEDI) for new ships.

3 Both the Committee and the United States recognize that more must be done to address emissions from the existing fleet in a way that is effective in contributing to the reduction of total global greenhouse gas emissions from the international maritime sector. The United States believes that the primary challenge before IMO is to identify what innovative regulatory and market-based mechanisms will provide the most effective, efficient and timely pathway to reducing CO_2 emissions, as well as improving the efficiency of the world's existing maritime fleet, and helping the maritime sector achieve a low-carbon trajectory.

4 The proposed Ship Efficiency Management Plans and the Energy Efficiency Operational Indicator are excellent monitoring and management tools, but cannot by themselves be used as standards. There are currently two proposals before the Committee to address emissions from existing ships: a global compensation fund and an emissions trading system for ships. Both of these options provide interesting and innovative ideas. Taking into account the conclusions in MEPC 59/4/4 and MEPC 59/INF.10, the draft interim guidelines contained in MEPC 59/4/2, building on past MEPC discussions, and without prejudice to the eventual decision by the Committee, the United States would like to propose an additional concept for consideration by the Committee, which is the establishment of efficiency standards for new and existing ships using the EEDI. This new approach proposes establishing mandatory efficiency standards for both new and existing ships and allows ships to trade efficiency credits to comply with the efficiency standard. The system would drive significant improvements across the world's fleet with explicit and mandatory benchmarks to improve fuel efficiency and reduce GHG emissions from the international maritime fleet.

The concept

5 The core of the proposed approach is to use the EEDI as a means to measure and improve efficiency for all ships, both new and existing by creating efficiency standards that become increasingly stringent over time. Efficiency of both new and existing ships would be measured using the EEDI, but the required efficiency improvements would be applied to vessels organized by both class and size and would be certified by the Administration. Comparing similar class and size of ships would help mitigate problems encountered to date where certain vessel classes may face unique circumstances while also avoiding inappropriate comparisons of large transoceanic vessels with smaller coastal feeders.

6 While the system would include market trading of efficiency credits within the maritime sector and other possible market measures, the approach would not establish an international fund nor would it create an emissions trading scheme. The approach (further outlined in subsequent paragraphs) provides a comprehensive system for significantly improving fuel efficiency and addressing GHG emissions from international shipping that is simple and fully implementable in the near future.

Equitable treatment of ship types and sizes

7 To avoid inappropriate comparison of vessels serving different operational purposes, this suggested approach would group vessels by class and size. For example, a very large crude carrier (VLCC) would be compared to other tankers of similar size and function and not to other classes or smaller tankers that serve coastal feeder routes. This same principal of grouping would also apply to

bulkers, container vessels, ro-ro passenger ships and other vessel classes. As such, each ship then has an EEDI value that represents its efficiency relative to other vessels of the same class and size.

8 Under this approach, smaller coastal vessels and ro-ro passenger ships would not be disadvantaged in the same way as in some systems since the design index and target value would be calculated for not only vessels of the same class, but also to vessels of comparable size. Consequently, a 3500 TEU containership would be compared to similarly sized vessels and not compared to a 8,500 or a 12,000 TEU vessel that would have an inherent efficiency advantage on a TEU or tonnes per mile basis. The system would drive a mandatory improvement in vessel efficiency (with an indirect effect of lowering vessel emissions), but it would not impose an absolute cap on vessel emissions.

How it works

9 Under this approach, the parties would establish a specific improvement in the average efficiency of the world's fleet (e.g., a X% improvement in average vessel efficiency when compared to today's average) and thereby create a definitive CO_2 emission reduction from ships. Each individual vessel would then be judged against a requirement to improve its efficiency as compared to the average efficiency (referred to as a baseline) for the specific vessel class and size that a given ship falls within (e.g., containership of 46,000 DWT size). At the next ship survey after the standard goes into effect, all ships must meet the EEDI standard for their class of vessels. Compliance with the EEDI standard can be met in a number of ways, including:

.1 technical modifications that are certified and which give an EEDI score equal to or better than the standard;

.2 implementation of verifiable operational measures (such as slow-steaming) that are certified; and

.3 use of efficiency credits (purchased from more efficient vessels) to offset the difference between the actual EEDI score and the standard.

Measures would need to be considered for how to address existing ships that are unable to meet the specified efficiency requirements.

10 It should be noted that this approach does not cap emissions in the shipping sector, but it does set definitive performance standards for both new and existing vessels that will lead to definitive emission reductions and significant improvements in efficiency in both the short and long term by converting the international maritime fleet into the most GHG efficient fleet possible. This approach also resolves potential concerns about addressing the existing and future fleet in different ways.

11 As many have come to realize, speed reduction will be utilized by many ship operators as one of the mechanisms to meet any efficiency standard since this is one of the most readily available pathways to reduce fuel consumption as well as CO_2. Deciding to "permanently" operate at a slower speed than the design speed of the vessel would afford the opportunity to improve the vessel's design index value. Such an action could be implemented electronically in a manner that would maintain the full vessel safety margin by limiting the vessel's speed but allowing for 100% power below the set speed (e.g., in heavy seas).

Design of the targets

12 There would appear to be at least two possible approaches to how IMO might design the mandatory vessel efficiency targets:

.1 establish a single fixed objective by a certain date (e.g., vessels shall be held to a target emission reduction value of X% by year A); or

.2 establish a fixed, but stepped, set of objectives by certain dates (e.g., vessels shall be held to a target emission reduction value of X% by year A, Y% by year B, and Z% by year C).

Potential for trading of efficiency credits

13 Those ships built or retrofitted to be more efficient than the targeted efficiency improvement could sell their excess efficiency improvements as a credit to others who are above the target value. This would provide the opportunity to provide financial gain beyond savings in fuel costs to more efficient actors through efficiency "trading", but the trading would be limited to trading with other vessels. Further discussion is required as to how an efficiency credit system would work.

Linkages between this approach and the EEDI for new ships

14 As noted above, the suggested approach provides an EEDI baseline for both existing and new ships. The Committee will need to decide if the efficiency improvements, timelines, and non-compliance measures for existing ships would be equal to those for new ships. There will be more variation in performance and capacity for improvement among existing ships and it may therefore be appropriate to have a greater number of reduction targets and timetables for existing ships than for new ships.

Conclusion

15 The United States is of the opinion that the above described alternative provides the Committee with a pragmatic, equitable and cost effective solution to reducing greenhouse gas emissions from new and existing ships. The United States intends to submit more specific details of this alternative to the next session (MEPC 60), taking into account comments received during this session.

Action requested of the Committee

16 The Committee is invited to take the above alternative into account when considering measures to reduce greenhouse gas emissions from the international maritime fleet and take action as appropriate.

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