

MARINE ENVIRONMENT PROTECTION
COMMITTEE
70th session
Agenda item 5

MEPC 70/5/2
14 July 2016
Original: ENGLISH

AIR POLLUTION AND ENERGY EFFICIENCY

Effective implementation of the 0.50% m/m sulphur limit under regulation 14.1.3 of MARPOL Annex VI

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SUMMARY

Executive summary: This document briefly outlines issues that can be expected to arise with implementation of the 0.50% m/m sulphur limit under regulation 14.1.3 of MARPOL Annex VI and invites the Committee to consider a process to examine how implementation may be enhanced

Strategic direction: 7.3

High-level action: 7.3.1

Output: 7.3.1.10

Action to be taken: Paragraph 9

Related documents: None

Background

1 Regulation 14 of MARPOL Annex VI stipulates that the sulphur content of any fuel oil used on board ships shall not exceed 0.50% m/m on or after 1 January 2020 (or 1 January 2025) pending a review to determine the availability of fuel oil to comply with the standard set forth in paragraph 1.3 of regulation 14, which the Committee is expected to decide at this session.

2 This document does not comment on the review required under paragraphs 8 through 10 of regulation 14 of MARPOL Annex VI or the question before the Parties to MARPOL Annex VI of whether the standard should take effect in 2020 or 2025. This document does draw the attention of the Committee to issues concerning the implementation of the 0.50% global sulphur limit irrespective of whether the standard comes into effect in 2020 or 2025.

The 0.50% sulphur limit requires practical implementation measures, applied consistently to avoid commercial distortion associated with the higher daily operating costs for low-sulphur fuels and alternative mechanisms (e.g. scrubbers)

3 Implementation of the 0.50% sulphur limit in 2020 or 2025 will significantly reduce sulphur emissions to the atmosphere from the world's fleet, but this new international regulatory standard will also introduce a significant change in the daily operating cost of ships operating outside ECAs. Those additional costs are of a magnitude that could cause serious commercial distortion if there is uneven implementation of the 0.50% sulphur limit. To illustrate this point, the additional daily operating cost for a ship burning 100 tonnes of fuel a day to comply with a 0.50% sulphur limit could be \$15,000 to 30,000 per day compared with using non-compliant fuel oil. This is based on a historical price differential ranging from \$150 to \$300¹ per tonne. Differentials have varied greatly as a result of crude oil price fluctuations. Products emerging to meet the global 0.50% sulphur limit are expected to cost less than traditional marine distillates, but a substantial price differential is nevertheless anticipated with various forecasts suggesting a wide range.

4 The Organisation for Economic Cooperation and Development (OECD) estimates the financial impact of the 0.50% sulphur limit could add annual total costs in the order of \$5 to 30 billion for the container industry alone². OECD has not considered a similar scenario for 2025 or the global merchant fleet, but the co-sponsors understand that to meet demand from the global fleet, the 0.50% requirement in 2020 is estimated to require replacing roughly 200 million tonnes of residual fuel oil with distillates or hybrid fuels with high distillate content. This could raise annual operating costs for the world fleet by \$30 to 60 billion per annum based on a historical price differential that uses a conservative upper limit of \$300 per tonne. Forecasts may suggest different figures depending upon the assumed price differential. Given the significant daily operating costs that accompany the 0.50% global sulphur limit, the importance of consistent implementation across the globe is critical to maintain a level commercial playing field.

5 Many regulations adopted under Organization instruments require a one-time, up-front investment in capital equipment in order to achieve compliance. The 0.10% sulphur limit in ECAs introduced a new type of compliance model in that it imposes ongoing additional operating costs for ships operating in specific geographic areas. Although the impact of the 0.10% standard has been significant, especially to those ships whose operations occur wholly within an ECA, the global scope of the 0.50% fuel sulphur limit will impose new and additional costs that occur on a continuous basis for all ships engaged in international trade, and therefore the magnitude of its effect will be more significant than the effect of ECAs.

Implementation challenges that should be anticipated and addressed with the 0.50% sulphur limit as per regulation 14.1.3 of MARPOL Annex VI

6 Consistent and effective implementation of the 0.50% sulphur limit is critical for commercial considerations and to achieve the environmental benefits sought through regulation 14 of MARPOL Annex VI. This point was explicitly recognized by the International Transport Forum (ITF) and OECD in their recent report, *Reducing Sulphur Emissions from Ships* - © OECD/ITF 2016. In addition, uneven implementation would increase the uncertainty concerning actual market demand for 0.50% sulphur marine fuel, which in turn would increase the difficulty for the marine fuel oil supply chain to plan effectively to meet global demand and for ship operators to assess the viability of investing in exhaust gas cleaning systems.

¹ A review of prices in Singapore, as reported on Platts Bunkerworld, between January 2005 and May 2016, shows IFO380 vs MDO price differentials ranging between \$86 to 688 with an average differential of \$251.50.

² The OECD/International Transport Forum, *Reducing Sulphur Emissions from Ships: The Impact of International Regulation* - © OECD/ITF 2016.

7 Recognizing these concerns, the co-sponsors believe that it would be useful to explore what actions may be taken to ensure consistent implementation of the global 0.50% sulphur limit as well as actions that may facilitate effective policies by IMO Member States. To this end, the Committee may wish to consider a suite of potential actions to support successful implementation of the global sulphur limit. Potential actions to be considered may include:

Possible actions for discussion:

- .1 consider how port State control officers can detect and take action against ships using fuel oil that exceeds the limit of 0.50% unless that ship is equipped and certified to operate an exhaust gas cleaning system or other approved alternative compliance system as allowed under regulation 4 of MARPOL Annex VI;
- .2 consider a standard format for reporting fuel oil non-availability as provided in regulation 18.2.2 of MARPOL Annex VI that may be used to provide evidence if a ship is unable to obtain fuel oil compliant with the provisions stipulated in regulations 14.1.3 and 14.4.3 of MARPOL Annex VI;
- .3 consider mechanisms to encourage verification that fuels supplied to ships meet the specified sulphur limit as stated on the bunker delivery note, including technologies and guidelines that may assist member states and stakeholders in assessing the sulphur content of fuel sold and delivered for use on board ship;
- .4 consider how to accommodate any transitional actions that may be necessary;
- .5 consider a timeline for developing uniform implementation measures; and
- .6 consider other actions as appropriate.

Conclusion

8 The issues and challenges to ensure consistent implementation of the 0.50% global sulphur limit are significant. The co-sponsors invite the Committee to consider a process to give careful consideration to what additional measures may be taken to promote consistent implementation of the 0.50% global sulphur limit. To assist the Committee in considering this issue, the co-sponsors recommend that the Working Group on Air pollution and energy efficiency discuss this matter and advise the Committee on how best to proceed.

Action requested of the Committee

9 The Committee is invited to consider the views expressed in this document and to take action as appropriate.