



MARINE ENVIRONMENT PROTECTION  
COMMITTEE  
57th session  
Agenda item 4

MEPC 57/4/49  
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## PREVENTION OF AIR POLLUTION FROM SHIPS

### MARPOL Annex VI – related matters Revision of MARPOL Annex VI

Submitted by the International Association of Independent Tanker Owners  
(INTERTANKO)

#### SUMMARY

<b>Executive summary:</b>	This document provides suggestions for the Committee's consideration on possible efficient limitations for further reduction of PM emissions in case the Global approach as now defined as Option 1 in the draft amendment to regulation 14 as presented in document MEPC 57/4/23 is approved
<b>Strategic direction:</b>	7.3
<b>High-level action:</b>	7.3.1
<b>Planned output:</b>	7.3.1.1
<b>Action to be taken:</b>	Paragraph 13
<b>Related documents:</b>	BLG-WGAP 1/2/5 and MEPC 57/4/23

1 This document provides comments on MEPC 57/4/23 and is submitted in accordance with paragraph 4.10.5 of the Committees' Guidelines (MSC-MEPC.1/Circ.1) and the relaxed deadline for comments documents on the air pollution item to MEPC 57 with prior authorization of the MEPC Chairman following consultations with the Secretariat in line with paragraph 4.12 of the Committees' Guidelines.

2 INTERTANKO strongly supports the adoption of the Global approach provided for by Option 1 in the suggested amendments to regulation 14. The Global approach is the best option to achieve a significant and comprehensive reduction of air emissions from ships.

3 INTERTANKO would invite the Committee to consider that the final revision of MARPOL Annex VI should take into account the environmental impacts, operational practicalities and safety considerations, as well as ensuring realistic monitoring and enforcement. INTERTANKO encourages the Committee to also consider the desirability of endeavouring to achieve principally a one-fuel ship which will improve safety of operations by avoiding (a) the

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need for fuel switching when entering or leaving ECAs; (b) incompatibility problems as experienced by ships linked to fuel switching; and (c) exposure to human error and engine failure.

4 INTERTANKO believes that a Global approach as presented in Option 1 of the draft amended regulation 14 represents a simple and straightforward solution. In addition to the environmental benefits, it also provides for more efficient enforcement and monitoring systems. The burdens on Administrations would be simplified because a Global approach will remove the complications of fragmented legislation for “open sea”, “ECA regions” and “in port”, with differing requirements and limitations and with cumbersome and expensive monitoring systems. One mandatory fuel specification would make for easier control on the supply side rather than on the consumer side, as is the case with all other modes of transportation which are obliged to buy and use clean fuels. It would increase responsibility and thus reliability of proper supply.

5 INTERTANKO acknowledges that if the Committee agrees to a Global approach, the timing for such a transition would need to be carefully assessed in order to ensure a fair and smooth transition for all ship types. In addition, a Global approach would rationally suggest a more proper definition for the fuel to be mandated for global use which should primarily facilitate efficient reduction of all air emissions covered by MARPOL Annex VI.

6 INTERTANKO supports the proposal to add Particulate Matter emissions to regulation 14. However, the suggested amendment does not specifically set any limit on PM emissions. Limiting the revision to sulphur levels does not address all of the PM concerns. The Committee may, for example, wish to refer to the INTERTANKO submission BLG-WGAP 1/2/5, which indicates that Particulate Matter in engine exhausts consists of a mixture of particles of differing types and species, including environmentally harmful substances other than sulphates.

7 As an example, the Committee may wish to consider that, in addition to limiting the sulphur content in any fuel used by ships as bunkers, regulation 14 could also limit the content of carbon residue and heavy metals as the two other major contributors to PM emissions (the carbon residue and the heavy metals could contribute up to 40% to the total PM emissions). The addition could increase the value of regulation 14 as an efficient provision to reduce both SO<sub>x</sub> and PM emissions, as its new title indicates. The regulation might read as follows (new text suggested by INTERTANKO underlined; the dates used are as indicated in Option 1 to regulation 14 as presented in document MEPC 57/4/23):

***Regulation 14***  
***Sulphur Oxides (SO<sub>x</sub>) and Particulate Matter (PM)***

*Optional: Global Approach*

(1) *The sulphur, carbon residue and ash content of any fuel oil used onboard ships shall not exceed:*

- (i)  *sulphur = 4.50% m/m;*
- (ii)  *sulphur = 1.00% m/m; on or after 1 January [2012]*
- (iii)  *sulphur = 0.50% m/m; carbon residue = 0.30% m/m; ash content = 0.01% on or after 1 January [2015]*

(2) *The worldwide average sulphur [and, as from 1 January [2015] average carbon residue and ash] content[s] of residual fuels supplied for use on board ships shall be monitored taking into account the guidelines developed by the Organization.*

8 These suggested new added substances are the same species as covered by the EGCS washwater criteria for controlled discharge but are also developed from the ISO 8217 specification. The inclusion of limit content on carbon residues is to reduce soot from emissions and the inclusion of a limit for the ash content is to reduce the content of heavy metals from ship emissions. The background of the limits suggested is as follows:

- ◆ Carbon residue = 3,000 mg/kg or 0.30%
- ◆ Ash content = 100 mg/kg or 0.01%

9 Since all three current options under consideration for the amendment of regulation 14 could be complied with by using any type of fuel oil, INTERTANKO would suggest removing the word “residual” from paragraph 2 of regulation 14 and from the title and the text of resolution MEPC.82(43). It is also suggested to consider whether it would be appropriate to add control for the average content of carbon residue and average of ash content from the date these would be limited in the content of fuels delivered to ships as bunkers.

10 Since PM emissions are a direct function of the quality of the fuel oil, the Committee may wish to consider an alternative measure to obtain the same additional limitation of PM emissions by inserting in regulation 18 new subparagraphs 1(a)(iii) and 1(b)(iii) and renumbering the existing subparagraphs accordingly as follows (new text suggested by INTERTANKO underlined):

**Regulation 18**  
**Fuel Oil Quality**

(1) *Fuel oil for the combustion purposes delivered to and used on board ships to which this Annex applies shall be fit for purpose and meet the following requirements:*

- (a) *except as provided in (b):*
  - (i) *the fuel oil shall be blends of hydrocarbons . . . . . ;*
  - (ii) *the fuel shall be free from inorganic acid;*
  - (iii) *as from 1 January [2015], the fuel oil shall contain a total sulphur, carbon residue and ash content not exceeding 8,100 mg/kg for the control of Particulate Matter; and*
  - (iv) *the fuel shall not include any added substance or chemical waste which either: . . .*
- (b) *fuel oil for combustion purposes derived by methods other than petroleum refining shall not:*
  - (i) *exceed sulphur content set forth in regulation 14 of this Annex;*
  - (ii) *cause an engine to exceed the NO<sub>x</sub> emissions limits set forth in regulation 13(3)(a) of this Annex;*
  - (iii) *contain more than 8,100 mg/kg of sulphur, carbon residue and ash content that induce excessive loads of Particulate Matter, as from 1 January [2015];*
  - (iv) *contain inorganic acid; and*
  - (v) *. . . . .*

11 The background for the aggregate suggested for new entries in regulation 18 for sulphur content, for carbon residues (to reduce soot) and for ash content (to reduce the content of heavy metals) are as follows:

- ◆ Sulphur content = 5,000 mg/kg or 0.50% as mandated in regulation 14
- ◆ Carbon residue = 3,000 mg/kg or 0.30%
- ◆ Ash content = 100 mg/kg or 0.01%

12 The use of a fuel compliant with the above limits could result in a 98% reduction in carbon residues and a 93% reduction in ash content as a result of the fuel's combustion. This would simply reduce the PM emissions to pre-set levels with a lower burden for regulatory controls on ships' emissions, thereby avoiding the necessity for the fitting of emission control technology, verification systems and the storage on board of diverse PM for subsequent disposal ashore.

#### **Action requested of the Committee**

13 INTERTANKO invites the Committee to consider the suggestions presented above in their deliberations.

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