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Ref. T5/1.08

MEPC.1/Circ.540  
24 November 2006

**APPROVED UNIFIED INTERPRETATIONS TO MARPOL ANNEX VI  
AND THE NO<sub>x</sub> TECHNICAL CODE**

1 The Sub-Committee on Bulk Liquids and Gases, at its tenth session (April 2006), agreed to a number of Unified Interpretations to MARPOL Annex VI and the NO<sub>x</sub> Technical Code and submitted them to the fifty-fifth session of the Marine Environment Protection Committee (MEPC 55), for approval.

2 The Marine Environment Protection Committee, at its fifty-fifth session (October 2006), approved the Unified Interpretations agreed by the Sub-Committee on Bulk Liquids and Gases at its tenth session (MEPC 55/23, paragraph 4.19 and annex 8).

3 All the Unified Interpretations, as approved by the Committee, are attached at annex hereto.

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## ANNEX

**DRAFT UNIFIED INTERPRETATIONS TO MARPOL ANNEX VI AND THE NO<sub>x</sub> TECHNICAL CODE AND RELATED IMPLEMENTATION ISSUES****MARPOL ANNEX VI****Regulation 12 – Ozone-depleting substances**

Regulation 12 read as follows:

*“Ozone-depleting substances*

- (1) Subject to the provisions of regulation 3, any deliberate emissions of ozone-depleting substances shall be prohibited. Deliberate emissions include emissions occurring in the course of maintaining, servicing, repairing or disposing of systems or equipment, except that deliberate emissions do not include minimal releases associated with the recapture or recycling of an ozone-depleting substance. Emissions arising from leaks of an ozone-depleting substance, whether or not the leaks are deliberate, may be regulated by Parties to the Protocol of 1997.
- (2) New installations which contain ozone-depleting substances shall be prohibited on all ships, except that new installations containing hydrochlorofluorocarbons (HCFCs) are permitted until 1 January 2020.
- (3) The substances referred to in this regulation, and equipment containing such substances, shall be delivered to appropriate reception facilities when removed from ships.”

Interpretation:

With respect to the completion of the IAPP certificate supplement items 2.1.2 and 2.1.3, permanently sealed refrigeration equipment should not be included. Permanently sealed refrigeration equipment are equipment where there is no refrigerant charging connections or potentially removable components.

**Regulation 14 – Sulphur Oxides (SO<sub>x</sub>)**

Regulation 14(1) reads as follows:

The sulphur content of any fuel oil used on board ships shall not exceed 4.5% m/m.

Regulation 14(4) (a) reads as follows:

The sulphur content of fuel oil used on board ships in a SO<sub>x</sub> emission control area does not exceed 1.5% m/m.

Interpretation:

The 4.5% limit should be applied to all ships starting from the 19 May 2005 even if the IAPP certificate was not already issued for the ships concerned. The same applies for the 1.5% limit starting from 19 May 2006 for the Baltic Sea SO<sub>x</sub> emission control area and the corresponding entry into effect dates for other designated SO<sub>x</sub> emission control areas.

### **Regulation 16 – Shipboard incinerators**

Regulation 16(9) reads as follows:

Monitoring of combustion flue gas outlet temperature shall be required at all times and waste shall not be fed into a continuous-feed shipboard incinerator when the temperature is below the minimum allowed temperature of 850°C. For batch-loaded shipboard incinerators, the unit shall be designed so that the temperature in the combustion chamber shall reach 600°C within five minutes after start-up.

Interpretation:

The minimum stabilized combustion chamber flue gas outlet temperature of 850°C is equally applicable to continuous-feed and batch-loaded shipboard incinerators. Monitoring of the combustion flue gas outlet temperature shall be required at all times for both types of incinerators.

### **Regulation 18 – Fuel oil quality**

Regulation 18(3) reads as follows:

For each ship subject to regulations 5 and 6 of this Annex, details of fuel oil for combustion purposes delivered to and used on board shall be recorded by means of a bunker delivery note which shall contain at least the information specified in appendix V to this Annex.

Interpretation:

Bunker delivery notes, for fuel oil delivered to and for use on board on or after the 19 May 2005, should be kept on board even if the IAPP certificate has not been issued yet.

## **THE NO<sub>x</sub> TECHNICAL CODE**

### **Chapter 3.2 – Test cycles and weighting factors to be applied**

Chapter 3.2.3 reads as follows:

For variable-pitch propeller sets, test cycle E2 shall be applied in accordance with table 1.

Table 1 – Test cycle for “Constant-speed main propulsion” application (including diesel-electric drive and variable-pitch propeller installations)

Test cycle type E2	Speed	100%	100%	100%	100%
	Power	100%	75%	50%	25%
	Weighting factor	0.2	0.5	0.15	0.15

Interpretation:

For application of the term “variable-pitch propeller sets” it shall be interpreted that the E2 cycle is applicable to any propulsion engine coupled to a variable pitch propeller, irrespective of whether the system operates at constant speed or variable speeds.

#### **Chapter 5.9.6 – Test sequence**

Chapter 5.9.6.2 reads as follows:

During each mode of the test cycle after the initial transition period, the specified speed shall be held within  $\pm 1\%$  of rated speed or 3 min<sup>-1</sup>, whichever is greater, except for low idle, which shall be within the tolerances declared by the manufacturer. The specific torque shall be held so that the average, over the period during which the measurements are to be taken, is within 2% of the maximum torque at the test speed.

Interpretation:

For application of the term “within 2% of the maximum torque” it shall be interpreted that in order to be consistent between the constant (D2 and E2) and the variable speed (C1 and E3) test cycles the specific torque at each load shall be held within 2% of the maximum (rated) torque at the engine’s rated speed.

#### **Chapter 5.9.9 – Re-checking the analysers**

Chapter 5.9.9 reads as follows:

After the emission test, the calibration of the analysers shall be re-checked, using a zero gas and the same span gas as used prior to the measurements. The test shall be considered acceptable if the difference between the two calibration results is less than 2%.

Interpretation:

For application of this section the following interpretations shall be applied:

- (a) The term “the calibration of the analysers shall be re-checked,” shall be interpreted as the zero and span response of the analysers shall be re-checked’.
- (b) The term “if the difference between the two calibration results is less than 2%” shall be interpreted as ‘if the difference between the two check results is less than 2%’ where the 2% is understood to be 2% of the span gas concentration (and not analyser full scale), i.e.: Maximum permitted difference in span or zero check readings (ppm or % as appropriate):

= 0.02. Initial span gas concentration reading.

### **Chapter 5.10 – Test report**

Chapter 5.10.1 reads as follows:

For every engine tested for pre-certification or for initial certification on board without pre-certification, the engine manufacturer shall prepare a test report which shall contain, as a minimum, the data as set out in appendix 5 of this Code. The original of the test report shall be maintained on file with the engine manufacturer and a certified true copy shall be maintained on file by the Administration.

Interpretation:

For application of this section the term “as a minimum” shall be interpreted as incorporating the necessary data to fully define the engine performance and enable calculation of the gaseous emissions, in accordance with 5.12, from the raw data units to the cycle weighed NOx emission value in g/kWh. The data set given under Appendix 5 should not be considered definitive and any other test data (i.e. engine performance or setting data, description of control devices, etc.) relevant to the approval of a specific engine design and/or on-board NOx verification procedures must also be given.

With reference to appendix 5 of the Code it shall be further interpreted that:

The term “Deviation” as given under “Sheet 3/5, Measurement equipment, Calibration” refers to the deviation of the analyser calibration and not the deviation of the span gas concentration.