

Subject

Annex VI of MARPOL 73/78 (Regulations for the prevention of air pollution from ships)

ClassNK

Technical Information

No. TEC-0620

Date 3 February 2005

To whom it may concern

The requirements for MARPOL 73/78 Annex VI to come into force were fulfilled on 18 May 2004. Hence, the Annex will enter into force on 19 May 2005. The outlines of the Annex, onboard surveys and preparations before entry into force of the Annex, etc. are given for your information. The Annex VI will apply to all ships, except where expressly provided for otherwise in the Annex. The control objects of this Annex are Ozone depleting substances, Nitrogen oxides, Sulphur oxides, Volatile organic compounds and Shipboard incineration.

In addition, this Technical Information describes ClassNK's general interpretations of Annex VI. When implementing Annex VI, please note that it is necessary to pay attention to the instructions by the Governments of the flag states upon application of Annex VI.

1. Outline of MARPOL ANNEX VI

(1) Application

MARPOL ANNEX VI will basically apply to all ships on or after 19 May 2005, irrespective of their year of construction, service area or size, and retroactive application will be made for NOx emissions from diesel engines and shipboard incinerators. However, special exemptions are provided for in the regulations 3, 5, 13, 15, 18 and 19 of this Annex.

The term "All ships" here means all types of ship operated in the marine environment, including hydrofoil ships, air-cushion ships, submarines, floating equipment and platforms fixed or floating.

(2) Inspection items and requirements of the regulations

(i) Ozone depleting substances

Inspection items:

Equipment including ozone depleting substances like halons and chlorofluorocarbons etc. e.g. fire extinguishers and refrigeration etc.

Requirements:

Any deliberate emission of ozone depleting substances shall be prohibited. New installations which contain ozone depleting substances shall be prohibited on all ships, except that new installations containing hydro-chlorofluorocarbons (HCFCs) are permitted until 1 January 2020.

In addition, this regulation follows the Montreal Protocol of 1987 and equipment that has already been installed can remain installed.

(To be continued)

NOTES:

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- (ii) Nitrogen oxides (NO_x)
Inspection items:
Diesel engines (excluding engines to be used solely in case of emergency) with a power output of more than 130kW which are installed on a ship constructed on or after 1 January 2000, or which undergoes a major conversion on or after 1 January 2000. Notwithstanding the above, the Administration may allow exclusion from the application of this regulation to any diesel engine which is installed on a ship constructed, or which undergoes a major conversion, before 19 May 2005, provided that the ship is solely engaged in domestic services.
Requirements:
The emission of nitrogen oxides from each diesel engine shall be within the limits specified in the Annex.
- (iii) Sulphur oxides (SO_x)
Inspection items:
Sulphur content of fuel oil and SO_x reducing devices.
Requirements:
The sulphur content of any fuel oil used on board ships shall not exceed 4.5% m/m. While ships are within the designated SO_x Emission Control Areas, the sulphur content of any fuel oil used on board ships shall not exceed 1.5% m/m, or otherwise an SO_x reducing device must be applied to reduce the total emission of sulphur oxides from ships to 6.0g SO_x/kW or less. At the present time, the Baltic Sea area (application starts on 19 May 2006) is designated as an SO_x Emission Control Area, and the North Sea area (application is scheduled to start in 2007) is scheduled to be added.
- (iv) Volatile organic compounds (VOCs)
Inspection items:
Vapour collection systems equipped on tankers.
Requirements:
All tankers which engage in cargo handling at ports or terminals where the emission of volatile organic compounds is regulated by this Annex shall be provided with a vapour collection system approved by the Administration.
In addition, at the present time, no port or terminal is designated as a place where the emissions of volatile organic compounds are regulated.
- (v) Shipboard incineration
Inspection items:
Shipboard incinerators installed on or after 1 January 2000.
Requirements:
Shipboard incineration of the designated substances, e.g. polychlorinated biphenyls (PCBs) and garbage containing more than traces of heavy metals etc., shall be prohibited. Each incinerator installed on board a ship on or after 1 January 2000 shall meet the requirements of the resolution IMO MEPC 76(40).

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- (3) Issuance of International Air Pollution Prevention (IAPP) Certificate
An International Air Pollution Prevention Certificate shall be issued by the Administration or by any organization authorized after satisfying the requirements of above (2), for any ship of 400 gross tonnage or above engaged in international voyages.
2. Outline of onboard surveys
- (1) Application
Every ship of 400 gross tonnage or above shall be subject to the following surveys. For any ship constructed before 19 May 2005, a Initial Survey shall be completed no later than the first scheduled drydocking after 19 May 2005, but in no case later than 3 years after 19 May 2005.
- (2) Initial Surveys
- (i) Ozone depleting substances
Systems or equipment, including portable fire extinguishers, on board the ship containing hydro-chlorofluorocarbons (HCFCs) are to be checked.
- (ii) Nitrogen oxides (NO_x)
It is to be ensured that the NO_x emissions are within the limits specified in the Annex in accordance with the on-board NO_x verification procedures contained in the approved technical file.
In addition, every engine subject to the regulations shall have its NO_x emissions measured and be pre-certified, and an Engine International Air Pollution Prevention (EIAPP) Certificate or a Statement of Compliance shall be issued to the engine basically before the engine is installed on board ships.
- (iii) Sulphur oxides (SO_x)
It is to be ensured that an exhaust gas cleaning system or technology to reduce SO_x emissions is installed or carried out in accordance with the approved drawings or documents (when equipped).
- (iv) Volatile organic compounds (VOCs)
It is to be ensured that a vapour collection system is installed in accordance with the approved drawings and documents, and that the liquid level gauging devices, high liquid level alarms and alarms provided with the pressure gauges, composing the vapour collection system, are in good working order (when equipped).
- (v) Shipboard incineration
It is to be ensured that the incinerator is installed in accordance with the approved drawings and documents.
It is to be ensured on board by the tests otherwise specified by the Society, that all parts of the incinerator, including controls and safety devices, are in good working order.
In addition, it is also to be ensured at the manufacturing plant, etc. that all parts of the incinerator are in good working order, before the incinerator is installed on board ships.

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- (3) Annual Surveys
- (i) Ozone depleting substances
Which systems or equipment, including portable fire extinguishers, on board the ship contains ozone depleting substances are to be checked.
 - (ii) Nitrogen oxides (NO_x)
It is to be ensured that the exhaust gas cleaning system or the technology to reduce NO_x emissions is installed or carried out in accordance with the approved drawings and/or documents.
 - (iii) Sulphur oxides (SO_x)
It is to be ensured that bunker delivery notes accompanied by representative samples of the fuel oil delivered are retained appropriately.
It is to be ensured that the exhaust gas cleaning system or technology to reduce SO_x emissions is installed or carried out in accordance with the approved drawings and/or documents (when equipped).
 - (iv) Volatile organic compounds (VOCs)
It is to be ensured that the vapour collection system is installed in accordance with the approved drawings and documents, and the devices composing the vapour collection system are in good working order (when equipped).
 - (v) Shipboard incineration
It is to be ensured that the incinerator is installed in accordance with the approved drawings and documents.
Performance test of the incinerator is to be implemented.
- (4) Intermediate Surveys and Periodical Surveys
The following items are to be inspected in addition to the items of the Annual surveys.
- (i) Nitrogen oxides (NO_x)
It is to be ensured that the NO_x emissions are within the limits specified in the regulations in accordance with the on-board NO_x verification procedures contained in the approved technical file.
 - (ii) Sulphur oxides (SO_x)
It is to be ensured that the exhaust gas cleaning system or the technology to reduce SO_x emissions is in good working order or works effectively (when it is equipped).
3. Preparation before entry into force of the Annex
- (1) Ozone depleting substance
The requirements will only apply to new installations after the Annex enters into force.
 - (2) Nitrogen oxides (NO_x)
Every engine subject to the regulations shall have its NO_x emissions measured and be pre-certified, and an EIAPP Certificate or a Statement of Compliance shall be issued to the engine. EIAPP Certificate or Statement of Compliance, Technical file, Record book of engine parameters and Operation manual for onboard direct measurement and monitoring method (when required) are to be retained on board ships on which any engine subject to the regulations is installed.

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- (3) Sulphur oxides (SO_x)
As for the fuel oil delivered after the Annex enters into force, Bunker delivery notes accompanied by representative samples of the fuel oil delivered are to be retained on board ships.
 - (4) Volatile organic compounds (VOCs)
Operation manual for the vapour collection system is to be retained on board ships when it is required.
 - (5) Shipboard incineration
Operation manual for the shipboard incinerator is to be retained on board ships on which any incinerator subject to the regulations is installed.
 - (6) Certificates and other documents which are to be retained on board ships after the Annex enters into force.
 - (i) Bunker delivery notes
 - (ii) EIAPP Certificate (or Statement of Compliance) and Technical file (when required)
 - (iii) Record book of engine parameters (when required)
 - (iv) Operation manual for onboard direct measurement and monitoring methods (when required)
 - (v) Operation manual for vapour collection system (when required)
 - (vi) Operation manual for shipboard incinerator (when required)
 - (vii) Log book
4. Survey procedures for when the Annex enters into force:
ClassNK Technical Information on the survey procedures will soon be issued separately.

For any questions about the above, please contact:

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