

Revision of MARPOL Annex VI and the NOx Technical Code

The IMO has approved reduced sulphur limits for fuel oils and new NOx emission limits, including limits for pre-2000 ships!

The IMO'S Marine Environmental Protection Committee (MEPC) held its 57th session from 1 March to 4 April 2008. During the session, both the revised Annex VI of MARPOL and the revised NOx Technical Code were approved, with the intention to adopt the two at the 58th MEPC session scheduled to take place in October 2008. The annex and the code are then expected to enter into force in February/March 2010.

The new revision substantially tightens the NOx and Sulphur limits compared to the existing annex, and also includes requirements governing NOx emissions from ships constructed from 1 January 1990 to 1 January 2000.

New NOx limits

The revised NOx regulations contain a three-tier approach as follows:

Tier I (identical to today's limits)

For diesel engines installed on ships constructed from 1 January 2000 to 1 January 2011, the allowable NOx emissions are:

- 17.0 g/kWh when n is less than 130 rpm
- $45.0 \cdot n^{-0.2}$ g/kWh when n is 130 rpm or more but less than 2,000 rpm
- 9.8 g/kWh when n is 2,000 rpm or more

Tier II

For diesel engines installed on ships constructed on or after 1 January 2011, the allowable NOx emissions are:

- 14.4 g/kWh when n is less than 130 rpm
- $44.0 \cdot n^{-0.23}$ g/kWh when n is 130 rpm or more but less than 2,000 rpm
- 7.7 g/kWh when n is 2,000 rpm or more

Tier III

Ships constructed on or after 1 January 2016 will have additional limitations when operating in an Emission Control Area (ECA). No ECAs have yet been designated for NOx emissions, but it is expected that both the Baltic Sea and North Sea will be designated as NOx ECAs well ahead of 1 January 2016. For Tier III ships operating in the NOx ECAs, the allowable NOx emissions are:

- 3.4 g/kWh when n is less than 130 rpm
- $9.0 \cdot n^{-0.2}$ g/kWh when n is 130 rpm or more but less than 2,000 rpm
- 2.0 g/kWh when n is 2,000 rpm or more

It should be noted that the Tier III limits cannot be achieved without additional means, such as Selective Catalytic Reduction (SCR) and Water Injection.

NO_x Emission Limits for Engines Installed on Ships Constructed Prior to 1 January 2000

Ships constructed on or after 1 January 1990 but prior to 1 January 2000 will be required to comply with the NO_x emission limits in force today (Tier I). However, the requirement has been narrowed down to apply to engines with a power output of more than 5,000 kW and a per cylinder displacement of 90 litres or above. Moreover, compliance is only required if an Approved Method for obtaining the necessary NO_x reduction is available for the engine(s) in question. The regulations also contain a mechanism to ensure that an Approved Method meets a cost-effectiveness criterion which will set a maximum cost for purchasing and installing a method.

Necessary engine adjustments or the fitting of NO_x-reducing kits must take place no later than the first renewal survey that occurs 12 months or more after approval of an applicable method. However, if the supplier of an Approved Method is not able to deliver this at the time of this renewal survey, installation may take place at the next annual survey. Detailed requirements for the approval of NO_x-reducing methods have been included in the revised NO_x Technical Code.

New Limits for Sulphur Content in Fuel Oil

The new limits for sulphur content in fuel oil will be:

Globally:

- 3.50 per cent from 1 January 2012
- 0.50 per cent from 1 January 2020 In SECAs:
- 1.00 per cent from 1 March 2010
- 0.10 per cent from 1 January 2015

Sulphur scrubbing will still be an acceptable method for compliance, and there will be no HFO ban.

In order to confirm that the refinery industry can meet the demand for low sulphur fuels by 2020, a review clause has been introduced scheduling a fuel availability review to be completed by 2018. If this review reveals that it is impossible to meet the 0.50 per cent limit by 2020, the requirement will be postponed until 1 January 2025.

Reduction of Greenhouse Gas (GHG) emissions from ships

One of the MEPC's goals is to publish a position paper by July 2009 which demonstrates that a satisfactory regime to limit or reduce GHG emissions from ships is in place. This includes development of a mandatory CO₂ index for new ships and a review of the existing CO₂ operational index for ships. Development of other mechanisms with a GHG-reduction potential will also be considered, such as a Global Levy Scheme and an Emissions Trading Scheme.

Update of the 2000 IMO GHG Study An international consortium of research institutions, coordinated by Marintek of Norway, is currently updating the IMO GHG Study. Phase 1 of the project will be finished by August 2008, while phase 2 will be finished by February 2009.

Harmful aquatic organisms in ballast water

The International Convention for the Control and Management of Ship Ballast Water and Sediments (BWM Convention) had in April 2008 been ratified by 13 states, representing 3.62 per cent of the world's merchant fleet.

Since a limited number of ballast water treatment technologies are available to meet the BWM Convention's first implementation date, the Resolution recommends that vessels built in 2009 should not be required to comply with reg. D-2 until their second annual survey, but no later than 31 December 2011. At the beginning of April, one ballast water management system had received Final

Approval, and six systems had been granted Basic Approval.

The “Revised procedure for approval of ballast water management systems that make use of active substances” was adopted by the MEPC on 4 April 2008.

The “Guidelines for approval of ballast water management systems” were further developed during MEPC 57, with a view to adopting these guidelines through an MEPC Resolution at MEPC 58 in October 2008.

The “Guidelines for ballast water sampling” were finalised at BLG 12 and will be ready for adoption at MEPC 58.

Recycling of Ships

The text of the draft International Convention for the Safe and Environmentally Sound Recycling of Ships was further developed during MEPC 57. The following main changes to the draft were agreed upon:

- All exemptions for installations of asbestos onboard ships have been removed in Appendix 1.
- The survey and certificate provisions of the draft convention will be in line with the Harmonised System of Survey and Certification of the Organisation (HSSC).
- For new ships and new installations, the materials listed in Appendix 2 are to be reported in the Inventory of Hazardous Materials. For existing ships, the reporting should be in accordance with reg. 5 of the draft convention.
- Regulation 5 was amended to require the preparation of a “visual /sampling check plan”.
- It is expected that “threshold values and exemptions” for hazardous materials will be listed in the relevant guidelines.
- Article 13, third party certification was deleted. However, discussions for a viable alternative will continue.
- Only Party to Party provisions in the convention are maintained.

Interpretations of and amendments to MARPOL 73/78 and related instruments

The MEPC approved the Unified Interpretations of IACS; MPC 90 and 91, the definition of the term “similar stage of construction” is found in MARPOL Annex I and Annex IV.

The MEPC also approved the IACS UI MPC 85, Rev.3 relating to Reg. 22 of MARPOL Annex I on pump room bottom protection.

IACS also proposed the development of an IMO-approved guidance concerning the meaning of the term building contract date in contracts with an option to build additional vessels. A decision on this item is awaiting approval by the IMO'S Maritime Safety Committee (MSC).

International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC)

The OPRC-HNS Technical Group will finalise the “Manual on the assessment and restoration of environmental damage following marine oil spills” for approval by MEPC 58.

It was agreed to proceed with the development of a “Manual on chemical pollution”, “Standard guidelines on shoreline clean-up assessment” and a “Guidance document on the identification and observation of spilled oil”.

The Committee approved the final text of the draft “Evaluation guidelines for the validation of OPRC-

related model courses” and noted the progress in the development of the “Introductory IMO training courses on preparedness for and response to HNS incidents”.

Harmful anti-fouling systems for ships

The AFS Convention was ratified by enough states on 17 September 2007 and will therefore enter into force on 17 September 2008!

Hence, by 17 September 2008 all ships shall:

- not bear organotin compounds which act as biocides in anti-fouling systems on their hulls or external parts or surfaces; or
- shall bear a coating that forms a barrier to such compounds leaching from the underlying non-compliant anti-fouling systems.

Special Areas and Particularly Sensitive Sea Areas (PSSA)

The MEPC resolution designating the Papahānaumokuākea Marine National Monument (Pacific Ocean) as a particularly sensitive area was adopted on 4 April 2008, and associated protective measures adopted by MSC 83 were implemented at 0000 hours UTC on 1 May 2008.

Since 1990, the MEPC has designated 12 PSSAs (ref. MEPC 57/7/1); the Great Barrier Reef, Archipelago of Sabana-Camaguey, Malpelo Island, Florida Keys, Wadden Sea, Paracas National Reserve, Western European Waters, Torres Strait, Canary Islands, Galapagos Archipelago, the Baltic Sea, and finally the Papahānaumokuākea Marine National Monument.

The Mediterranean Sea; Special Area under MARPOL Annex V

It has been concluded that adequate reception facilities are provided by the states bordering the Mediterranean. The discharge requirements for the Special Area will therefore take effect on 1 May 2009.

Global Integrated Shipping Information System (GISIS)

There are currently seven GISIS modules available to the public; maritime security, maritime casualties and incidents, recognised organisations, port reception facilities, condition assessment scheme (CAS), ship identification, national contact points and the new pollution prevention equipment (PPE) module which has been operative since 1 February 2008.

The new module is to include data on PPE equipment approved by the IMO member governments that are responsible for updating, modifying or deleting data. The public may enter the module on a read-only basis.

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