



WIR INFORMIEREN

REGULATIONS FOR

THE PREVENTION OF

AIR POLLUTION FROM SHIPS

Regulations for the Prevention of Air Pollution from Ships

MARPOL 73/78 - Annex VI
EU Sulphur Directive (EU) 2016/802
Hamburg Waterways Police



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MARPOL Annex VI

Ship's documents / papers

- International Air Pollution Prevention Certificate - IAPP – Certificate for any ship of 400 gross tonnage and above (for a non-signatory-state - Statement or Document of Compliance)
- Engine International Air Pollution Prevention Certificate – EIAPP-Certificate for each Marine Diesel Engine with a power output more than 130 kW installed aboard ships constructed on or after 1 January 2000 and technical files (exemptions for life boats and emergency diesel engines)
- Manuals for each installed and approved incinerator – MEPC.59(33), MEPC.76(40) –
- Written form of fuel oil Changeover Procedure (COP)

Sulphur content of fuel oil

Limitation of sulphur content in any fuel oil used aboard ships

Inside Emission Control Area (ECA)

At present Baltic Sea and North Sea, North America, US-Caribbean Sea (from 1 January 2013)

- 1.00 % – from 1 July 2010
- 0.10 % – from 1 January 2015

Outside Emission Control Area (ECA)

- 3.50 % – from 1 January 2012
- 0.50 % – from 1 January 2020
- **alternative:**
 - Usage of an approved exhaust cleaning system to reduce ships SOx emissions (see page 6)

EU-Sulphur-Directive

Use of fuel within European ports

- Directive 1999/32/EC amended by 2012/33/EC lay down that ships at berthes which are securely moored or at anchor in a Community ports have to use fuel oil which does not exceed

0.1% m/m sulphur content

- Each change over operation has to be recorded in an official record book, for example engineers log book, ship's log book etc.,

Exemptions are possible for ships:

- which are due to be at berth for less than two hours (according to published timetables)
- which switch off all engines and use shore side electricity supply while at berth in ports
- using an approved exhaust gas cleaning system

Additional requirements are implemented in all European ports (observe notice to mariners)

For example in the port of Hamburg:

- Not later than 2 hours after the ship has been moored securely the changeover procedure has to be completed
- Usage of fuel oil with a sulphur content does not exceed 0.1 % has to be ensured until 20 minutes before leaving berth

MARPOL Annex VI

Change Over Procedure (COP)

- Upon entry the ECA's it has to be ensured that the sulphur content of the fuel oil does not exceed 1.0 % (from 01 January 2015 - 0.10%)
- The COP on board of the ship depends on the construction of the ship (number, capacity and design of tanks, kind of fuel oil and lubricating oil etc.)
- Each ship has it's own change over manual which has to be observed by the responsible officer

Record of the change over operation:

- Any change over operation of fuel oil has to be recorded in an official document as prescribed by the administration (for example: engine log book, ship's log book, oil record book etc.)
- The following data have to be recorded:
 - The amount of Low Sulphur Fuel Oil (LSFO) in each tank
 - Date, time and ship's position at the beginning and at the end of the COP

MARPOL Annex VI

Exhaust Gas Cleaning – System (EGC-System)

(equivalents as per regulation 4)

If an IMO-approved Exhaust Gas Cleaning System (EGC-system) is installed and used, a fuel-change-over-procedure to achieve the sulphur-limits inside an ECA (Emission Control Area) is not necessary.

Such an EGC-system needs to be type approved (Type Approval Certificate has to be on board) and has to meet the test-standards as per IMO-Resolution MEPC.184(59). An additional registration in the IAPPC-supplement is required.

■ Required documents:

- SOx-Emissions Compliance Plan – **SECP** – approved by the Administration
- SOx-Emissions Compliance Certificate – **SECC** (only for units according to Scheme A)
- Onboard Monitoring Manual – **OMM**
- EGC-system-Record-Book (further details see below)
- EGC-system Technical Manual – **ETM** (depending on the system used)
 - ETM Scheme A, or
 - ETM Scheme B

■ Records in the EGCS-Record-Book:

- residues generated by EGC-systems shall not be discharged to the sea or incinerated on board
- each ship fitted with an EGC-system should record the storage and the disposal of washwater residues in an **EGCS-record-book** (may form part of an existing log-book or electronic-recording-system as approved by the Administration)
- the following data have to be recorded:
 - date, time and ship's position when residues were stored on board
 - date, time and location (i.e. port) when residues were disposed ashore

MARPOL Annex VI

Energy Efficiency (new chapter 4)

Provisions of new chapter 4 applies to ships of 400 gross tonnage and above:

- every new ship:
 - building contract on or after 1 January 2013
 - keel is laid on or after 1 July 2013
 - delivery on or after 1 July 2015
- every existing ship which has undergone a major conversion that is so extensive that the ship is regarded by the Administration as a newly constructed ship

it applies to following types of ships:

- Bulk carrier
- Tanker
- General cargo ships
- Combination carrier
- Ro-ro ships
- Gas carrier
- Container ships
- Refrigerated cargo carrier
- Passenger ships

exceptions: Diesel-electric propulsion, Turbine propulsion or Hybrid propulsion

- Requirements:
 - calculation of an Energy Efficiency Design Index – **EEDI**
 - for every new ship
 - for every existing ship which has undergone a major conversion
 - EEDI-Technical File
 - International Energy Efficiency Certificate – **IEEC**
 - for every new ship
 - for every existing ship not later than the first intermediate or
 - renewal survey after 1 January 2013
 - Ship Energy Efficiency Management Plan – **SEEMP**
 - for every new ship
 - for every existing ship not later than the first intermediate or
 - renewal survey after 1 January 2013

MARPOL Annex VI

Bunkering of fuel oil



Quality of fuel oil

Any delivered fuel oil has to meet the requirements of Regulation 18.1

Sampling of fuel oil

The sampling has to be carried out in compliance with the IMO-Resolution MEPC 182(59).

The sample has to be:

- taken at the ship's inlet bunker manifold
- drawn continuously throughout the bunker delivery period
- drawn with a:
 - manual valve-setting continuous-drip sampler
 - time-proportional automatic sampler or
 - flow-proportional automatic sampler
- taken in a clean and dry sampler -at least 400 ml-
- sealed with an unique means of identification
- kept on board for at least 12 month

MARPOL Annex VI

Labelling and storage of the samples

Each sample has to be labelled with a sticker including the following information

- Location at which and the method, by which the sample was drawn
- Date of commencement of delivery
- Name of bunkering boat/bunker installation
- Name and IMO number of the receiving ship
- Signatures and names of ship's and supplier's representatives
- Details of seal identification
- Bunker grade

The retained sample must be kept in a safe storage place outside the ship's accommodation, where personnel cannot be exposed to vapours emitted from the sample.

Moreover the sample must not be exposed to direct sunlight



MARPOL Annex VI

Bunker Delivery Note (BDN)

- A BDN has to be issued for any delivered fuel oil.
- The data of the BDN are defined in MARPOL 73/78 Annex VI – appendix V
 - Name and IMO number of the receiving ship
 - Port of bunkering
 - Date of commencement of delivery
 - Name, address, and telephone number of the marine fuel oil supplier
 - Product name
 - Quantity in metric tons
 - Density at 15°C kg/m³
 - Sulphur content (%m/m)
 - A declaration signed and certified by the fuel oil suppliers representative that the fuel oil supplied is in accordance with regulations 14.1 or 14.4 and 18.3
- The BDN must be kept on board and available for inspections for at least three years.
- Each BDN shall be accompanied by a representative sample

Incineration on board

- Shipboard incineration is exclusively allowed by means of an approved incinerator
 - Any incinerator installed on or after the 1 January 2000 shall be approved by the administration according to the IMO-Resolution MEPC 76(40)
 - Any incinerator installed on 1 January 1997 until 31 December 1999 has to be approved according to IMO-Resolution MEPC 59(33)
- The incineration of certain substances is prohibited (PCB's, exhaust gas cleaning residues etc.)
- Operating manual
 - has to be held available at the incinerator – MEPC 76(40) –
 - has to be on board MEPC 59(33)
- According to HELSINKI CONVENTION the incineration of sludge or other waste within the Baltic Sea is prohibited

MARPOL Annex VI

MEPC 176(58) – further regulations

Ozon Depleting Substances

- Aboard ships constructed on or after **19 May 2005** installations containing ozone depleting substances, other than hydro-chloro-fluorocarbons, are prohibited
- Aboard ships constructed on or after **1 January 2020** hydro-chlorofluorocarbons are prohibited
- Any ship of 400 gross tonnage or above
 - has to maintain a list of equipment containing ozone depleting substances
 - having rechargeable systems has to keep an **Ozone Depleting Substances Record Book** (regulation 12.6 i.c.w 12.7)

Nitrogen Oxides

Each Marine Diesel Engine with a power output of more than 130 kW installed aboard a ship must comply with:

Tier I: Regulation 13.3 - when constructed on or after 1 January 2000 until 31 December 2010

Tier II: Regulation 13.4 - when constructed on or after 1 January 2011

Tier III: Regulation 13.5.1 – when

- constructed on or after 1 January 2016

and

- operated inside an ECA

Measures taken by the Waterways Police

- Inspection of the certificates (IAPP / EIAPP / technical file) concerning the validity and form
- Amongst other things inspection of
 - manuals and type approvals of the incinerators
 - bunker delivery notes and the „MARPOL-samples“ (including storage)
 - documentations of the change over operations in official documents
- While carrying out bunker operations the police checks whether the procedures are in accordance with the regulations MEPC 182(59)



Penalties

The (German) Federal Maritime and Hydrographic Agency is authorized to fine violations of MARPOL Annex VI

Up to 50.000 EURO

Violations respecting the EU-Sulphur Directive can be fined

Up to 50.000 EURO





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