



INFORMATION BULLETIN No. 75

MARPOL 73/78 Annex VI – Regulations for the Prevention of Air Pollution from Ships

Guidance and Instructions for Bahamas Recognised Organisations, Bahamas Approved Nautical Inspectors, Ship Owners, Managers and Masters

1. Purpose

- 1.1. This Bulletin documents the position of The Bahamas Maritime Authority (BMA) on the MARPOL Annex VI regulations relating to the prevention of air pollution from ships.
- 1.2. This Bulletin should be read in conjunction with
 - i. IMO Resolutions A.1053(27) Annex 3, MEPC.76(40), MEPC.177(58) - NOx Technical Code, MEPC.182(59), MEPC.184(59), MEPC.185(59), MEPC.212(63), MEPC.219(63) and MSC.285(86);
 - ii. IMO Circulars MEPC.1/Circ.680, MEPC.1/Circ.719, MEPC.1/Circ.793, MEPC.1/Circ.795/Rev.1, MEPC.5/Circ.9 and MSC/Circ.585;
 - iii. BMA Information Bulletin Nos. 123 and 126.

2. Application

- 2.1. MARPOL Annex VI applies to all ships, except where expressly provided for in the Annex.
- 2.2. Bahamian ships of 400 gross tonnage and above, engaged on international voyages shall be surveyed and certificated in accordance with Regulation 5 of the Annex by the Recognised Organisation responsible for issuing the statutory certification (see Para. 4 below).

3. Exemptions, Exceptions & Equivalents

- 3.1. Exemptions from the specific provisions of Annex VI will be considered on a case-by-case basis in accordance with the provisions of Regulation 3. All applications for exemption are to be forwarded to the BMA by the Recognised Organisation, as per BMA Information Bulletin No.8.
- 3.2. Equivalents to the specific provisions of Annex VI and alternative compliance methods will be considered on a case-by-case basis in accordance with the provisions of Regulation 4. All applications for acceptance of equivalents and alternative compliance methods are to be forwarded to the BMA by the Recognised Organisation, as per BMA Information Bulletin No.8.

4. Surveys and certification

4.1. *International Air Pollution Prevention (IAPP) Certificate*

- 4.1.1. Ships of 400 gross tonnage and above, including every fixed and floating drilling rig and other platforms, shall undergo the following surveys in accordance with Regulation 5.1:
- i. An *initial survey* before the ship is put into service or before the IAPP certificate is issued for the first time;
 - ii. A *renewal survey* at intervals not exceeding five (5) years except in cases when Regulations 9.2, 9.5, 9.6 or 9.7 of Annex VI are applicable;
 - iii. An *intermediate survey* within three months before or after the second anniversary date or within three months before or after the third anniversary date of the certificate, which shall take the place of one of the annual surveys specified in paragraph iv, below.
 - iv. An *annual survey* within three months before or after each anniversary date of the certificates;
 - v. An *additional survey*, either general or partial according to the circumstances, shall be made following any important repairs or renewals to subject equipment and machinery.

4.2. **International Energy Efficiency (IEE) Certificate**

4.2.1. Ships of 400 gross tonnage and above to which Chapter 4 of MARPOL Annex VI applies shall undergo the following surveys, in accordance with Regulation 5.4:

- i. An *initial survey* before the ship is put into service or before the IEE certificate is issued for the first time;
- ii. A *general or partial survey*, according to circumstances, after a major conversion. In cases where the major conversion of a new or existing ship is so extensive that the ship is regarded by the BMA as a newly constructed ship, the BMA shall determine the necessity of an initial survey on attained EEDI.

4.2.2. Ships which are not required to keep a Ship Energy Efficiency Management Plan (SEEMP) do not require an IEE Certificate (see Para. 5.13 below).

4.3. **Compliance**

4.3.1. The following shall be available upon request to duly authorised officials, in addition to the statutory certificates:

- i. Bunker delivery notes and representative samples, as required by Regulation 18. See paragraph 5.7 below;
- ii. Technical File for each applicable engine, inclusive of record book of engine parameters, including Engine International Air Pollution Prevention Certificate (EIAPPC);
- iii. Documented procedures and records to ensure compliance while in a Sulphur Emissions Control Area (SECA);
- iv. Documented procedure for garbage screening.

4.4. The Master or crew should be able to demonstrate familiarity with essential procedures regarding the operation of air pollution prevention equipment (e.g. maintenance of diesel engines, fuel oil change over procedures and garbage screening procedures).

4.5. In exceptional circumstances when original records/documents or associated samples are removed by a duly authorised officer, the Master or crew should document the fact in the Official Log Book and appropriate section of the Bahamas Annex VI Record Book (where carried) and obtain contact information of the port or coastal State Authority that took such action.

5. Specific requirements of MARPOL Annex VI

5.1. Ozone depleting substances (Regulation 12)

- 5.1.1. Regulation 12 does not apply to permanently sealed equipment where there are no refrigerant charging connections or potentially removable components containing ozone depleting substances.
- 5.1.2. Deliberate emission of ozone-depleting substances is prohibited. This includes emissions occurring in the course of maintaining, servicing, repairing or disposing of systems or equipment.
- 5.1.3. Deliberate emissions do not include minimal releases associated with the recapture or recycling of an ozone depleting substance.
- 5.1.4. Companies¹ should be aware that emissions arising from leaks of an ozone depleting substance, whether or not deliberate, may be regulated by parties to Annex VI.
- 5.1.5. Ozone depleting substances, and equipment containing such substances, shall be delivered to appropriate reception facilities when removed from a ship.
- 5.1.6. Each ship to which Annex VI applies shall maintain a list of equipment containing ozone depleting substances.
- 5.1.7. Records of shipboard operations related to ozone depleting substances shall be kept. The BMA has issued the Bahamas MARPOL Annex VI Record Book that can be utilised to maintain the required records. Please refer to [BMA Information Bulletin No. 126](#).
- 5.1.8. The BMA has issued guidance on the use of hydrochlorofluorocarbon (HCFC) refrigerants – please refer to [BMA Information Bulletin No. 123](#).

5.2. Nitrogen oxides (NO_x) (Regulation 13)

- 5.2.1. The Regulations regarding NO_x controls apply to any diesel engine with a power output of more than 130kW that has been installed on a ship constructed on or after 01 January 2000 or, if installed on a ship constructed earlier, has undergone a major conversion on or after 01 January 2000.

¹ The "Company" means the owner or any other organisation or person, such as the manager, or the bareboat charterer, who has assumed responsibility for the operation of the ship.

5.2.2. "Major conversion", for the purposes of Regulation 13, means a modification on or after 01 January 2000 of a marine diesel engine which has not already been certified to Tier I, II or III standards where:

- i. the engine is replaced by a marine diesel engine or an additional marine diesel engine is installed; or
- ii. any substantial modification, as defined in the revised NO_x Technical Code 2008, is made to the engine; or
- iii. the maximum continuous rating of the engine is increased by more than 10% compared to the maximum continuous rating of the original certification of the engine.

5.2.3. Where an existing engine is replaced with a non-identical replacement engine or an additional engine is installed, the replacement or additional engine shall comply with the standards in force at the time of replacement (see 5.2.9 below). "Identical replacement engine" and "Time of replacement" are to be interpreted as outlined in MEPC.1/Circ.795/Rev.1.

5.2.4. Diesel engines intended to be used solely in the case of emergency, including lifeboat engines, are exempted from the regulations regarding NO_x controls. In the case of lifeboats used as tenders on board passenger ships, these may not be exempted from the requirements.

5.2.5. Emissions from fixed or floating platforms and drilling rig engines that are solely dedicated to the exploration, exploitation and associated offshore processing of seabed mineral resources are exempted from the regulations regarding NO_x controls. The BMA interprets that Annex VI requirements shall apply to engines that jointly supply power to exploration and processing machinery and also the platform domestic load.

5.2.6. Each engine subject to the Annex, on board a Bahamian ship, is required to have an associated Engine Technical File. The Technical file shall remain on board the ship for as long as the engine remains on board and shall be available for inspection by duly authorised officers.

5.2.7. The Technical File shall include an on board NO_x verification procedure, the parent engine's emission test report and the Engine International Air Pollution Prevention Certificate (EIAPPC).

5.2.8. Boilers and gas turbines are not covered under the Regulation regarding NO_x controls.

5.2.9. Marine diesel engines subject to Regulation 13 shall comply with the following emission standards:

Ship constructed on or after:	Nitrogen Oxide Emissions (calculated as total weighted emission of NO ₂) g/kWh		
	Rated engine speed less than 130 rpm	Rated engine speed between 130 and 1999 rpm	Rated engine speed 2000 rpm and over
1 Jan 2000 (Tier I)	17.0	$45 * n^{(-0.2)}$	9.8
1 Jan 2011 (Tier II)	14.4	$44 * n^{(-0.23)}$	7.7
1 Jan 2016 (Tier III) [^]	3.4	$9 * n^{(-0.2)}$	2.0

[^] only when the ship is operating in a NO_x Emission Control Area (ECA) designated under Regulation 13.6 of Annex VI. However, when the ship is operating outside of a NO_x Emission Control Area the Tier II standards apply. At the time of publication of this Bulletin the only designated NO_x Emission Control Areas are the North American and the United States Caribbean Sea areas, as described in Appendix VII to Annex VI.

5.2.10. Notwithstanding paragraph 5.2.9, a marine diesel engine installed on a private (non-commercial) yacht constructed prior to 1 January 2021 of less than 500 gross tonnage, with a length (*L*) of 24 metres or over, as defined in regulation 1.19 of Annex I of MARPOL, need not comply with the Tier III limit until 1 January 2021.

5.2.11. A marine diesel engine installed on a private (non-commercial) yacht with a length (*L*) of less than 24 metres, as defined in regulation 1.19 of Annex I of MARPOL, or a marine diesel engine installed on a ship with a combined nameplate diesel engine propulsion power of less than 750 kW, need not comply with the Tier III requirements if it is demonstrated, to the satisfaction of the BMA, that the ship cannot comply with those requirements because of design or construction limitations of the ship.

5.2.12. Marine diesel engines with a power output of more than 5,000 kW and a per cylinder displacement at or above 90 litres, installed on or after 1 January 1990 but before 1 January 2000, shall comply with the Tier I limits shown above, provided that an Approved Method for that engine is commercially available and has been certified by an Administration of a Party to Annex VI and notified to IMO. The IAPP Certificate shall indicate that either an approved method has been applied pursuant to paragraph 7.1.1 of Regulation 13; or the engine has been certified pursuant to

paragraph 7.1.2 of Regulation 13; or an approved method is not yet commercially available as described in paragraph 7.2 of Regulation 13.

5.3. **Sulphur oxides (SO_x) (Regulation 14)**

5.3.1. The sulphur content of any fuel oil used on board ships shall not exceed the following limits:

- i. 3.50% m/m on and after 01 January 2012; and
- ii. 0.50% m/m on and after 01 January 2020.

5.3.2. While operating in a Sulphur Emission Control Area (SECA), as defined in Regulation 14.3, the sulphur content of fuel oil used on board ships shall not exceed the following limits²:

- i. 1.00% m/m on and after 01 July 2010; and
- ii. 0.10% m/m on and after 01 January 2015.

5.3.3. With regards to the provision of fuel complying with paragraphs 5.3.1 and 5.3.2 above, a ship is not required to deviate from its intended voyage or unduly delay the voyage in order to achieve compliance. If compliant fuel oil cannot be purchased, the ship shall notify the BMA and the competent authority of the relevant port of destination.

5.3.4. Regulation 4 of Annex VI allows the Administration to approve the use of alternative compliance methods at least as effective in terms of emission reductions as that required by the Annex, including the standards set out in Regulation 14. Such methods may include the use of exhaust gas cleaning systems (ECS) or any other technology that is verifiable and enforceable to limit SO_x emissions to a level equivalent to that described in Para 5.3.1 and 5.3.2 above. Wash water discharge streams from ECS should comply with Paragraph 10 of MEPC.184(59).

5.3.5. Ships operating in SECAs may carry different grades of fuel oils. In such cases, sufficient allowance should be made for the fuel oil service system to be fully charged with low sulphur fuel when entering a SECA. Such changeovers should be documented in the Bahamas MARPOL Annex VI Record Book or an acceptable alternative as set out in BMA Information Bulletin No. 126.

² Prior to 1 January 2020, the sulphur content of fuel oil referred to in paragraph 5.3.2 shall not apply to ships operating in the North American or the United States Caribbean Sea ECA, built on or before 1 August 2011, that are powered by propulsion boilers that were not originally designed for continued operation on marine distillate fuel or natural gas.

5.3.6. The sulphur content of fuel oil supplied onboard is to be confirmed from the supplier's bunker delivery note and representative samples. In cases where bunker delivery notes or representative samples are not provided, the Master or crew should document that fact. A letter of protest is to be sent to the supplier, copied to the BMA.

5.3.7. All Bahamian ships shall comply with the requirements of EC Directive 1999/32/EC, as amended by Directive 2012/33/EC whilst alongside in European ports. The BMA cannot issue exemptions from the provisions of EC Directives.

5.3.8. It is the responsibility of the Company to ensure that their ships comply with any requirements for lower sulphur limits than those specified in Regulation 14 of Annex VI, where coastal States impose such requirements for ships operating in their territorial waters.

5.4. Volatile organic compounds (VOCs) (Regulation 15)

5.4.1. This Regulation applies only to tankers in designated ports and terminals. Compliance with the requirements of the subject regulation may be achieved through the following:

- i. fitting of Vapour Emission Collection Systems (VECS) in accordance with IMO MSC/Circ. 585; and
- ii. obtaining certification and class notation from the Recognised Organisation referred to in paragraph 2.2.

5.4.2. A tanker carrying crude oil shall have an approved VOC management plan implemented onboard. Companies should refer to MEPC.185(59), MEPC.1/Circ.680 and MEPC.1/Circ.719 when developing the VOC management plan. VOC management plans are to be approved by the Recognised Organisation on behalf of the BMA.

5.5. Shipboard incineration (Regulation 16)

5.5.1. This Regulation applies to all incinerators installed on or after 01 January 2000.

- i. Incinerators installed on or after 01 January 2000 with capacity up to 1500 kW shall be type approved in accordance to MEPC.76(40);
- ii. Incinerators with capacity over 1500kW and up to 4000 kW shall be type approved in accordance to MEPC.244(66).

5.5.2. Existing incinerators installed before 01 January 2000 are acceptable to the BMA provided they are type approved in accordance with IMO MEPC.59(33) or MEPC.76(40), as amended. Existing incinerators that are not type approved may still be used, however they may not be used for the incineration of polyvinyl chlorides (PVCs).

5.5.3. Shipboard incineration of the following substances is prohibited:

- i. Residues of cargoes subject to MARPOL Annex I, II or III or related contaminated packing materials;
- ii. Polychlorinated biphenyls (PCBs);
- iii. Garbage, as defined by MARPOL Annex V, containing more than traces of heavy metals;
- iv. Refined petroleum products containing halogen compounds;
- v. Sewage sludge and sludge oil which is not generated on the ship; and
- vi. Exhaust gas cleaning system residues.

5.5.4. Shipboard incineration of sewage, sludge and sludge oil generated during the normal operations of a ship may also take place in the main or auxiliary power plant or boilers, but in those cases, shall not take place inside ports, harbours and estuaries.

5.5.5. Operation of incinerators within SECAs must be agreed with individual port States and affected coastal States in all cases.

5.6. **Reception facilities (Regulation 17)**

5.6.1. Reports on alleged unavailability or inadequacy of reception facilities provided under Regulation 17 should be sent to the Maritime Affairs department of the BMA (ma@bahamasmaritime.com).

5.6.2. The BMA will report such allegations to IMO, in accordance with Regulation 17.3.

5.7. **Fuel oil availability and quality (Regulation 18)**

5.7.1. Where compliant fuels as required by Annex VI are not available, the ship shall:

- i. Advise the BMA and the competent authority of the relevant port where it cannot purchase compliant fuel oil;
- ii. present a record of the actions taken to attempt to achieve compliance; and

- iii. provide evidence that it attempted to purchase compliant fuel oil in accordance with its voyage plan and, if it was not made available where planned, that attempts were made to locate alternative sources for such fuel oil and that despite best efforts to obtain compliant fuel oil, no such fuel oil was made available for purchase.
- 5.7.2. 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 the information specified in appendix V of Annex VI.
- 5.7.3. The Bunker Delivery Note shall be kept on board for a period of three (3) years after the fuel oil has been delivered on board and be readily available for inspection at all reasonable times.
- 5.7.4. The Bunker Delivery Note shall be accompanied by a representative sample of the fuel oil delivered (see MEPC.182(59)).
- 5.7.5. The representative sample is to be sealed and signed by the Master or officer in charge of the bunker operations on completion of bunkering operations and retained under the ship's control until the fuel oil is substantially consumed, but in any case not less than 12 months from the time of delivery.
- 5.7.6. It is recognised that some ships engaged on short voyages may consume small parcels of bunker fuel more rapidly than others. In such cases, representative samples of fuel already consumed may be retained in an appropriate shore side facility.
- 5.7.7. The Company may find during routine commercial fuel oil sample testing that the properties of the fuel differ substantially from that described on the Bunker Delivery Note. It is important to be aware that although the ship is technically non-compliant with the requirements of MARPOL Annex VI, no blame should be attached to the ship if the fuel was received in good faith and in accordance with the requirements. Responsibility for non-compliance rests with the fuel supplier in this case.
- 5.7.8. Where routine commercial analysis of a fuel oil sample indicates that the fuel delivered differs substantially from that described on the Bunker Delivery Note, the Company and/or bunker supplier may request permission from the Administration to have the representative sample (the "MARPOL sample") tested in accordance with Appendix VI of MARPOL Annex VI. The Company and/or bunker supplier is responsible for all costs associated with testing of the MARPOL sample.

5.7.9. Under Article 6(3) of the MARPOL 1973 Convention, any disparity in fuel quality must be reported, if there is perceived to be a harmful discharge as a result. Appropriate action would be for a letter of protest to be sent to the fuel oil supplier, copied to the Administration of the State where the fuel was taken on board and to the BMA.

5.7.10. All related correspondence may be entirely separate from conventional records in connection with MARPOL Annex VI. However, for the sake of transparency it should be made available to third parties where appropriate.

5.7.11. Where natural gas is used as fuel, the requirements of MSC.285(86) *Interim Guidelines on Safety for Natural Gas Fuelled Engine Installations in Ships* and the relevant Classification Society rules should be followed.

5.8. **Energy efficiency (Regulation 19)**

5.9. Regulation 19 outlines the application of Chapter 4 of Annex VI "Regulations on Energy Efficiency for Ships", i.e. Regulations 19 to 23.

5.10. Chapter 4 applies to all ships of 400 gross tonnage and above, with the exception of:

- i. ships not propelled by mechanical means;
- ii. offshore platforms, including FPSOs and FSUs and drilling rigs, regardless of their propulsion;
- iii. ships operating exclusively in Bahamian waters, provided that such ships are constructed and act in a manner consistent with Chapter 4 so far as is reasonable and practicable.

5.11. **Attained EEDI (Regulation 20)**

5.11.1. *EEDI* means Energy Efficiency Design Index and represents the equivalent amount of carbon dioxide that a ship as a whole emits, in relation to the amount of cargo carried per mile sailed.

5.11.2. The attained EEDI is a calculated value that represents the actual amount of emissions. The result should be lower than the required EEDI prescribed in Regulation 21 of Annex VI

5.11.3. The attained EEDI shall be calculated for ships specified in Regulation 20.1 of Annex VI using MEPC.212(63) *2012 Guidelines on the Method of Calculation of the Attained EEDI for New Ships*.

5.11.4. The attained EEDI shall be verified by a Bahamas Recognised Organisation, based on the EEDI technical file.

5.12. **Required EEDI (Regulation 21)**

5.12.1. The Required EEDI is a calculated hypothetical maximum carbon dioxide emission value for the ship as a whole, including all combustion machinery.

5.13. **Ship Energy Efficiency Management Plan (SEEMP) (Regulation 22)**

5.13.1. Each ship of 400 gross tonnage and above, except those listed in paragraph 5.10, shall keep a ship specific SEEMP on board.

5.13.2. The SEEMP shall be provided on board before issuance of the IEE Certificate. The SEEMP does not require verification or approval by the Administration.

5.13.3. The SEEMP shall be prepared in the working language or languages of the ship. Where the working language is not English, a copy of the SEEMP shall also be available in English, as per Paragraph 4.10.3 of [The Bahamas National Requirements](#).

5.13.4. The SEEMP shall be developed taking into account the guidance provided in MEPC.213(63) *2012 Guidelines for the Development of a Ship Energy Efficiency Management Plan*.

6. **Revision History**

Rev.04 (18 December 2014) – Complete revision