

AUGLÝSING

um innleiðingu viðauka VI við alþjóðasamning um varnir gegn mengun frá skipum, 1973, með breytingum samkvæmt bókun 1978 (MARPOL-samningur), sbr. reglugerð nr. 341/2021 um breytingu á reglugerð nr. 586/2017.

Viðauki VI við MARPOL-samninginn um varnir gegn loftmengun frá skipum, ásamt breytingum á viðauka I, II, V og VI, öðlast gildi hér á landi með reglugerð nr. 341/2021 um breytingu á reglugerð nr. 586/2017 um innleiðingu viðauka við alþjóðasamning um varnir gegn mengun frá skipum, 1973, með breytingum samkvæmt bókun 1978 (MARPOL-samningur) sem birt er í B-deild Stjórnartíðinda sama dag og auglýsing þessi.

Viðauki VI við MARPOL-samninginn og breytingar við hann er birtur á ensku í fylgiskjali 1 með auglýsingu þessari í C-deild Stjórnartíðanda, og breytingar við viðauka I, II og V í fylgiskjali 2, sbr. heimild í 2. mgr. 4. gr., sbr. 2. mgr. 3. gr. laga nr. 15/2005 um Stjórnartíðindi og Lögbirtinga-
blað.

Þetta er hér með gjört almenningi kunnugt.

Umhverfis- og auðlindaráðuneytinu, 12. mars 2021.

Guðmundur Ingi Guðbrandsson.

Sigríður Auður Arnardóttir.

Fylgiskjal 1.

ANNEX 13

RESOLUTION MEPC.176(58)

Adopted on 10 October 2008

AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973, AS MODIFIED BY THE PROTOCOL OF 1978 RELATING THERETO

(Revised MARPOL Annex VI)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee (the Committee) conferred upon it by international conventions for the prevention and control of marine pollution,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1973 Convention"), article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1978 Protocol") and article 4 of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (herein after referred to as the "1997 Protocol"), which together specify the amendment procedure of the 1997 Protocol and confer upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 and 1997 Protocols,

NOTING ALSO that, by the 1997 Protocol, Annex VI entitled Regulations for the Prevention of Air Pollution from Ships is added to the 1973 Convention (hereinafter referred to as "Annex VI"),

HAVING CONSIDERED the draft amendments to MARPOL Annex VI,

1. ADOPTS, in accordance with article 16(2)(d) of the 1973 Convention, the amendments to Annex VI, the text of which is set out at Annex to the present resolution;
2. DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on 1 January 2010, unless prior to that date, not less than one-third of the Parties or Parties the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;
3. INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of the 1973 Convention, the said amendments shall enter into force on 1 July 2010 upon their acceptance in accordance with paragraph 2 above;

4. REQUESTS the Secretary-General, in conformity with article 16(2)(e) of the 1973 Convention, to transmit to all Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, certified copies of the present resolution and the text of the amendments contained in the Annex;
5. REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, copies of the present resolution and its Annex; and
6. INVITES the Parties to MARPOL Annex VI and other Member Governments to bring the amendments to MARPOL Annex VI to the attention of shipowners, ship operators, shipbuilders, marine diesel engine manufacturers, marine fuel suppliers and any other interested groups.

ANNEX

REVISED MARPOL ANNEX VI

Regulations for the Prevention of Air Pollution from Ships

CHAPTER I

GENERAL

Regulation 1***Application***

The provisions of this Annex shall apply to all ships, except where expressly provided otherwise in regulations 3, 5, 6, 13, 15, 16 and 18 of this Annex.

Regulation 2***Definitions***

For the purpose of this Annex:

1 *Annex* means Annex VI to the International Convention for the Prevention of Pollution from Ships 1973 (MARPOL), as modified by the Protocol of 1978 relating thereto, and as modified by the Protocol of 1997, as amended by the Organization, provided that such amendments are adopted and brought into force in accordance with the provisions of article 16 of the present Convention.

2 *A similar stage of construction* means the stage at which:

- .1 construction identifiable with a specific ship begins; and
- .2 assembly of that ship has commenced comprising at least 50 tons or one per cent of the estimated mass of all structural material, whichever is less.

3 *Anniversary date* means the day and the month of each year which will correspond to the date of expiry of the International Air Pollution Prevention Certificate.

4 *Auxiliary control device* means a system, function, or control strategy installed on a marine diesel engine that is used to protect the engine and/or its ancillary equipment against operating conditions that could result in damage or failure, or that is used to facilitate the starting of the engine. An auxiliary control device may also be a strategy or measure that has been satisfactorily demonstrated not to be a defeat device.

5 *Continuous feeding* is defined as the process whereby waste is fed into a combustion chamber without human assistance while the incinerator is in normal operating conditions with the combustion chamber operative temperature between 850°C and 1,200°C.

6 *Defeat device* means a device which measures, senses, or responds to operating variables (e.g., engine speed, temperature, intake pressure or any other parameter) for the purpose of activating, modulating, delaying or deactivating the operation of any component or the function of the emission control system such that the effectiveness of the emission control system is reduced under conditions encountered during normal operation, unless the use of such a device is substantially included in the applied emission certification test procedures.

7 *Emission* means any release of substances, subject to control by this Annex, from ships into the atmosphere or sea.

8 *Emission Control Area* means an area where the adoption of special mandatory measures for emissions from ships is required to prevent, reduce and control air pollution from NO_x or SO_x and particulate matter or all three types of emissions and their attendant adverse impacts on human health and the environment. Emission Control Areas shall include those listed in, or designated under, regulations 13 and 14 of this Annex.

9 *Fuel oil* means any fuel delivered to and intended for combustion purposes for propulsion or operation on board a ship, including distillate and residual fuels.

10 *Gross tonnage* means the gross tonnage calculated in accordance with the tonnage measurement regulations contained in Annex I to the International Convention on Tonnage Measurements of Ships, 1969 or any successor Convention.

11 *Installations* in relation to regulation 12 of this Annex means the installation of systems, equipment including portable fire-extinguishing units, insulation, or other material on a ship, but excludes the repair or recharge of previously installed systems, equipment, insulation, or other material, or the recharge of portable fire-extinguishing units.

12 *Installed* means a marine diesel engine that is or is intended to be fitted on a ship, including a portable auxiliary marine diesel engine, only if its fuelling, cooling, or exhaust system is an integral part of the ship. A fuelling system is considered integral to the ship only if it is permanently affixed to the ship. This definition includes a marine diesel engine that is used to supplement or augment the installed power capacity of the ship and is intended to be an integral part of the ship.

13 *Irrational emission control strategy* means any strategy or measure that, when the ship is operated under normal conditions of use, reduces the effectiveness of an emission control system to a level below that expected on the applicable emission test procedures.

14 *Marine diesel engine* means any reciprocating internal combustion engine operating on liquid or dual fuel, to which regulation 13 of this Annex applies, including booster/compound systems if applied.

15 *NO_x Technical Code* means the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines adopted by resolution 2 of the 1997 MARPOL Conference, as amended by the Organization, provided that such amendments are adopted and brought into force in accordance with the provisions of article 16 of the present Convention.

16 *Ozone depleting substances* means controlled substances defined in paragraph (4) of article 1 of the Montreal Protocol on Substances that Deplete the Ozone Layer, 1987, listed in Annexes A, B, C or E to the said Protocol in force at the time of application or interpretation of this Annex.

Ozone depleting substances that may be found on board ship include, but are not limited to:

Halon 1211 Bromochlorodifluoromethane

Halon 1301 Bromotrifluoromethane

Halon 2402 1, 2-Dibromo -1, 1, 2, 2-tetrafluoroethane (also known as Halon 114B2)

CFC-11 Trichlorofluoromethane

CFC-12 Dichlorodifluoromethane

CFC-113 1, 1, 2 – Trichloro – 1, 2, 2 – trifluoroethane

CFC-114 1, 2 – Dichloro –1, 1, 2, 2 – tetrafluoroethane

CFC-115 Chloropentafluoroethane

17 *Shipboard incineration* means the incineration of wastes or other matter on board a ship, if such wastes or other matter were generated during the normal operation of that ship.

18 *Shipboard incinerator* means a shipboard facility designed for the primary purpose of incineration.

19 *Ships constructed* means ships the keels of which are laid or which are at a similar stage of construction.

20 *Sludge oil* means sludge from the fuel oil or lubricating oil separators, waste lubricating oil from main or auxiliary machinery, or waste oil from bilge water separators, oil filtering equipment or drip trays.

21 *Tanker* means an oil tanker as defined in regulation 1 of Annex I or a chemical tanker as defined in regulation 1 of Annex II of the present Convention.

Regulation 3 ***Exceptions and Exemptions***

General

1 Regulations of this Annex shall not apply to:

- .1 any emission necessary for the purpose of securing the safety of a ship or saving life at sea; or

- .2 any emission resulting from damage to a ship or its equipment:
 - .2.1 provided that all reasonable precautions have been taken after the occurrence of the damage or discovery of the emission for the purpose of preventing or minimizing the emission; and
 - .2.2 except if the owner or the master acted either with intent to cause damage, or recklessly and with knowledge that damage would probably result.

Trials for Ship Emission Reduction and Control Technology Research

2 The Administration of a Party may, in co-operation with other Administrations as appropriate, issue an exemption from specific provisions of this Annex for a ship to conduct trials for the development of ship emission reduction and control technologies and engine design programmes. Such an exemption shall only be provided if the applications of specific provisions of the Annex or the revised NO_x Technical Code 2008 could impede research into the development of such technologies or programmes. A permit for such an exemption shall only be provided to the minimum number of ships necessary and be subject to the following provisions:

- .1 for marine diesel engines with a per cylinder displacement up to 30 litres, the duration of the sea trial shall not exceed 18 months. If additional time is required, a permitting Administration or Administrations may permit a renewal for one additional 18-month period; or
- .2 for marine diesel engines with a per cylinder displacement at or above 30 litres, the duration of the ship trial shall not exceed 5 years and shall require a progress review by the permitting Administration or Administrations at each intermediate survey. A permit may be withdrawn based on this review if the testing has not adhered to the conditions of the permit or if it is determined that the technology or programme is not likely to produce effective results in the reduction and control of ship emissions. If the reviewing Administration or Administrations determine that additional time is required to conduct a test of a particular technology or programme, a permit may be renewed for an additional time period not to exceed five years.

Emissions from Sea-bed Mineral Activities

3.1 Emissions directly arising from the exploration, exploitation and associated offshore processing of sea-bed mineral resources are, consistent with article 2(3)(b)(ii) of the present Convention, exempt from the provisions of this Annex. Such emissions include the following:

- .1 emissions resulting from the incineration of substances that are solely and directly the result of exploration, exploitation and associated offshore processing of sea-bed mineral resources, including but not limited to the flaring of hydrocarbons and the burning of cuttings, muds, and/or stimulation fluids during well completion and testing operations, and flaring arising from upset conditions;
- .2 the release of gases and volatile compounds entrained in drilling fluids and cuttings;

- .3 emissions associated solely and directly with the treatment, handling, or storage of sea-bed minerals; and
- .4 emissions from marine diesel engines that are solely dedicated to the exploration, exploitation and associated offshore processing of sea-bed mineral resources.

3.2 The requirements of regulation 18 of this Annex shall not apply to the use of hydrocarbons which are produced and subsequently used on site as fuel, when approved by the Administration.

Regulation 4

Equivalents

1 The Administration of a Party may allow any fitting, material, appliance or apparatus to be fitted in a ship or other procedures, alternative fuel oils, or compliance methods used as an alternative to that required by this Annex if such fitting, material, appliance or apparatus or other procedures, alternative fuel oils, or compliance methods are at least as effective in terms of emissions reductions as that required by this Annex, including any of the standards set forth in regulations 13 and 14.

2 The Administration of a Party which allows a fitting, material, appliance or apparatus or other procedures, alternative fuel oils, or compliance methods used as an alternative to that required by this Annex shall communicate to the Organization for circulation to the Parties particulars thereof, for their information and appropriate action, if any.

3 The Administration of a Party should take into account any relevant guidelines developed by the Organization pertaining to the equivalents provided for in this regulation.

4 The Administration of a Party which allows the use of an equivalent as set forth in paragraph 1 of this regulation shall endeavour not to impair or damage its environment, human health, property, or resources or those of other States.

CHAPTER II

SURVEY, CERTIFICATION AND MEANS OF CONTROL

Regulation 5

Surveys

1 Every ship of 400 gross tonnage and above and every fixed and floating drilling rig and other platforms shall be subject to the surveys specified below:

- .1 An initial survey before the ship is put into service or before the certificate required under regulation 6 of this Annex is issued for the first time. This survey shall be such as to ensure that the equipment, systems, fittings, arrangements and material fully comply with the applicable requirements of this Annex;
- .2 A renewal survey at intervals specified by the Administration, but not exceeding five years, except where regulation 9.2, 9.5, 9.6 or 9.7 of this Annex is applicable. The renewal survey shall be such as to ensure that the equipment, systems, fittings, arrangements and material fully comply with applicable requirements of this Annex;
- .3 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 1.4 of this regulation. The intermediate survey shall be such as to ensure that the equipment and arrangements fully comply with the applicable requirements of this Annex and are in good working order. Such intermediate surveys shall be endorsed on the certificate issued under regulation 6 or 7 of this Annex;
- .4 An annual survey within three months before or after each anniversary date of the certificate, including a general inspection of the equipment, systems, fittings, arrangements and material referred to in paragraph 1.1 of this regulation to ensure that they have been maintained in accordance with paragraph 4 of this regulation and that they remain satisfactory for the service for which the ship is intended. Such annual surveys shall be endorsed on the certificate issued under regulation 6 or 7 of this Annex; and
- .5 An additional survey either general or partial, according to the circumstances, shall be made whenever any important repairs or renewals are made as prescribed in paragraph 4 of this regulation or after a repair resulting from investigations prescribed in paragraph 5 of this regulation. The survey shall be such as to ensure that the necessary repairs or renewals have been effectively made, that the material and workmanship of such repairs or renewals are in all respects satisfactory and that the ship complies in all respects with the requirements of this Annex.

2 In the case of ships of less than 400 gross tonnage, the Administration may establish appropriate measures in order to ensure that the applicable provisions of this Annex are complied with.

3 Surveys of ships as regards the enforcement of the provisions of this Annex shall be carried out by officers of the Administration.

- .1 The Administration may, however, entrust the surveys either to surveyors nominated for the purpose or to organizations recognized by it. Such organizations shall comply with the guidelines adopted by the Organization;¹
- .2 The survey of marine diesel engines and equipment for compliance with regulation 13 of this Annex shall be conducted in accordance with the revised NO_x Technical Code 2008;
- .3 When a nominated surveyor or recognized organization determines that the condition of the equipment does not correspond substantially with the particulars of the certificate, they shall ensure that corrective action is taken and shall in due course notify the Administration. If such corrective action is not taken, the certificate shall be withdrawn by the Administration. If the ship is in a port of another Party, the appropriate authorities of the port State shall also be notified immediately. When an officer of the Administration, a nominated surveyor or recognized organization has notified the appropriate authorities of the port State, the Government of the port State concerned shall give such officer, surveyor or organization any necessary assistance to carry out their obligations under this regulation; and
- .4 In every case, the Administration concerned shall fully guarantee the completeness and efficiency of the survey and shall undertake to ensure the necessary arrangements to satisfy this obligation.

4 The equipment shall be maintained to conform with the provisions of this Annex and no changes shall be made in the equipment, systems, fittings, arrangements, or material covered by the survey, without the express approval of the Administration. The direct replacement of such equipment and fittings with equipment and fittings that conform with the provisions of this Annex is permitted.

5 Whenever an accident occurs to a ship or a defect is discovered which substantially affects the efficiency or completeness of its equipment covered by this Annex, the master or owner of the ship shall report at the earliest opportunity to the Administration, a nominated surveyor, or recognized organization responsible for issuing the relevant certificate.

Regulation 6

Issue or endorsement of a Certificate

1 An International Air Pollution Prevention Certificate shall be issued, after an initial or renewal survey in accordance with the provisions of regulation 5 of this Annex, to:

¹ Refer to the Guidelines for the authorization of organizations acting on behalf of the Administration, adopted by the Organization by resolution A.739(18), as may be amended by the Organization, and the Specifications on the survey and certification functions of recognized organizations acting on behalf of the Administration, adopted by the Organization by resolution A.789(19), as may be amended by the Organization.

- .1 any ship of 400 gross tonnage and above engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties; and
- .2 platforms and drilling rigs engaged in voyages to waters under the sovereignty or jurisdiction of other Parties.

2 A ship constructed before the date of entry into force of Annex VI for such ship's Administration shall be issued with an International Air Pollution Prevention Certificate in accordance with paragraph 1 of this regulation no later than the first scheduled dry-docking after the date of such entry into force, but in no case later than three years after this date.

3 Such certificate shall be issued or endorsed either by the Administration or by any person or organization duly authorized by it. In every case, the Administration assumes full responsibility for the certificate.

Regulation 7

Issue of a Certificate by another Party

1 A Party may, at the request of the Administration, cause a ship to be surveyed and, if satisfied that the provisions of this Annex are complied with, shall issue or authorize the issuance of an International Air Pollution Prevention Certificate to the ship, and where appropriate, endorse or authorize the endorsement of that certificate on the ship, in accordance with this Annex.

2 A copy of the certificate and a copy of the survey report shall be transmitted as soon as possible to the requesting Administration.

3 A certificate so issued shall contain a statement to the effect that it has been issued at the request of the Administration and it shall have the same force and receive the same recognition as a certificate issued under regulation 6 of this Annex.

4 No International Air Pollution Prevention Certificate shall be issued to a ship which is entitled to fly the flag of a State which is not a Party.

Regulation 8

Form of Certificate

The International Air Pollution Prevention Certificate shall be drawn up in a form corresponding to the model given in appendix I to this Annex and shall be at least in English, French or Spanish. If an official language of the issuing country is also used, this shall prevail in case of a dispute or discrepancy.

Regulation 9

Duration and Validity of Certificate

1 An International Air Pollution Prevention Certificate shall be issued for a period specified by the Administration, which shall not exceed five years.

- 2 Notwithstanding the requirements of paragraph 1 of this regulation:
- .1 when the renewal survey is completed within three months before the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of expiry of the existing certificate;
 - .2 when the renewal survey is completed after the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of expiry of the existing certificate; and
 - .3 when the renewal survey is completed more than three months before the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of completion of the renewal survey.
- 3 If a certificate is issued for a period of less than five years, the Administration may extend the validity of the certificate beyond the expiry date to the maximum period specified in paragraph 1 of this regulation, provided that the surveys referred to in regulations 5.1.3 and 5.1.4 of this Annex applicable when a certificate is issued for a period of five years are carried out as appropriate.
- 4 If a renewal survey has been completed and a new certificate cannot be issued or placed on board the ship before the expiry date of the existing certificate, the person or organization authorized by the Administration may endorse the existing certificate and such a certificate shall be accepted as valid for a further period which shall not exceed five months from the expiry date.
- 5 If a ship, at the time when a certificate expires, is not in a port in which it is to be surveyed, the Administration may extend the period of validity of the certificate but this extension shall be granted only for the purpose of allowing the ship to complete its voyage to the port in which it is to be surveyed, and then only in cases where it appears proper and reasonable to do so. No certificate shall be extended for a period longer than three months, and a ship to which an extension is granted shall not, on its arrival in the port in which it is to be surveyed, be entitled by virtue of such extension to leave that port without having a new certificate. When the renewal survey is completed, the new certificate shall be valid to a date not exceeding five years from the date of expiry of the existing certificate before the extension was granted.
- 6 A certificate issued to a ship engaged on short voyages which has not been extended under the foregoing provisions of this regulation may be extended by the Administration for a period of grace of up to one month from the date of expiry stated on it. When the renewal survey is completed, the new certificate shall be valid to a date not exceeding five years from the date of expiry of the existing certificate before the extension was granted.
- 7 In special circumstances, as determined by the Administration, a new certificate need not be dated from the date of expiry of the existing certificate as required by paragraph 2.1, 5 or 6 of this regulation. In these special circumstances, the new certificate shall be valid to a date not exceeding five years from the date of completion of the renewal survey.

8 If an annual or intermediate survey is completed before the period specified in regulation 5 of this Annex, then:

- .1 the anniversary date shown on the certificate shall be amended by endorsement to a date which shall not be more than three months later than the date on which the survey was completed;
- .2 the subsequent annual or intermediate survey required by regulation 5 of this Annex shall be completed at the intervals prescribed by that regulation using the new anniversary date; and
- .3 the expiry date may remain unchanged provided one or more annual or intermediate surveys, as appropriate, are carried out so that the maximum intervals between the surveys prescribed by regulation 5 of this Annex are not exceeded.

9 A certificate issued under regulation 6 or 7 of this Annex shall cease to be valid in any of the following cases:

- .1 if the relevant surveys are not completed within the periods specified under regulation 5.1 of this Annex;
- .2 if the certificate is not endorsed in accordance with regulation 5.1.3 or 5.1.4 of this Annex; and
- .3 upon transfer of the ship to the flag of another State. A new certificate shall only be issued when the Government issuing the new certificate is fully satisfied that the ship is in compliance with the requirements of regulation 5.4 of this Annex. In the case of a transfer between Parties, if requested within three months after the transfer has taken place, the Government of the Party whose flag the ship was formerly entitled to fly shall, as soon as possible, transmit to the Administration copies of the certificate carried by the ship before the transfer and, if available, copies of the relevant survey reports.

Regulation 10

Port State Control on Operational Requirements

1 A ship, when in a port or an offshore terminal under the jurisdiction of another Party, is subject to inspection by officers duly authorized by such Party concerning operational requirements under this Annex, where there are clear grounds for believing that the master or crew are not familiar with essential shipboard procedures relating to the prevention of air pollution from ships.

2 In the circumstances given in paragraph 1 of this regulation, the Party shall take such steps as to ensure that the ship shall not sail until the situation has been brought to order in accordance with the requirements of this Annex.

3 Procedures relating to the port State control prescribed in article 5 of the present Convention shall apply to this regulation.

4 Nothing in this regulation shall be construed to limit the rights and obligations of a Party carrying out control over operational requirements specifically provided for in the present Convention.

Regulation 11

Detection of Violations and Enforcement

1 Parties shall co-operate in the detection of violations and the enforcement of the provisions of this Annex, using all appropriate and practicable measures of detection and environmental monitoring, adequate procedures for reporting and accumulation of evidence.

2 A ship to which this Annex applies may, in any port or offshore terminal of a Party, be subject to inspection by officers appointed or authorized by that Party for the purpose of verifying whether the ship has emitted any of the substances covered by this Annex in violation of the provision of this Annex. If an inspection indicates a violation of this Annex, a report shall be forwarded to the Administration for any appropriate action.

3 Any Party shall furnish to the Administration evidence, if any, that the ship has emitted any of the substances covered by this Annex in violation of the provisions of this Annex. If it is practicable to do so, the competent authority of the former Party shall notify the master of the ship of the alleged violation.

4 Upon receiving such evidence, the Administration so informed shall investigate the matter, and may request the other Party to furnish further or better evidence of the alleged contravention. If the Administration is satisfied that sufficient evidence is available to enable proceedings to be brought in respect of the alleged violation, it shall cause such proceedings to be taken in accordance with its law as soon as possible. The Administration shall promptly inform the Party which has reported the alleged violation, as well as the Organization, of the action taken.

5 A Party may also inspect a ship to which this Annex applies when it enters the ports or offshore terminals under its jurisdiction, if a request for an investigation is received from any Party together with sufficient evidence that the ship has emitted any of the substances covered by the Annex in any place in violation of this Annex. The report of such investigation shall be sent to the Party requesting it and to the Administration so that the appropriate action may be taken under the present Convention.

6 The international law concerning the prevention, reduction, and control of pollution of the marine environment from ships, including that law relating to enforcement and safeguards, in force at the time of application or interpretation of this Annex, applies, *mutatis mutandis*, to the rules and standards set forth in this Annex.

CHAPTER III

REQUIREMENTS FOR CONTROL OF EMISSIONS FROM SHIPS

Regulation 12

Ozone Depleting Substances

1 This regulation does not apply to permanently sealed equipment where there are no refrigerant charging connections or potentially removable components containing ozone depleting substances.

2 Subject to the provisions of regulation 3.1, 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.

3.1 Installations which contain ozone depleting substances, other than hydro-chlorofluorocarbons, shall be prohibited:

- .1 on ships constructed on or after 19 May 2005; or
- .2 in the case of ships constructed before 19 May 2005, which have a contractual delivery date of the equipment to the ship on or after 19 May 2005 or, in the absence of a contractual delivery date, the actual delivery of the equipment to the ship on or after 19 May 2005.

3.2 Installations which contain hydro-chlorofluorocarbons shall be prohibited:

- .1 on ships constructed on or after 1 January 2020; or
- .2 in the case of ships constructed before 1 January 2020, which have a contractual delivery date of the equipment to the ship on or after 1 January 2020 or, in the absence of a contractual delivery date, the actual delivery of the equipment to the ship on or after 1 January 2020.

4 The substances referred to in this regulation, and equipment containing such substances, shall be delivered to appropriate reception facilities when removed from ships.

5 Each ship subject to regulation 6.1 shall maintain a list of equipment containing ozone depleting substances.²

6 Each ship subject to regulation 6.1 which has rechargeable systems that contain ozone depleting substances shall maintain an Ozone Depleting Substances Record Book. This Record Book may form part of an existing log-book or electronic recording system as approved by the Administration.

² See Appendix I, Supplement to International Air Pollution Prevention Certificate (IAPP Certificate), section 2.1.

7 Entries in the Ozone Depleting Substances Record Book shall be recorded in terms of mass (kg) of substance and shall be completed without delay on each occasion, in respect of the following:

- .1 recharge, full or partial, of equipment containing ozone depleting substances;
- .2 repair or maintenance of equipment containing ozone depleting substances;
- .3 discharge of ozone depleting substances to the atmosphere:
 - .3.1 deliberate; and
 - .3.2 non-deliberate;
- .4 discharge of ozone depleting substances to land-based reception facilities; and
- .5 supply of ozone depleting substances to the ship.

Regulation 13

Nitrogen Oxides (NO_x)

Application

1.1 This regulation shall apply to:

- .1 each marine diesel engine with a power output of more than 130 kW installed on a ship; and
- .2 each marine diesel engine with a power output of more than 130 kW which undergoes a major conversion on or after 1 January 2000 except when demonstrated to the satisfaction of the Administration that such engine is an identical replacement to the engine which it is replacing and is otherwise not covered under paragraph 1.1.1 of this regulation.

1.2 This regulation does not apply to:

- .1 a marine diesel engine intended to be used solely for emergencies, or solely to power any device or equipment intended to be used solely for emergencies on the ship on which it is installed, or a marine diesel engine installed in lifeboats intended to be used solely for emergencies; and
- .2 a marine diesel engine installed on a ship solely engaged in voyages within waters subject to the sovereignty or jurisdiction of the State the flag of which the ship is entitled to fly, provided that such engine is subject to an alternative NO_x control measure established by the Administration.

1.3 Notwithstanding the provisions of subparagraph 1.1 of this paragraph, the Administration may provide an exclusion from the application of this regulation for any marine diesel engine which is installed on a ship constructed, or for any marine diesel engine which undergoes a major conversion, before 19 May 2005, provided that the ship on which the engine is installed is solely engaged in voyages to ports or offshore terminals within the State the flag of which the ship is entitled to fly.

Major Conversion

2.1 For the purpose of this regulation, *major conversion* means a modification on or after 1 January 2000 of a marine diesel engine that has not already been certified to the standards set forth in paragraph 3, 4, or 5.1.1 of this regulation where:

- .1 the engine is replaced by a marine diesel engine or an additional marine diesel engine is installed, or
- .2 any substantial modification, as defined in the revised NO_x Technical Code 2008, is made to the engine, or
- .3 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.

2.2 For a major conversion involving the replacement of a marine diesel engine with a non-identical marine diesel engine or the installation of an additional marine diesel engine, the standards in this regulation in force at the time of the replacement or addition of the engine shall apply. On or after 1 January 2016, in the case of replacement engines only, if it is not possible for such a replacement engine to meet the standards set forth in paragraph 5.1.1 of this regulation (Tier III), then that replacement engine shall meet the standards set forth in paragraph 4 of this regulation (Tier II). Guidelines are to be developed by the Organization to set forth the criteria of when it is not possible for a replacement engine to meet the standards in subparagraph 5.1.1 of this regulation.

2.3 A marine diesel engine referred to in paragraph 2.1.2 or 2.1.3 shall meet the following standards:

- .1 for ships constructed prior to 1 January 2000, the standards set forth in paragraph 3 of this regulation shall apply; and
- .2 for ships constructed on or after 1 January 2000, the standards in force at the time the ship was constructed shall apply.

Tier I

3 Subject to regulation 3 of this Annex, the operation of a marine diesel engine which is installed on a ship constructed on or after 1 January 2000 and prior to 1 January 2011 is prohibited, except when the emission of nitrogen oxides (calculated as the total weighted emission of NO₂) from the engine is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):

- .1 17.0 g/kWh when n is less than 130 rpm;
- .2 $45 \cdot n^{(-0.2)}$ g/kWh when n is 130 or more but less than 2,000 rpm;
- .3 9.8 g/kWh when n is 2,000 rpm or more.

Tier II

4 Subject to regulation 3 of this Annex, the operation of a marine diesel engine which is installed on a ship constructed on or after 1 January 2011 is prohibited, except when the emission of nitrogen oxides (calculated as the total weighted emission of NO₂) from the engine is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):

- .1 14.4 g/kWh when n is less than 130 rpm;
- .2 $44 \cdot n^{(-0.23)}$ g/kWh when n is 130 or more but less than 2,000 rpm;
- .3 7.7 g/kWh when n is 2,000 rpm or more.

Tier III

5.1 Subject to regulation 3 of this Annex, the operation of a marine diesel engine which is installed on a ship constructed on or after 1 January 2016:

- .1 is prohibited except when the emission of nitrogen oxides (calculated as the total weighted emission of NO₂) from the engine is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):
 - .1.1 3.4 g/kWh when n is less than 130 rpm;
 - .1.2 $9 \cdot n^{(-0.2)}$ g/kWh when n is 130 or more but less than 2,000 rpm; and
 - .1.3 2.0 g/kWh when n is 2,000 rpm or more;
- .2 is subject to the standards set forth in subparagraph 5.1.1 of this paragraph when the ship is operating in an Emission Control Area designated under paragraph 6 of this regulation; and
- .3 is subject to the standards set forth in paragraph 4 of this regulation when the ship is operating outside of an Emission Control Area designated under paragraph 6 of this regulation.

5.2 Subject to the review set forth in paragraph 10 of this regulation, the standards set forth in paragraph 5.1.1 of this regulation shall not apply to:

- .1 a marine diesel engine installed on a ship with a length (L), as defined in regulation 1.19 of Annex I to the present Convention, less than 24 metres when it has been specifically designed, and is used solely, for recreational purposes; or
- .2 a marine diesel engine installed on a ship with a combined nameplate diesel engine propulsion power of less than 750 kW if it is demonstrated, to the satisfaction of the Administration, that the ship cannot comply with the standards set forth in paragraph 5.1.1 of this regulation because of design or construction limitations of the ship.

Emission Control Area

6 For the purpose of this regulation, an Emission Control Area shall be any sea area, including any port area, designated by the Organization in accordance with the criteria and procedures set forth in appendix III to this Annex.

Marine Diesel Engines Installed on a Ship Constructed Prior to 1 January 2000

7.1 Notwithstanding paragraph 1.1.1 of this regulation, a marine diesel engine with a power output of more than 5,000 kW and a per cylinder displacement at or above 90 litres installed on a ship constructed on or after 1 January 1990 but prior to 1 January 2000 shall comply with the emission limits set forth in subparagraph 7.4 of this paragraph, provided that an Approved Method for that engine has been certified by an Administration of a Party and notification of such certification has been submitted to the Organization by the certifying Administration. Compliance with this paragraph shall be demonstrated through one of the following:

- .1 installation of the certified Approved Method, as confirmed by a survey using the verification procedure specified in the Approved Method File, including appropriate notation on the ship's International Air Pollution Prevention Certificate of the presence of the Approved Method; or
- .2 certification of the engine confirming that it operates within the limits set forth in paragraph 3, 4, or 5.1.1 of this regulation and an appropriate notation of the engine certification on the ship's International Air Pollution Prevention Certificate.

7.2 Subparagraph 7.1 shall apply no later than the first renewal survey that occurs 12 months or more after deposit of the notification in subparagraph 7.1. If a shipowner of a ship on which an Approved Method is to be installed can demonstrate to the satisfaction of the Administration that the Approved Method was not commercially available despite best efforts to obtain it, then that Approved Method shall be installed on the ship no later than the next annual survey of that ship which falls after the Approved Method is commercially available.

7.3 With regard to a ship with a marine diesel engine with a power output of more than 5,000 kW and a per cylinder displacement at or above 90 litres installed on a ship constructed on or after 1 January 1990 but prior to 1 January 2000, the International Air Pollution Prevention Certificate shall, for a marine diesel engine to which paragraph 7.1 of this regulation applies, indicate that either an Approved Method has been applied pursuant to paragraph 7.1.1 of this regulation or the engine has been certified pursuant to paragraph 7.1.2 of this regulation or that an Approved Method does not yet exist or is not yet commercially available as described in subparagraph 7.2 of this regulation.

7.4 Subject to regulation 3 of this Annex, the operation of a marine diesel engine described in subparagraph 7.1 is prohibited, except when the emission of nitrogen oxides (calculated as the total weighted emission of NO₂) from the engine is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):

- .1 17.0 g/kWh when n is less than 130 rpm;
- .2 $45 \cdot n^{(-0.2)}$ g/kWh when n is 130 or more but less than 2,000 rpm; and
- .3 9.8 g/kWh when n is 2,000 rpm or more.

7.5 Certification of an Approved Method shall be in accordance with chapter 7 of the revised NO_x Technical Code 2008 and shall include verification:

- .1 by the designer of the base marine diesel engine to which the Approved Method applies that the calculated effect of the Approved Method will not decrease engine rating by more than 1.0%, increase fuel consumption by more than 2.0% as measured according to the appropriate test cycle set forth in the revised NO_x Technical Code 2008, or adversely affect engine durability or reliability; and
- .2 that the cost of the Approved Method is not excessive, which is determined by a comparison of the amount of NO_x reduced by the Approved Method to achieve the standard set forth in subparagraph 7.4 of this paragraph and the cost of purchasing and installing such Approved Method.³

Certification

8 The revised NO_x Technical Code 2008 shall be applied in the certification, testing, and measurement procedures for the standards set forth in this regulation.

9 The procedures for determining NO_x emissions set out in the revised NO_x Technical Code 2008 are intended to be representative of the normal operation of the engine. Defeat devices and irrational emission control strategies undermine this intention and shall not be allowed. This regulation shall not prevent the use of auxiliary control devices that are used to protect the engine and/or its ancillary equipment against operating conditions that could result in damage or failure or that are used to facilitate the starting of the engine.

Review

10 Beginning in 2012 and completed no later than 2013, the Organization shall review the status of the technological developments to implement the standards set forth in paragraph 5.1.1 of this regulation and shall, if proven necessary, adjust the time periods set forth in that subparagraph.

Regulation 14

Sulphur Oxides (SO_x) and Particulate Matter

General Requirements

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

- .1 4.50% m/m prior to 1 January 2012;

³ The cost of an Approved Method shall not exceed 375 Special Drawing Rights/metric ton NO_x calculated in accordance with the Cost-Effectiveness formula below:

$$C_e = \frac{\text{Cost of Approved Method} \cdot 10^6}{P(\text{kW}) \cdot 0.768 \cdot 6000(\text{hours/year}) \cdot 5 (\text{years}) \cdot ? \text{NO}_x(\text{g/kWh})}$$

- .2 3.50% m/m on and after 1 January 2012; and
- .3 0.50% m/m on and after 1 January 2020.

2 The worldwide average sulphur content of residual fuel oil supplied for use on board ships shall be monitored taking into account guidelines developed by the Organization.⁴

Requirements within Emission Control Areas

3 For the purpose of this regulation, Emission Control Areas shall include:

- .1 the Baltic Sea area as defined in regulation 1.11.2 of Annex I, the North Sea as defined in regulation 5(1)(f) of Annex V; and
- .2 any other sea area, including port areas, designated by the Organization in accordance with criteria and procedures set forth in appendix III to this Annex.

4 While ships are operating within an Emission Control Area, the sulphur content of fuel oil used on board ships shall not exceed the following limits:

- .1 1.50% m/m prior to 1 July 2010;
- .2 1.00% m/m on and after 1 July 2010; and
- .3 0.10% m/m on and after 1 January 2015.

5 The sulphur content of fuel oil referred to in paragraph 1 and paragraph 4 of this regulation shall be documented by its supplier as required by regulation 18 of this Annex.

6 Those ships using separate fuel oils to comply with paragraph 4 of this regulation and entering or leaving an Emission Control Area set forth in paragraph 3 of this regulation shall carry a written procedure showing how the fuel oil change-over is to be done, allowing sufficient time for the fuel oil service system to be fully flushed of all fuel oils exceeding the applicable sulphur content specified in paragraph 4 of this regulation prior to entry into an Emission Control Area. The volume of low sulphur fuel oils in each tank as well as the date, time, and position of the ship when any fuel-oil-change-over operation is completed prior to the entry into an Emission Control Area or commenced after exit from such an area, shall be recorded in such log-book as prescribed by the Administration.

7 During the first twelve months immediately following an amendment designating a specific Emission Control Area under paragraph 3.2 of this regulation, ships operating in that Emission Control Area are exempt from the requirements in paragraphs 4 and 6 of this regulation and from the requirements of paragraph 5 of this regulation insofar as they relate to paragraph 4 of this regulation.

⁴ MEPC.82(43), "Guidelines for Monitoring the World-wide Average Sulphur Content of Residual Fuel Oils Supplied for Use On Board Ships".

Review Provision

8 A review of the standard set forth in subparagraph 1.3 of this regulation shall be completed by 2018 to determine the availability of fuel oil to comply with the fuel oil standard set forth in that paragraph and shall take into account the following elements:

- .1 the global market supply and demand for fuel oil to comply with paragraph 1.3 of this regulation that exist at the time that the review is conducted;
- .2 an analysis of the trends in fuel oil markets; and
- .3 any other relevant issue.

9 The Organization shall establish a group of experts, comprising of representatives with the appropriate expertise in the fuel oil market and appropriate maritime, environmental, scientific, and legal expertise, to conduct the review referred to in paragraph 8 of this regulation. The group of experts shall develop the appropriate information to inform the decision to be taken by the Parties.

10 The Parties, based on the information developed by the group of experts, may decide whether it is possible for ships to comply with the date in paragraph 1.3 of this regulation. If a decision is taken that it is not possible for ships to comply, then the standard in that subparagraph shall become effective on 1 January 2025.

Regulation 15***Volatile Organic Compounds (VOCs)***

1 If the emissions of VOCs from a tanker are to be regulated in a port or ports or a terminal or terminals under the jurisdiction of a Party, they shall be regulated in accordance with the provisions of this regulation.

2 A Party regulating tankers for VOC emissions shall submit a notification to the Organization. This notification shall include information on the size of tankers to be controlled, the cargoes requiring vapour emission control systems, and the effective date of such control. The notification shall be submitted at least six months before the effective date.

3 A Party which designates ports or terminals at which VOCs emissions from tankers are to be regulated shall ensure that vapour emission control systems, approved by that Party taking into account the safety standards for such systems developed by the Organization⁵, are provided in any designated port and terminal and are operated safely and in a manner so as to avoid undue delay to a ship.

4 The Organization shall circulate a list of the ports and terminals designated by Parties to other Parties and Member States of the Organization for their information.

5 A tanker to which paragraph 1 of this regulation applies shall be provided with a vapour emission collection system approved by the Administration taking into account the safety standards for such systems developed by the Organization⁵, and shall use this system during the loading of relevant cargoes. A port or terminal which has installed vapour emission control

⁵ MSC/Circ.585, Standards for vapour emission control systems.

systems in accordance with this regulation may accept tankers which are not fitted with vapour collection systems for a period of three years after the effective date identified in paragraph 2 of this regulation.

6 A tanker carrying crude oil shall have on board and implement a VOC Management Plan approved by the Administration. Such a plan shall be prepared taking into account the guidelines developed by the Organization. The plan shall be specific to each ship and shall at least:

- .1 provide written procedures for minimizing VOC emissions during the loading, sea passage and discharge of cargo;
- .2 give consideration to the additional VOC generated by crude oil washing;
- .3 identify a person responsible for implementing the plan; and
- .4 for ships on international voyages, be written in the working language of the master and officers and, if the working language of the master and officers is not English, French, or Spanish, include a translation into one of these languages.

7 This regulation shall also apply to gas carriers only if the type of loading and containment systems allow safe retention of non-methane VOCs on board or their safe return ashore.⁶

Regulation 16

Shipboard Incineration

1 Except as provided in paragraph 4 of this regulation, shipboard incineration shall be allowed only in a shipboard incinerator.

2 Shipboard incineration of the following substances shall be prohibited:

- .1 residues of cargoes subject to Annex I, II or III or related contaminated packing materials;
- .2 polychlorinated biphenyls (PCBs);
- .3 garbage, as defined by Annex V, containing more than traces of heavy metals;
- .4 refined petroleum products containing halogen compounds;
- .5 sewage sludge and sludge oil either of which are not generated on board the ship; and
- .6 exhaust gas cleaning system residues.

⁶ MSC.30(61), "International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk", chapter 5.

3 Shipboard incineration of polyvinyl chlorides (PVCs) shall be prohibited, except in shipboard incinerator for which an IMO Type Approval Certificate⁷ has been issued.

4 Shipboard incineration of sewage sludge and sludge oil generated during normal operation 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 Nothing in this regulation neither:

- .1 affects the prohibition in, or other requirements of, the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, as amended, and the 1996 Protocol thereto, nor
- .2 precludes the development, installation and operation of alternative design shipboard thermal waste treatment devices that meet or exceed the requirements of this regulation.

6.1 Except as provided in subparagraph 6.2 of this paragraph, each incinerator on a ship constructed on or after 1 January 2000 or incinerator which is installed on board a ship on or after 1 January 2000 shall meet the requirements contained in appendix IV to this Annex. Each incinerator subject to this subparagraph shall be approved by the Administration taking into account the standard specification for shipboard incinerators developed by the Organization⁸; or

6.2 The Administration may allow exclusion from the application of subparagraph 6.1 of this paragraph to any incinerator which is installed on board a ship before 19 May 2005, provided that the ship is solely engaged in voyages within waters subject to the sovereignty or jurisdiction of the State the flag of which the ship is entitled to fly.

7 Incinerators installed in accordance with the requirements of paragraph 6.1 of this regulation shall be provided with a manufacturer's operating manual which is to be retained with the unit and which shall specify how to operate the incinerator within the limits described in paragraph 2 of appendix IV of this Annex.

8 Personnel responsible for the operation of an incinerator installed in accordance with the requirements of paragraph 6.1 of this regulation shall be trained to implement the guidance provided in the manufacturer's operating manual as required by paragraph 7 of this regulation.

9 For incinerators installed in accordance with the requirements of paragraph 6.1 of this regulation the combustion chamber gas outlet temperature shall be monitored at all times the unit is in operation. Where that incinerator is of the continuous-feed type, waste shall not be fed into the unit when the combustion chamber gas outlet temperature is below 850°C. Where that incinerator is of the batch-loaded type, the unit shall be designed so that the combustion chamber gas outlet temperature shall reach 600°C within five minutes after start-up and will thereafter stabilize at a temperature not less than 850°C.

⁷ Type Approval Certificates issued in accordance with resolution MEPC.59(33) or MEPC.76(40).

⁸ Refer to resolution MEPC.76(40), Standard specification for shipboard incinerators.

Regulation 17
Reception Facilities

- 1 Each Party undertakes to ensure the provision of facilities adequate to meet the:
 - .1 needs of ships using its repair ports for the reception of ozone depleting substances and equipment containing such substances when removed from ships;
 - .2 needs of ships using its ports, terminals or repair ports for the reception of exhaust gas cleaning residues from an exhaust gas cleaning system,
without causing undue delay to ships; and
 - .3 needs in ship-breaking facilities for the reception of ozone depleting substances and equipment containing such substances when removed from ships.

2 If a particular port or terminal of a Party is – taking into account the guidelines to be developed by the Organization – remotely located from, or lacking in, the industrial infrastructure necessary to manage and process those substances referred to in paragraph 1 of this regulation and therefore cannot accept such substances, then the Party shall inform the Organization of any such port or terminal so that this information may be circulated to all Parties and Member States of the Organization for their information and any appropriate action. Each Party that has provided the Organization with such information shall also notify the Organization of its ports and terminals where reception facilities are available to manage and process such substances.

3 Each Party shall notify the Organization for transmission to the Members of the Organization of all cases where the facilities provided under this regulation are unavailable or alleged to be inadequate.

Regulation 18
Fuel Oil Availability and Quality**Fuel Oil Availability**

1 Each Party shall take all reasonable steps to promote the availability of fuel oils which comply with this Annex and inform the Organization of the availability of compliant fuel oils in its ports and terminals.

2.1 If a ship is found by a Party not to be in compliance with the standards for compliant fuel oils set forth in this Annex, the competent authority of the Party is entitled to require the ship to:

- .1 present a record of the actions taken to attempt to achieve compliance; and
- .2 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.

2.2 The ship should not be required to deviate from its intended voyage or to delay unduly the voyage in order to achieve compliance.

2.3 If a ship provides the information set forth in subparagraph 2.1 of this paragraph, a Party shall take into account all relevant circumstances and the evidence presented to determine the appropriate action to take, including not taking control measures.

2.4 A ship shall notify its Administration and the competent authority of the relevant port of destination when it cannot purchase compliant fuel oil.

2.5 A Party shall notify the Organization when a ship has presented evidence of the non-availability of compliant fuel oil.

Fuel Oil Quality

3 Fuel oil for combustion purposes delivered to and used on board ships to which this Annex applies shall meet the following requirements:

- .1 except as provided in subparagraph 3.2:
 - .1.1 the fuel oil shall be blends of hydrocarbons derived from petroleum refining. This shall not preclude the incorporation of small amounts of additives intended to improve some aspects of performance;
 - .1.2 the fuel oil shall be free from inorganic acid; and
 - .1.3 the fuel oil shall not include any added substance or chemical waste which:
 - .1.3.1 jeopardizes the safety of ships or adversely affects the performance of the machinery, or
 - .1.3.2 is harmful to personnel, or
 - .1.3.3 contributes overall to additional air pollution.
- .2 fuel oil for combustion purposes derived by methods other than petroleum refining shall not:
 - .2.1 exceed the applicable sulphur content set forth in regulation 14 of this Annex;
 - .2.2 cause an engine to exceed the applicable NO_x emission limit set forth in paragraphs 3, 4, 5.1.1 and 7.4 of regulation 13;
 - .2.3 contain inorganic acid; or
 - .2.4.1 jeopardize the safety of ships or adversely affect the performance of the machinery, or

.2.4.2 be harmful to personnel, or

.2.4.3 contribute overall to additional air pollution.

4 This regulation does not apply to coal in its solid form or nuclear fuels. Paragraphs 5, 6, 7.1, 7.2, 8.1, 8.2, 9.2, 9.3, and 9.4 of this regulation do not apply to gas fuels such as Liquefied Natural Gas, Compressed Natural Gas or Liquefied Petroleum Gas. The sulphur content of gas fuels delivered to a ship specifically for combustion purposes on board that ship shall be documented by the supplier.

5 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.

6 The bunker delivery note shall be kept on board the ship in such a place as to be readily available for inspection at all reasonable times. It shall be retained for a period of three years after the fuel oil has been delivered on board.

7.1 The competent authority of a Party may inspect the bunker delivery notes on board any ship to which this Annex applies while the ship is in its port or offshore terminal, may make a copy of each delivery note, and may require the master or person in charge of the ship to certify that each copy is a true copy of such bunker delivery note. The competent authority may also verify the contents of each note through consultations with the port where the note was issued.

7.2 The inspection of the bunker delivery notes and the taking of certified copies by the competent authority under this paragraph shall be performed as expeditiously as possible without causing the ship to be unduly delayed.

8.1 The bunker delivery note shall be accompanied by a representative sample of the fuel oil delivered taking into account guidelines developed by the Organization.⁹ The sample is to be sealed and signed by the supplier's representative and the master or officer in charge of the bunker operation on completion of bunkering operations and retained under the ship's control until the fuel oil is substantially consumed, but in any case for a period of not less than 12 months from the time of delivery.

8.2 If an Administration requires the representative sample to be analysed, it shall be done in accordance with the verification procedure set forth in appendix VI to determine whether the fuel oil meets the requirements of this Annex.

9 Parties undertake to ensure that appropriate authorities designated by them:

- .1 maintain a register of local suppliers of fuel oil;
- .2 require local suppliers to provide the bunker delivery note and sample as required by this regulation, certified by the fuel oil supplier that the fuel oil meets the requirements of regulations 14 and 18 of this Annex;

⁹ Refer to MEPC.96(47), "Guidelines for the Sampling of Fuel Oil for Determination of Compliance with Annex VI of MARPOL 73/78".

- .3 require local suppliers to retain a copy of the bunker delivery note for at least three years for inspection and verification by the port State as necessary;
- .4 take action as appropriate against fuel oil suppliers that have been found to deliver fuel oil that does not comply with that stated on the bunker delivery note;
- .5 inform the Administration of any ship receiving fuel oil found to be non-compliant with the requirements of regulation 14 or 18 of this Annex; and
- .6 inform the Organization for transmission to Parties and Member States of the Organization of all cases where fuel oil suppliers have failed to meet the requirements specified in regulations 14 or 18 of this Annex.

10 In connection with port State inspections carried out by Parties, the Parties further undertake to:

- .1 inform the Party or non-Party under whose jurisdiction a bunker delivery note was issued of cases of delivery of noncompliant fuel oil, giving all relevant information; and
- .2 ensure that remedial action as appropriate is taken to bring noncompliant fuel oil discovered into compliance.

11 For every ship of 400 gross tonnage and above on scheduled services with frequent and regular port calls, an Administration may decide after application and consultation with affected States that compliance with paragraph 6 of this regulation may be documented in an alternative manner which gives similar certainty of compliance with regulations 14 and 18 of this Annex.

APPENDIX I

**Form of International Air Pollution Prevention (IAPP) Certificate
(Regulation 8)**

INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE

Issued under the provisions of the Protocol of 1997, as amended by resolution MEPC.xx(58) in 2008, to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 related thereto (hereinafter referred to as “the Convention”) under the authority of the Government of:

.....
(full designation of the country)

by
*(full designation of the competent person or organization
authorized under the provisions of the Convention)*

Particulars of ship*

Name of ship.....

Distinctive number or letters.....

Port of registry.....

Gross tonnage.....

IMO Number⁺

* Alternatively, the particulars of the ship may be placed horizontally in boxes.

⁺ In accordance with IMO ship identification number scheme, adopted by the Organization by resolution A.600(15).

THIS IS TO CERTIFY:

- 1 That the ship has been surveyed in accordance with regulation 5 of Annex VI of the Convention; and
- 2 That the survey shows that the equipment, systems, fittings, arrangements and materials fully comply with the applicable requirements of Annex VI of the Convention.

Completion date of survey on which this Certificate is based: (dd/mm/yyyy)

This Certificate is valid until* subject to surveys in accordance with regulation 5 of Annex VI of the Convention.

Issued at
(Place of issue of certificate)

(dd/mm/yyyy):
(Date of issue)
(Signature of authorized official issuing the certificate)

(Seal or stamp of the authority, as appropriate)

* Insert the date of expiry as specified by the Administration in accordance with regulation 9.1 of Annex VI of the Convention. The day and the month of this date correspond to the anniversary date as defined in regulation 2.3 of Annex VI of the Convention, unless amended in accordance with regulation 9.8 of Annex VI of the Convention.

Endorsement for annual and intermediate surveys

THIS IS TO CERTIFY that at a survey required by regulation 5 of Annex VI of the Convention the ship was found to comply with the relevant provisions of that Annex:

Annual survey: Signed:
(Signature of authorized official)
Place:
Date (dd/mm/yyyy):
(Seal or stamp of the authority, as appropriate)

Annual/Intermediate* survey: Signed:
(Signature of authorized official)
Place:
Date (dd/mm/yyyy):
(Seal or stamp of the authority, as appropriate)

Annual/Intermediate* survey: Signed:
(Signature of authorized official)
Place:
Date (dd/mm/yyyy):
(Seal or stamp of the authority, as appropriate)

Annual survey: Signed:
(Signature of authorized official)
Place:
Date (dd/mm/yyyy):
(Seal or stamp of the authority, as appropriate)

* Delete as appropriate.

Annual/intermediate survey in accordance with regulation 9.8.3

THIS IS TO CERTIFY that, at an annual/intermediate* survey in accordance with regulation 9.8.3 of Annex VI of the Convention, the ship was found to comply with the relevant provisions of that Annex:

Signed:
(Signature of authorized official)

Place:

Date (dd/mm/yyyy):.....

(Seal or stamp of the authority, as appropriate)

Endorsement to extend the certificate if valid for less than 5 years where regulation 9.3 applies

The ship complies with the relevant provisions of the Annex, and this certificate shall, in accordance with regulation 9.3 of Annex VI of the Convention, be accepted as valid until (dd/mm/yyyy):

Signed:
(Signature of authorized official)

Place:

Date (dd/mm/yyyy):.....

(Seal or stamp of the authority, as appropriate)

Endorsement where the renewal survey has been completed and regulation 9.4 applies

The ship complies with the relevant provisions of the Annex, and this certificate shall, in accordance with regulation 9.4 of Annex VI of the Convention, be accepted as valid until (dd/mm/yyyy):

Signed:
(Signature of authorized official)

Place:

Date (dd/mm/yyyy):.....

(Seal or stamp of the authority, as appropriate)

Endorsement to extend the validity of the certificate until reaching the port of survey or for a period of grace where regulation 9.5 or 9.6 applies

* Delete as appropriate.

This certificate shall, in accordance with regulation 9.5 or 9.6* of Annex VI of the Convention, be accepted as valid until (dd/mm/yyyy):.....

Signed:
(Signature of authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

Endorsement for advancement of anniversary date where regulation 9.8 applies

In accordance with regulation 9.8 of Annex VI of the Convention, the new anniversary date is (dd/mm/yyyy):

Signed:
(Signature of authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

In accordance with regulation 9.8 of Annex VI of the Convention, the new anniversary date is (dd/mm/yyyy):

Signed:
(Signature of authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

* Delete as appropriate.

**SUPPLEMENT TO
INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE
(IAPP CERTIFICATE)**

RECORD OF CONSTRUCTION AND EQUIPMENT

Notes:

1 This Record shall be permanently attached to the IAPP Certificate. The IAPP Certificate shall be available on board the ship at all times.

2 The Record shall be at least in English, French or Spanish. If an official language of the issuing country is also used, this shall prevail in case of a dispute or discrepancy.

3 Entries in boxes shall be made by inserting either a cross (x) for the answer “yes” and “applicable” or a (-) for the answers “no” and “not applicable” as appropriate.

4 Unless otherwise stated, regulations mentioned in this Record refer to regulations of Annex VI of the Convention and resolutions or circulars refer to those adopted by the International Maritime Organization.

1 Particulars of ship

- 1.1 Name of ship
- 1.2 IMO number
- 1.3 Date on which keel was laid or ship was at a similar stage of construction
- 1.4 Length (L) # metres

Completed only in respect of ships constructed on or after 1 January 2016, which are specially designed, and used solely, for recreational purposes and to which, in accordance with regulation 13.5.2.1, the NO_x emission limit as given by regulation 13.5.1.1 will not apply.

2 Control of emissions from ships

2.1 *Ozone depleting substances (regulation 12)*

2.1.1 The following fire-extinguishing systems, other systems and equipment containing ozone depleting substances, other than hydro-chlorofluorocarbons, installed before 19 May 2005 may continue in service:

System or equipment	Location on board	Substance

2.3 *Sulphur oxides (SO_x) and particulate matter (regulation 14)*

2.3.1 When the ship operates within an Emission Control Area specified in regulation 14.3, the ship uses:

- .1 fuel oil with a sulphur content that does not exceed the applicable limit value as documented by bunker delivery notes; or.....
- .2 an equivalent arrangement approved in accordance with regulation 4.1 as listed in 2.6.....

2.4 *Volatile organic compounds (VOCs) (regulation 15)*

2.4.1 The tanker has a vapour collection system installed and approved in accordance with MSC/Circ.585.

2.4.2.1 For a tanker carrying crude oil, there is an approved VOC Management Plan

2.4.2.2 VOC Management Plan approval reference:

2.5 *Shipboard incineration (regulation 16)*

The ship has an incinerator:

- .1 installed on or after 1 January 2000 which complies with resolution MEPC.76(40) as amended
- .2 installed before 1 January 2000 which complies with:
 - .2.1 resolution MEPC.59(33)
 - .2.2 resolution MEPC.76(40)

2.6 *Equivalentents (regulation 4)*

The ship has been allowed to use the following fitting, material, appliance or apparatus to be fitted in a ship or other procedures, alternative fuel oils, or compliance methods used as an alternative to that required by this Annex:

System or equipment	Equivalent used	Approval reference

Nr. 2

12. mars 2021

THIS IS TO CERTIFY that this Record is correct in all respects.

Issued at
(Place of issue of the Record)

(dd/mm/yyyy):
(Date of issue)
*(Signature of duly authorized official
issuing the Record)*

(Seal or stamp of the authority, as appropriate)

APPENDIX II

TEST CYCLES AND WEIGHTING FACTORS (Regulation 13)

The following test cycles and weighing factors shall be applied for verification of compliance of marine diesel engines with the applicable NO_x limit in accordance with regulation 13 of this Annex using the test procedure and calculation method as specified in the revised NO_x Technical Code 2008.

- .1 For constant-speed marine engines for ship main propulsion, including diesel-electric drive, test cycle E2 shall be applied;
- .2 For controllable-pitch propeller sets test cycle E2 shall be applied;
- .3 For propeller-law-operated main and propeller-law-operated auxiliary engines the test cycle E3 shall be applied;
- .4 For constant-speed auxiliary engines test cycle D2 shall be applied; and
- .5 For variable-speed, variable-load auxiliary engines, not included above, test cycle C1 shall be applied.

Test cycle for *constant speed main propulsion* application
(including diesel-electric drive and all controllable-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

Test cycle for *propeller-law-operated main* and *propeller-law-operated auxiliary engine* application

Test cycle type E3	Speed	100%	91%	80%	63%
	Power	100%	75%	50%	25%
	Weighting factor	0.2	0.5	0.15	0.15

Test cycle for *constant-speed auxiliary engine* application

Test cycle type D2	Speed	100%	100%	100%	100%	100%
	Power	100%	75%	50%	25%	10%
	Weighting factor	0.05	0.25	0.3	0.3	0.1

Test cycle for *variable-speed and load auxiliary engine* application

Test cycle type C1	Speed	Rated				Intermediate			Idle
	Torque	100%	75%	50%	10%	100%	75%	50%	0%
	Weighting factor	0.15	0.15	0.15	0.1	0.1	0.1	0.1	0.15

In the case of an engine to be certified in accordance with subparagraph 5.1.1 of regulation 13, the specific emission at each individual mode point shall not exceed the applicable NO_x emission limit value by more than 50% except as follows:

- .1 The 10% mode point in the D2 test cycle.
- .2 The 10% mode point in the C1 test cycle.
- .3 The idle mode point in the C1 test cycle.

APPENDIX III

CRITERIA AND PROCEDURES FOR DESIGNATION OF EMISSION CONTROL AREAS (Regulation 13.6 and regulation 14.3)

1 OBJECTIVES

1.1 The purpose of this appendix is to provide the criteria and procedures to Parties for the formulation and submission of proposals for the designation of Emission Control Areas and to set forth the factors to be considered in the assessment of such proposals by the Organization.

1.2 Emissions of NO_x, SO_x and particulate matter from ocean-going ships contribute to ambient concentrations of air pollution in cities and coastal areas around the world. Adverse public health and environmental effects associated with air pollution include premature mortality, cardiopulmonary disease, lung cancer, chronic respiratory ailments, acidification and eutrophication.

1.3 An Emission Control Area should be considered for adoption by the Organization if supported by a demonstrated need to prevent, reduce, and control emissions of NO_x or SO_x and particulate matter or all three types of emissions (hereinafter emissions) from ships.

2 PROCESS FOR THE DESIGNATION OF EMISSION CONTROL AREAS

2.1 A proposal to the Organization for designation of an Emission Control Area for NO_x or SO_x and particulate matter or all three types of emissions may be submitted only by Parties. Where two or more Parties have a common interest in a particular area, they should formulate a coordinated proposal.

2.2 A proposal to designate a given area as an Emission Control Area should be submitted to the Organization in accordance with the rules and procedures established by the Organization.

3 CRITERIA FOR DESIGNATION OF AN EMISSION CONTROL AREA

3.1 The proposal shall include:

- .1 a clear delineation of the proposed area of application, along with a reference chart on which the area is marked;
- .2 the type or types of emission(s) that is or are being proposed for control (i.e. NO_x or SO_x and particulate matter or all three types of emissions);
- .3 a description of the human populations and environmental areas at risk from the impacts of ship emissions;
- .4 an assessment that emissions from ships operating in the proposed area of application are contributing to ambient concentrations of air pollution or to adverse environmental impacts. Such assessment shall include a description of the impacts of the relevant emissions on human health and the environment, such

as adverse impacts to terrestrial and aquatic ecosystems, areas of natural productivity, critical habitats, water quality, human health, and areas of cultural and scientific significance, if applicable. The sources of relevant data including methodologies used shall be identified;

- .5 relevant information pertaining to the meteorological conditions in the proposed area of application to the human populations and environmental areas at risk, in particular prevailing wind patterns, or to topographical, geological, oceanographic, morphological, or other conditions that contribute to ambient concentrations of air pollution or adverse environmental impacts;
- .6 the nature of the ship traffic in the proposed Emission Control Area, including the patterns and density of such traffic;
- .7 a description of the control measures taken by the proposing Party or Parties addressing land-based sources of NO_x, SO_x and particulate matter emissions affecting the human populations and environmental areas at risk that are in place and operating concurrent with the consideration of measures to be adopted in relation to provisions of regulations 13 and 14 of Annex VI; and
- .8 the relative costs of reducing emissions from ships when compared with land-based controls, and the economic impacts on shipping engaged in international trade.

3.2 The geographical limits of an Emission Control Area will be based on the relevant criteria outlined above, including emissions and deposition from ships navigating in the proposed area, traffic patterns and density, and wind conditions.

4 PROCEDURES FOR THE ASSESSMENT AND ADOPTION OF EMISSION CONTROL AREAS BY THE ORGANIZATION

- 4.1 The Organization shall consider each proposal submitted to it by a Party or Parties.
- 4.2 In assessing the proposal, the Organization shall take into account the criteria which are to be included in each proposal for adoption as set forth in section 3 above.
- 4.3 An Emission Control Area shall be designated by means of an amendment to this Annex, considered, adopted and brought into force in accordance with article 16 of the present Convention.

5 OPERATION OF EMISSION CONTROL AREAS

- 5.1 Parties which have ships navigating in the area are encouraged to bring to the Organization any concerns regarding the operation of the area.

APPENDIX IV

**TYPE APPROVAL AND OPERATING LIMITS
FOR SHIPBOARD INCINERATORS
(Regulation 16)**

1 Ships incinerators described in regulation 16.6.1 on board shall possess an IMO type approval certificate for each incinerator. In order to obtain such certificate, the incinerator shall be designed and built to an approved standard as described in regulation 16.6.1. Each model shall be subject to a specified type approval test operation at the factory or an approved test facility, and under the responsibility of the Administration, using the following standard fuel/waste specification for the type approval test for determining whether the incinerator operates within the limits specified in paragraph 2 of this appendix:

Sludge Oil Consisting of:	75% Sludge oil from HFO; 5% waste lubricating oil; and 20% emulsified water.
Solid waste consisting of:	50% food waste; 50% rubbish containing: approx. 30% paper, " 40% cardboard, " 10% rags, " 20% plastic The mixture will have up to 50% moisture and 7% incombustible solids.

2 Incinerators described in regulation 16.6.1 shall operate within the following limits:

O ₂ in combustion chamber:	6 – 12%
CO in flue gas maximum average:	200 mg/MJ
Soot number maximum average:	Bacharach 3 or Ringelman 1 (20% opacity) (A higher soot number is acceptable only during very short periods such as starting up)
Unburned components in ash residues:	Maximum 10% by Weight
Combustion chamber flue gas outlet temperature range:	850 – 1200°C

APPENDIX V

**INFORMATION TO BE INCLUDED IN THE BUNKER DELIVERY NOTE
(Regulation 18.5)**

Name and IMO Number of receiving ship

Port

Date of commencement of delivery

Name, address, and telephone number of marine fuel oil supplier

Product name(s)

Quantity in metric tons

Density at 15°C, kg/m³*

Sulphur content (%m/m)**

A declaration signed and certified by the fuel oil supplier's representative that the fuel oil supplied is in conformity with the applicable subparagraph of regulation 14.1 or 14.4 and regulation 18.3 of this Annex.

* Fuel oil shall be tested in accordance with ISO 3675:1998 or ISO 12185:1996.

** Fuel oil shall be tested in accordance with ISO 8754:2003.

APPENDIX VI**FUEL VERIFICATION PROCEDURE FOR MARPOL ANNEX VI
FUEL OIL SAMPLES
(Regulation 18.8.2)**

The following procedure shall be used to determine whether the fuel oil delivered to and used on board ships is compliant with the sulphur limits required by regulation 14 of Annex VI.

1 General Requirements

1.1 The representative fuel oil sample, which is required by paragraph 8.1 of regulation 18 (the "MARPOL sample") shall be used to verify the sulphur content of the fuel oil supplied to a ship.

1.2 An Administration, through its competent authority, shall manage the verification procedure.

1.3 The laboratories responsible for the verification procedure set forth in this appendix shall be fully accredited* for the purpose of conducting the tests.

2 Verification Procedure Stage 1

2.1 The MARPOL sample shall be delivered by the competent authority to the laboratory.

2.2 The laboratory shall:

- .1 record the details of the seal number and the sample label on the test record;
- .2 confirm that the condition of the seal on the MARPOL sample has not been broken; and
- .3 reject any MARPOL sample where the seal has been broken.

2.3 If the seal of the MARPOL sample has not been broken, the laboratory shall proceed with the verification procedure and shall:

- .1 ensure that the MARPOL sample is thoroughly homogenized;
- .2 draw two sub-samples from the MARPOL sample; and
- .3 reseal the MARPOL sample and record the new reseal details on the test record.

* Accreditation is in accordance with ISO 17025 or an equivalent standard.

2.4 The two sub-samples shall be tested in succession, in accordance with the specified test method referred to in appendix V. For the purposes of this verification procedure, the results of the test analysis shall be referred to as “A” and “B”:

- .1 If the results of “A” and “B” are within the repeatability (r) of the test method, the results shall be considered valid.
- .2 If the results of “A” and “B” are not within the repeatability (r) of the test method, both results shall be rejected and two new sub-samples should be taken by the laboratory and analysed. The sample bottle should be resealed in accordance with paragraph 2.3.3 above after the new sub-samples have been taken.

2.5 If the test results of “A” and “B” are valid, an average of these two results should be calculated thus giving the result referred to as “X”:

- .1 If the result of “X” is equal to or falls below the applicable limit required by Annex VI, the fuel oil shall be deemed to meet the requirements.
- .2 If the result of “X” is greater than the applicable limit required by Annex VI, Verification Procedure Stage 2 should be conducted; however, if the result of “X” is greater than the specification limit by $0.59R$ (where R is the reproducibility of the test method), the fuel oil shall be considered non-compliant and no further testing is necessary.

3 Verification Procedure Stage 2

3.1 If Stage 2 of the verification procedure is necessary in accordance with paragraph 2.5.2 above, the competent authority shall send the MARPOL sample to a second accredited laboratory.

3.2 Upon receiving the MARPOL sample, the laboratory shall:

- .1 record the details of the reseal number applied in accordance with 2.3.3 and the sample label on the test record;
- .2 draw two sub-samples from the MARPOL sample; and
- .3 reseal the MARPOL sample and record the new reseal details on the test record.

3.3 The two sub-samples shall be tested in succession, in accordance with the test method specified in appendix V. For the purposes of this verification procedure, the results of the test analysis shall be referred to as “C” and “D”:

- .1 If the results of “C” and “D” are within the repeatability (r) of the test method, the results shall be considered valid.

- .2 If the results of “C” and “D” are not within the repeatability (r) of the test method, both results shall be rejected and two new sub-samples shall be taken by the laboratory and analysed. The sample bottle should be resealed in accordance with paragraph 3.2.3 after the new sub-samples have been taken.
- 3.4 If the test results of “C” and “D” are valid, and the results of “A”, “B”, “C”, and “D” are within the reproducibility (R) of the test method then the laboratory shall average the results, which is referred to as “Y”:
- .1 If the result of “Y” is equal to or falls below the applicable limit required by Annex VI, the fuel oil shall be deemed to meet the requirements.
 - .2 If the result of “Y” is greater than the applicable limit required by Annex VI, then the fuel oil fails to meet the standards required by Annex VI.
- 3.5 If the result of “A”, “B”, “C” and “D” are not within the reproducibility (R) of the test method then the Administration may discard all of the test results and, at its discretion, repeat the entire testing process.
- 3.6 The results obtained from the verification procedure are final.

ANNEX 11

**RESOLUTION MEPC.190(60)
Adopted on 26 March 2010**

**AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND THE
INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM
SHIPS, 1973, AS MODIFIED BY THE PROTOCOL OF 1978 RELATING THERETO**

(North American Emission Control Area)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee (the Committee) conferred upon it by international conventions for the prevention and control of marine pollution,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1973 Convention"), article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1978 Protocol") and article 4 of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (herein after referred to as the "1997 Protocol"), which together specify the amendment procedure of the 1997 Protocol and confer upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 and 1997 Protocols,

NOTING ALSO that, by the 1997 Protocol, Annex VI entitled Regulations for the Prevention of Air Pollution from Ships was added to the 1973 Convention (hereinafter referred to as "Annex VI"),

NOTING FURTHER that the revised Annex VI was adopted by resolution MEPC.176(58) and that, following its deemed acceptance on 1 January 2010, will enter into force on 1 July 2010,

HAVING CONSIDERED draft amendments to the revised Annex VI,

1. ADOPTS, in accordance with article 16(2)(d) of the 1973 Convention, the amendments to Annex VI, the text of which is set out at annex to the present resolution;
2. DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on 1 February 2011, unless prior to that date, not less than one third of the Parties or Parties the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;
3. INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of the 1973 Convention, the said amendments shall enter into force on 1 August 2011 upon their acceptance in accordance with paragraph 2 above;

4. REQUESTS the Secretary-General, in conformity with article 16(2)(e) of the 1973 Convention, to transmit to all Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, certified copies of the present resolution and the text of the amendments contained in the Annex; and

5. REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, copies of the present resolution and its Annex.

ANNEX

**AMENDMENTS TO REGULATIONS 13, 14 AND NEW APPENDIX VII
OF THE REVISED MARPOL ANNEX VI**

1 Paragraph 6 of regulation 13 is amended as follows:

- "6 For the purposes of this regulation, emission control areas shall be:
- .1 the North American area, which means the area described by the coordinates provided in appendix VII to this Annex; and
 - .2 any other sea area, including any port area, designated by the Organization in accordance with the criteria and procedures set forth in appendix III to this Annex."

2 Paragraph 3 of regulation 14 is replaced by the following:

- "3 For the purpose of this regulation, emission control areas shall include:
- .1 the Baltic Sea area as defined in regulation 1.11.2 of Annex I and the North Sea as defined in regulation 5(1)(f) of Annex V;
 - .2 the North American area as described by the coordinates provided in appendix VII to this Annex; and
 - .3 any other sea area, including any port area, designated by the Organization in accordance with the criteria and procedures set forth in appendix III to this Annex."

3 New appendix VII is added as follows:

**"Appendix VII
North American Emission Control Area
(Regulation 13.6 and regulation 14.3)**

The North American area comprises:

- .1 the sea area located off the Pacific coasts of the United States and Canada, enclosed by geodesic lines connecting the following coordinates:

POINT	LATITUDE	LONGITUDE
1	32° 32' 10" N.	117° 06' 11" W.
2	32° 32' 04" N.	117° 07' 29" W.
3	32° 31' 39" N.	117° 14' 20" W.
4	32° 33' 13" N.	117° 15' 50" W.
5	32° 34' 21" N.	117° 22' 01" W.
6	32° 35' 23" N.	117° 27' 53" W.
7	32° 37' 38" N.	117° 49' 34" W.
8	31° 07' 59" N.	118° 36' 21" W.
9	30° 33' 25" N.	121° 47' 29" W.

POINT	LATITUDE	LONGITUDE
10	31° 46' 11" N.	123° 17' 22" W.
11	32° 21' 58" N.	123° 50' 44" W.
12	32° 56' 39" N.	124° 11' 47" W.
13	33° 40' 12" N.	124° 27' 15" W.
14	34° 31' 28" N.	125° 16' 52" W.
15	35° 14' 38" N.	125° 43' 23" W.
16	35° 43' 60" N.	126° 18' 53" W.
17	36° 16' 25" N.	126° 45' 30" W.
18	37° 01' 35" N.	127° 07' 18" W.
19	37° 45' 39" N.	127° 38' 02" W.
20	38° 25' 08" N.	127° 52' 60" W.
21	39° 25' 05" N.	128° 31' 23" W.
22	40° 18' 47" N.	128° 45' 46" W.
23	41° 13' 39" N.	128° 40' 22" W.
24	42° 12' 49" N.	129° 00' 38" W.
25	42° 47' 34" N.	129° 05' 42" W.
26	43° 26' 22" N.	129° 01' 26" W.
27	44° 24' 43" N.	128° 41' 23" W.
28	45° 30' 43" N.	128° 40' 02" W.
29	46° 11' 01" N.	128° 49' 01" W.
30	46° 33' 55" N.	129° 04' 29" W.
31	47° 39' 55" N.	131° 15' 41" W.
32	48° 32' 32" N.	132° 41' 00" W.
33	48° 57' 47" N.	133° 14' 47" W.
34	49° 22' 39" N.	134° 15' 51" W.
35	50° 01' 52" N.	135° 19' 01" W.
36	51° 03' 18" N.	136° 45' 45" W.
37	51° 54' 04" N.	137° 41' 54" W.
38	52° 45' 12" N.	138° 20' 14" W.
39	53° 29' 20" N.	138° 40' 36" W.
40	53° 40' 39" N.	138° 48' 53" W.
41	54° 13' 45" N.	139° 32' 38" W.
42	54° 39' 25" N.	139° 56' 19" W.
43	55° 20' 18" N.	140° 55' 45" W.
44	56° 07' 12" N.	141° 36' 18" W.
45	56° 28' 32" N.	142° 17' 19" W.
46	56° 37' 19" N.	142° 48' 57" W.
47	58° 51' 04" N.	153° 15' 03" W.

- .2 the sea areas located off the Atlantic coasts of the United States, Canada, and France (Saint-Pierre-et-Miquelon) and the Gulf of Mexico coast of the United States enclosed by geodesic lines connecting the following coordinates:

POINT	LATITUDE	LONGITUDE
1	60° 00' 00" N.	64° 09' 36" W.
2	60° 00' 00" N.	56° 43' 00" W.
3	58° 54' 01" N.	55° 38' 05" W.
4	57° 50' 52" N.	55° 03' 47" W.
5	57° 35' 13" N.	54° 00' 59" W.
6	57° 14' 20" N.	53° 07' 58" W.
7	56° 48' 09" N.	52° 23' 29" W.
8	56° 18' 13" N.	51° 49' 42" W.

POINT	LATITUDE	LONGITUDE
9	54° 23' 21" N.	50° 17' 44" W.
10	53° 44' 54" N.	50° 07' 17" W.
11	53° 04' 59" N.	50° 10' 05" W.
12	52° 20' 06" N.	49° 57' 09" W.
13	51° 34' 20" N.	48° 52' 45" W.
14	50° 40' 15" N.	48° 16' 04" W.
15	50° 02' 28" N.	48° 07' 03" W.
16	49° 24' 03" N.	48° 09' 35" W.
17	48° 39' 22" N.	47° 55' 17" W.
18	47° 24' 25" N.	47° 46' 56" W.
19	46° 35' 12" N.	48° 00' 54" W.
20	45° 19' 45" N.	48° 43' 28" W.
21	44° 43' 38" N.	49° 16' 50" W.
22	44° 16' 38" N.	49° 51' 23" W.
23	43° 53' 15" N.	50° 34' 01" W.
24	43° 36' 06" N.	51° 20' 41" W.
25	43° 23' 59" N.	52° 17' 22" W.
26	43° 19' 50" N.	53° 20' 13" W.
27	43° 21' 14" N.	54° 09' 20" W.
28	43° 29' 41" N.	55° 07' 41" W.
29	42° 40' 12" N.	55° 31' 44" W.
30	41° 58' 19" N.	56° 09' 34" W.
31	41° 20' 21" N.	57° 05' 13" W.
32	40° 55' 34" N.	58° 02' 55" W.
33	40° 41' 38" N.	59° 05' 18" W.
34	40° 38' 33" N.	60° 12' 20" W.
35	40° 45' 46" N.	61° 14' 03" W.
36	41° 04' 52" N.	62° 17' 49" W.
37	40° 36' 55" N.	63° 10' 49" W.
38	40° 17' 32" N.	64° 08' 37" W.
39	40° 07' 46" N.	64° 59' 31" W.
40	40° 05' 44" N.	65° 53' 07" W.
41	39° 58' 05" N.	65° 59' 51" W.
42	39° 28' 24" N.	66° 21' 14" W.
43	39° 01' 54" N.	66° 48' 33" W.
44	38° 39' 16" N.	67° 20' 59" W.
45	38° 19' 20" N.	68° 02' 01" W.
46	38° 05' 29" N.	68° 46' 55" W.
47	37° 58' 14" N.	69° 34' 07" W.
48	37° 57' 47" N.	70° 24' 09" W.
49	37° 52' 46" N.	70° 37' 50" W.
50	37° 18' 37" N.	71° 08' 33" W.
51	36° 32' 25" N.	71° 33' 59" W.
52	35° 34' 58" N.	71° 26' 02" W.
53	34° 33' 10" N.	71° 37' 04" W.
54	33° 54' 49" N.	71° 52' 35" W.
55	33° 19' 23" N.	72° 17' 12" W.
56	32° 45' 31" N.	72° 54' 05" W.
57	31° 55' 13" N.	74° 12' 02" W.
58	31° 27' 14" N.	75° 15' 20" W.
59	31° 03' 16" N.	75° 51' 18" W.
60	30° 45' 42" N.	76° 31' 38" W.
61	30° 12' 48" N.	77° 18' 29" W.

POINT	LATITUDE	LONGITUDE
62	29° 25' 17" N.	76° 56' 42" W.
63	28° 36' 59" N.	76° 47' 60" W.
64	28° 17' 13" N.	76° 40' 10" W.
65	28° 17' 12" N.	79° 11' 23" W.
66	27° 52' 56" N.	79° 28' 35" W.
67	27° 26' 01" N.	79° 31' 38" W.
68	27° 16' 13" N.	79° 34' 18" W.
69	27° 11' 54" N.	79° 34' 56" W.
70	27° 05' 59" N.	79° 35' 19" W.
71	27° 00' 28" N.	79° 35' 17" W.
72	26° 55' 16" N.	79° 34' 39" W.
73	26° 53' 58" N.	79° 34' 27" W.
74	26° 45' 46" N.	79° 32' 41" W.
75	26° 44' 30" N.	79° 32' 23" W.
76	26° 43' 40" N.	79° 32' 20" W.
77	26° 41' 12" N.	79° 32' 01" W.
78	26° 38' 13" N.	79° 31' 32" W.
79	26° 36' 30" N.	79° 31' 06" W.
80	26° 35' 21" N.	79° 30' 50" W.
81	26° 34' 51" N.	79° 30' 46" W.
82	26° 34' 11" N.	79° 30' 38" W.
83	26° 31' 12" N.	79° 30' 15" W.
84	26° 29' 05" N.	79° 29' 53" W.
85	26° 25' 31" N.	79° 29' 58" W.
86	26° 23' 29" N.	79° 29' 55" W.
87	26° 23' 21" N.	79° 29' 54" W.
88	26° 18' 57" N.	79° 31' 55" W.
89	26° 15' 26" N.	79° 33' 17" W.
90	26° 15' 13" N.	79° 33' 23" W.
91	26° 08' 09" N.	79° 35' 53" W.
92	26° 07' 47" N.	79° 36' 09" W.
93	26° 06' 59" N.	79° 36' 35" W.
94	26° 02' 52" N.	79° 38' 22" W.
95	25° 59' 30" N.	79° 40' 03" W.
96	25° 59' 16" N.	79° 40' 08" W.
97	25° 57' 48" N.	79° 40' 38" W.
98	25° 56' 18" N.	79° 41' 06" W.
99	25° 54' 04" N.	79° 41' 38" W.
100	25° 53' 24" N.	79° 41' 46" W.
101	25° 51' 54" N.	79° 41' 59" W.
102	25° 49' 33" N.	79° 42' 16" W.
103	25° 48' 24" N.	79° 42' 23" W.
104	25° 48' 20" N.	79° 42' 24" W.
105	25° 46' 26" N.	79° 42' 44" W.
106	25° 46' 16" N.	79° 42' 45" W.
107	25° 43' 40" N.	79° 42' 59" W.
108	25° 42' 31" N.	79° 42' 48" W.
109	25° 40' 37" N.	79° 42' 27" W.
110	25° 37' 24" N.	79° 42' 27" W.
111	25° 37' 08" N.	79° 42' 27" W.
112	25° 31' 03" N.	79° 42' 12" W.
113	25° 27' 59" N.	79° 42' 11" W.
114	25° 24' 04" N.	79° 42' 12" W.

POINT	LATITUDE	LONGITUDE
115	25° 22' 21" N.	79° 42' 20" W.
116	25° 21' 29" N.	79° 42' 08" W.
117	25° 16' 52" N.	79° 41' 24" W.
118	25° 15' 57" N.	79° 41' 31" W.
119	25° 10' 39" N.	79° 41' 31" W.
120	25° 09' 51" N.	79° 41' 36" W.
121	25° 09' 03" N.	79° 41' 45" W.
122	25° 03' 55" N.	79° 42' 29" W.
123	25° 02' 60" N.	79° 42' 56" W.
124	25° 00' 30" N.	79° 44' 05" W.
125	24° 59' 03" N.	79° 44' 48" W.
126	24° 55' 28" N.	79° 45' 57" W.
127	24° 44' 18" N.	79° 49' 24" W.
128	24° 43' 04" N.	79° 49' 38" W.
129	24° 42' 36" N.	79° 50' 50" W.
130	24° 41' 47" N.	79° 52' 57" W.
131	24° 38' 32" N.	79° 59' 58" W.
132	24° 36' 27" N.	80° 03' 51" W.
133	24° 33' 18" N.	80° 12' 43" W.
134	24° 33' 05" N.	80° 13' 21" W.
135	24° 32' 13" N.	80° 15' 16" W.
136	24° 31' 27" N.	80° 16' 55" W.
137	24° 30' 57" N.	80° 17' 47" W.
138	24° 30' 14" N.	80° 19' 21" W.
139	24° 30' 06" N.	80° 19' 44" W.
140	24° 29' 38" N.	80° 21' 05" W.
141	24° 28' 18" N.	80° 24' 35" W.
142	24° 28' 06" N.	80° 25' 10" W.
143	24° 27' 23" N.	80° 27' 20" W.
144	24° 26' 30" N.	80° 29' 30" W.
145	24° 25' 07" N.	80° 32' 22" W.
146	24° 23' 30" N.	80° 36' 09" W.
147	24° 22' 33" N.	80° 38' 56" W.
148	24° 22' 07" N.	80° 39' 51" W.
149	24° 19' 31" N.	80° 45' 21" W.
150	24° 19' 16" N.	80° 45' 47" W.
151	24° 18' 38" N.	80° 46' 49" W.
152	24° 18' 35" N.	80° 46' 54" W.
153	24° 09' 51" N.	80° 59' 47" W.
154	24° 09' 48" N.	80° 59' 51" W.
155	24° 08' 58" N.	81° 01' 07" W.
156	24° 08' 30" N.	81° 01' 51" W.
157	24° 08' 26" N.	81° 01' 57" W.
158	24° 07' 28" N.	81° 03' 06" W.
159	24° 02' 20" N.	81° 09' 05" W.
160	23° 59' 60" N.	81° 11' 16" W.
161	23° 55' 32" N.	81° 12' 55" W.
162	23° 53' 52" N.	81° 19' 43" W.
163	23° 50' 52" N.	81° 29' 59" W.
164	23° 50' 02" N.	81° 39' 59" W.
165	23° 49' 05" N.	81° 49' 59" W.
166	23° 49' 05" N.	82° 00' 11" W.
167	23° 49' 42" N.	82° 09' 59" W.

POINT	LATITUDE	LONGITUDE
168	23° 51' 14" N.	82° 24' 59" W.
169	23° 51' 14" N.	82° 39' 59" W.
170	23° 49' 42" N.	82° 48' 53" W.
171	23° 49' 32" N.	82° 51' 11" W.
172	23° 49' 24" N.	82° 59' 59" W.
173	23° 49' 52" N.	83° 14' 59" W.
174	23° 51' 22" N.	83° 25' 49" W.
175	23° 52' 27" N.	83° 33' 01" W.
176	23° 54' 04" N.	83° 41' 35" W.
177	23° 55' 47" N.	83° 48' 11" W.
178	23° 58' 38" N.	83° 59' 59" W.
179	24° 09' 37" N.	84° 29' 27" W.
180	24° 13' 20" N.	84° 38' 39" W.
181	24° 16' 41" N.	84° 46' 07" W.
182	24° 23' 30" N.	84° 59' 59" W.
183	24° 26' 37" N.	85° 06' 19" W.
184	24° 38' 57" N.	85° 31' 54" W.
185	24° 44' 17" N.	85° 43' 11" W.
186	24° 53' 57" N.	85° 59' 59" W.
187	25° 10' 44" N.	86° 30' 07" W.
188	25° 43' 15" N.	86° 21' 14" W.
189	26° 13' 13" N.	86° 06' 45" W.
190	26° 27' 22" N.	86° 13' 15" W.
191	26° 33' 46" N.	86° 37' 07" W.
192	26° 01' 24" N.	87° 29' 35" W.
193	25° 42' 25" N.	88° 33' 00" W.
194	25° 46' 54" N.	90° 29' 41" W.
195	25° 44' 39" N.	90° 47' 05" W.
196	25° 51' 43" N.	91° 52' 50" W.
197	26° 17' 44" N.	93° 03' 59" W.
198	25° 59' 55" N.	93° 33' 52" W.
199	26° 00' 32" N.	95° 39' 27" W.
200	26° 00' 33" N.	96° 48' 30" W.
201	25° 58' 32" N.	96° 55' 28" W.
202	25° 58' 15" N.	96° 58' 41" W.
203	25° 57' 58" N.	97° 01' 54" W.
204	25° 57' 41" N.	97° 05' 08" W.
205	25° 57' 24" N.	97° 08' 21" W.
206	25° 57' 24" N.	97° 08' 47" W.

- .3 the sea area located off the coasts of the Hawaiian Islands of Hawai'i, Maui, Oahu, Moloka'i, Ni'ihau, Kaua'i, Lāna'i, and Kaho'olawe, enclosed by geodesic lines connecting the following coordinates:

POINT	LATITUDE	LONGITUDE
1	22° 32' 54" N.	153° 00' 33" W.
2	23° 06' 05" N.	153° 28' 36" W.
3	23° 32' 11" N.	154° 02' 12" W.
4	23° 51' 47" N.	154° 36' 48" W.
5	24° 21' 49" N.	155° 51' 13" W.
6	24° 41' 47" N.	156° 27' 27" W.
7	24° 57' 33" N.	157° 22' 17" W.

POINT	LATITUDE	LONGITUDE
8	25° 13' 41" N.	157° 54' 13" W.
9	25° 25' 31" N.	158° 30' 36" W.
10	25° 31' 19" N.	159° 09' 47" W.
11	25° 30' 31" N.	159° 54' 21" W.
12	25° 21' 53" N.	160° 39' 53" W.
13	25° 00' 06" N.	161° 38' 33" W.
14	24° 40' 49" N.	162° 13' 13" W.
15	24° 15' 53" N.	162° 43' 08" W.
16	23° 40' 50" N.	163° 13' 00" W.
17	23° 03' 20" N.	163° 32' 58" W.
18	22° 20' 09" N.	163° 44' 41" W.
19	21° 36' 45" N.	163° 46' 03" W.
20	20° 55' 26" N.	163° 37' 44" W.
21	20° 13' 34" N.	163° 19' 13" W.
22	19° 39' 03" N.	162° 53' 48" W.
23	19° 09' 43" N.	162° 20' 35" W.
24	18° 39' 16" N.	161° 19' 14" W.
25	18° 30' 31" N.	160° 38' 30" W.
26	18° 29' 31" N.	159° 56' 17" W.
27	18° 10' 41" N.	159° 14' 08" W.
28	17° 31' 17" N.	158° 56' 55" W.
29	16° 54' 06" N.	158° 30' 29" W.
30	16° 25' 49" N.	157° 59' 25" W.
31	15° 59' 57" N.	157° 17' 35" W.
32	15° 40' 37" N.	156° 21' 06" W.
33	15° 37' 36" N.	155° 22' 16" W.
34	15° 43' 46" N.	154° 46' 37" W.
35	15° 55' 32" N.	154° 13' 05" W.
36	16° 46' 27" N.	152° 49' 11" W.
37	17° 33' 42" N.	152° 00' 32" W.
38	18° 30' 16" N.	151° 30' 24" W.
39	19° 02' 47" N.	151° 22' 17" W.
40	19° 34' 46" N.	151° 19' 47" W.
41	20° 07' 42" N.	151° 22' 58" W.
42	20° 38' 43" N.	151° 31' 36" W.
43	21° 29' 09" N.	151° 59' 50" W.
44	22° 06' 58" N.	152° 31' 25" W.
45	22° 32' 54" N.	153° 00' 33" W.

(end of text)"

RESOLUTION MEPC.194(61)

Adopted on 1 October 2010

AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973, AS MODIFIED BY THE PROTOCOL OF 1978 RELATING THERETO

(Revised form of Supplement to the IAPP Certificate)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee (the Committee) conferred upon it by international conventions for the prevention and control of marine pollution,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1973 Convention"), article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1978 Protocol") and article 4 of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (herein after referred to as the "1997 Protocol"), which together specify the amendment procedure of the 1997 Protocol and confer upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 and 1997 Protocols,

NOTING ALSO that, by the 1997 Protocol, Annex VI entitled Regulations for the Prevention of Air Pollution from Ships was added to the 1973 Convention (hereinafter referred to as "Annex VI"),

NOTING FURTHER that the revised Annex VI was adopted by resolution MEPC.176(58) and entered into force on 1 July 2010,

HAVING CONSIDERED draft amendments to the revised Annex VI,

1. ADOPTS, in accordance with article 16(2)(d) of the 1973 Convention, the amendments to Annex VI, the text of which is set out at annex to the present resolution;
2. DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on 1 August 2011, unless prior to that date, not less than one third of the Parties or Parties the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;
3. INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of the 1973 Convention, the said amendments shall enter into force on 1 February 2012 upon their acceptance in accordance with paragraph 2 above;

4. REQUESTS the Secretary-General, in conformity with article 16(2)(e) of the 1973 Convention, to transmit to all Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, certified copies of the present resolution and the text of the amendments contained in the Annex;

5. REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, copies of the present resolution and its Annex.

ANNEX

**AMENDMENTS TO APPENDIX I OF THE REVISED MARPOL ANNEX VI
(REVISED FORM OF SUPPLEMENT TO THE INTERNATIONAL AIR POLLUTION
PREVENTION CERTIFICATE)**

Paragraph 2.3 of the form of Supplement to the International Air Pollution Prevention Certificate is amended as follows:

"2.3 Sulphur oxides (SO_x) and particulate matter (regulation 14)

2.3.1 When the ship operates outside of an Emission Control Area specified in regulation 14.3, the ship uses:

- .1 fuel oil with a sulphur content as documented by bunker delivery notes that does not exceed the limit value of:
 - 4.50% m/m (not applicable on or after 1 January 2012); or
 - 3.50% m/m (not applicable on or after 1 January 2020); or
 - 0.50% m/m, and/or.....

- .2 an equivalent arrangement approved in accordance with regulation 4.1 as listed in 2.6 that is at least as effective in terms of SO_x emission reductions as compared to using a fuel oil with a sulphur content limit value of:
 - 4.50% m/m (not applicable on or after 1 January 2012); or
 - 3.50% m/m (not applicable on or after 1 January 2020); or
 - 0.50% m/m.....

2.3.2 When the ship operates inside an Emission Control Area specified in regulation 14.3, the ship uses:

- .1 fuel oil with a sulphur content as documented by bunker delivery notes that does not exceed the limit value of:
 - 1.00% m/m (not applicable on or after 1 January 2015); or
 - 0.10% m/m, and/or.....

- .2 an equivalent arrangement approved in accordance with regulation 4.1 as listed in 2.6 that is at least as effective in terms of SO_x emission reductions as compared to using a fuel oil with a sulphur content limit value of:
 - 1.00% m/m (not applicable on or after 1 January 2015); or
 - 0.10% m/m.....

"

ANNEX 14

RESOLUTION MEPC.202(62)

Adopted on 15 July 2011

AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973, AS MODIFIED BY THE PROTOCOL OF 1978 RELATING THERETO

(Designation of the United States Caribbean Sea Emission Control Area and exemption of certain ships operating in the North American Emission Control Area and the United States Caribbean Sea Emission Control Area under regulations 13 and 14 and Appendix VII of MARPOL Annex VI)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee (the Committee) conferred upon it by international conventions for the prevention and control of marine pollution,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1973 Convention"), article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1978 Protocol") and article 4 of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as the "1997 Protocol"), which together specify the amendment procedure of the 1997 Protocol and confer upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 and 1997 Protocols,

NOTING ALSO that, by the 1997 Protocol, Annex VI entitled Regulations for the Prevention of Air Pollution from Ships was added to the 1973 Convention (hereinafter referred to as "Annex VI"),

NOTING FURTHER that the revised Annex VI was adopted by resolution MEPC.176(58) and entered into force on 1 July 2010,

HAVING CONSIDERED draft amendments to the revised Annex VI,

1. ADOPTS, in accordance with article 16(2)(d) of the 1973 Convention, the amendments to Annex VI, the text of which is set out at annex to the present resolution;
2. DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on 1 July 2012, unless prior to that date, not less than one third of the Parties or Parties the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;
3. INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of the 1973 Convention, the said amendments shall enter into force on 1 January 2013 upon their acceptance in accordance with paragraph 2 above;

4. REQUESTS the Secretary-General, in conformity with article 16(2)(e) of the 1973 Convention, to transmit to all Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, certified copies of the present resolution and the text of the amendments contained in the Annex;

5. REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, copies of the present resolution and its Annex.

ANNEX

**AMENDMENTS TO REGULATIONS 13 AND 14 AND APPENDIX VII
OF THE REVISED MARPOL ANNEX VI**

1 Paragraph 6 of regulation 13 is replaced by the following:

"6 For the purpose of this regulation, emission control areas shall be:

- .1 the North American area, which means the area described by the coordinates provided in Appendix VII to this Annex;
- .2 the United States Caribbean Sea area, which means the area described by the coordinates provided in Appendix VII to this Annex; and
- .3 any other sea area, including any port area, designated by the Organization in accordance with the criteria and procedures set forth in Appendix III to this Annex."

2 Paragraph 7.3 of regulation 13 is amended to read as follows:

"7.3 With regard to a marine diesel engine with a power output of more than 5,000 kW and a per cylinder displacement at or above 90 litres installed on a ship constructed on or after 1 January 1990 but prior to 1 January 2000, the International Air Pollution Prevention Certificate shall, for a marine diesel engine to which paragraph 7.1 of this regulation applies, indicate that either an approved method has been applied pursuant to paragraph 7.1.1 of this regulation or the engine has been certified pursuant to paragraph 7.1.2 of this regulation or that an approved method does not yet exist or is not yet commercially available as described in paragraph 7.2 of this regulation."

3 Paragraph 3 of regulation 14 is replaced by the following:

"3 For the purpose of this regulation, emission control areas shall include:

- .1 the Baltic Sea area as defined in regulation 1.11.2 of Annex I and the North Sea area as defined in regulation 1.12.6 of Annex V;
- .2 the North American area as described by the coordinates provided in Appendix VII to this Annex;
- .3 the United States Caribbean Sea area as described by the coordinates provided in Appendix VII to this Annex; and
- .4 any other sea area, including any port area, designated by the Organization in accordance with the criteria and procedures set forth in Appendix III to this Annex."

4 A new subparagraph 4 is added to paragraph 4 of regulation 14 to read as follows:

"4 Prior to 1 January 2020, the sulphur content of fuel oil referred to in paragraph 4 of this regulation shall not apply to ships operating in the North American area or the United States Caribbean Sea area defined in paragraph 3, 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 Paragraph 7 of regulation 14 is replaced by the following:

"7 During the first twelve months immediately following entry into force of an amendment designating a specific emission control area under paragraph 3 of this regulation, ships operating in that emission control area are exempt from the requirements in paragraphs 4 and 6 of this regulation and from the requirements of paragraph 5 of this regulation insofar as they relate to paragraph 4 of this regulation¹."

¹

The 12 month exemption provided by paragraph 7 will apply for the North American emission control area until 1 August 2012.

The 12 month exemption provided by paragraph 7 will apply for the United States Caribbean Sea emission control area until 1 January 2014.

6 Appendix VII is amended as follows:

**"Appendix VII
Emission Control Areas
(regulation 13.6 and regulation 14.3)**

- .1 The boundaries of emission control areas designated under regulations 13.6 and 14.3, other than the Baltic Sea and the North Sea areas, are set forth in this appendix.
- .2 (Existing text for the North American area)
- .3 The United States Caribbean Sea area includes:
- .1 the sea area located off the Atlantic and Caribbean coasts of the Commonwealth of Puerto Rico and the United States Virgin Islands, enclosed by geodesic lines connecting the following coordinates:

POINT	LATITUDE	LONGITUDE			
1	17° 18' 37" N.	67° 32' 14" W.	28	18° 22' 22" N.	64° 38' 23" W.
2	19° 11' 14" N.	67° 26' 45" W.	29	18° 21' 57" N.	64° 40' 60" W.
3	19° 30' 28" N.	65° 16' 48" W.	30	18° 21' 51" N.	64° 40' 15" W.
4	19° 12' 25" N.	65° 6' 8" W.	31	18° 21' 22" N.	64° 38' 16" W.
5	18° 45' 13" N.	65° 0' 22" W.	32	18° 20' 39" N.	64° 38' 33" W.
6	18° 41' 14" N.	64° 59' 33" W.	33	18° 19' 15" N.	64° 38' 14" W.
7	18° 29' 22" N.	64° 53' 51" W.	34	18° 19' 7" N.	64° 38' 16" W.
8	18° 27' 35" N.	64° 53' 22" W.	35	18° 17' 23" N.	64° 39' 38" W.
9	18° 25' 21" N.	64° 52' 39" W.	36	18° 16' 43" N.	64° 39' 41" W.
10	18° 24' 30" N.	64° 52' 19" W.	37	18° 11' 33" N.	64° 38' 58" W.
11	18° 23' 51" N.	64° 51' 50" W.	38	18° 3' 2" N.	64° 38' 3" W.
12	18° 23' 42" N.	64° 51' 23" W.	39	18° 2' 56" N.	64° 29' 35" W.
13	18° 23' 36" N.	64° 50' 17" W.	40	18° 2' 51" N.	64° 27' 2" W.
14	18° 23' 48" N.	64° 49' 41" W.	41	18° 2' 30" N.	64° 21' 8" W.
15	18° 24' 11" N.	64° 49' 0" W.	42	18° 2' 31" N.	64° 20' 8" W.
16	18° 24' 28" N.	64° 47' 57" W.	43	18° 2' 3" N.	64° 15' 57" W.
17	18° 24' 18" N.	64° 47' 1" W.	44	18° 0' 12" N.	64° 2' 29" W.
18	18° 23' 13" N.	64° 46' 37" W.	45	17° 59' 58" N.	64° 1' 4" W.
19	18° 22' 37" N.	64° 45' 20" W.	46	17° 58' 47" N.	63° 57' 1" W.
20	18° 22' 39" N.	64° 44' 42" W.	47	17° 57' 51" N.	63° 53' 54" W.
21	18° 22' 42" N.	64° 44' 36" W.	48	17° 56' 38" N.	63° 53' 21" W.
22	18° 22' 37" N.	64° 44' 24" W.	49	17° 39' 40" N.	63° 54' 53" W.
23	18° 22' 39" N.	64° 43' 42" W.	50	17° 37' 8" N.	63° 55' 10" W.
24	18° 22' 30" N.	64° 43' 36" W.	51	17° 30' 21" N.	63° 55' 56" W.
25	18° 22' 25" N.	64° 42' 58" W.	52	17° 11' 36" N.	63° 57' 57" W.
26	18° 22' 26" N.	64° 42' 28" W.	53	17° 4' 60" N.	63° 58' 41" W.
27	18° 22' 15" N.	64° 42' 3" W.	54	16° 59' 49" N.	63° 59' 18" W.
			55	17° 18' 37" N.	67° 32' 14" W.

"

MARINE ENVIRONMENT PROTECTION
COMMITTEE
62nd session
Agenda item 24

MEPC 62/24/Corr.4
7 September 2012
CHINESE/ENGLISH/SPANISH ONLY

**REPORT OF THE MARINE ENVIRONMENT PROTECTION COMMITTEE
ON ITS SIXTY-SECOND SESSION**

Corrigendum

Document MEPC 62/24, annex 14, annex, paragraph 6

1 For coordinate points 28, 29 and 30 the longitudes provided for the United States Caribbean Sea area were transcribed incorrectly from document MEPC 61/7/3 (United States) and so the table of coordinates in paragraph 6 of the annex to resolution MEPC.202(62) should read as follows:

"

POINT	LATITUDE	LONGITUDE	POINT	LATITUDE	LONGITUDE
1	17° 18' 37" N.	67° 32' 14" W.	29	18° 21' 57" N.	64° 40' 15" W.
2	19° 11' 14" N.	67° 26' 45" W.	30	18° 21' 51" N.	64° 38' 23" W.
3	19° 30' 28" N.	65° 16' 48" W.	31	18° 21' 22" N.	64° 38' 16" W.
4	19° 12' 25" N.	65° 6' 8" W.	32	18° 20' 39" N.	64° 38' 33" W.
5	18° 45' 13" N.	65° 0' 22" W.	33	18° 19' 15" N.	64° 38' 14" W.
6	18° 41' 14" N.	64° 59' 33" W.	34	18° 19' 7" N.	64° 38' 16" W.
7	18° 29' 22" N.	64° 53' 51" W.	35	18° 17' 23" N.	64° 39' 38" W.
8	18° 27' 35" N.	64° 53' 22" W.	36	18° 16' 43" N.	64° 39' 41" W.
9	18° 25' 21" N.	64° 52' 39" W.	37	18° 11' 33" N.	64° 38' 58" W.
10	18° 24' 30" N.	64° 52' 19" W.	38	18° 3' 2" N.	64° 38' 3" W.
11	18° 23' 51" N.	64° 51' 50" W.	39	18° 2' 56" N.	64° 29' 35" W.
12	18° 23' 42" N.	64° 51' 23" W.	40	18° 2' 51" N.	64° 27' 2" W.
13	18° 23' 36" N.	64° 50' 17" W.	41	18° 2' 30" N.	64° 21' 8" W.
14	18° 23' 48" N.	64° 49' 41" W.	42	18° 2' 31" N.	64° 20' 8" W.
15	18° 24' 11" N.	64° 49' 0" W.	43	18° 2' 3" N.	64° 15' 57" W.
16	18° 24' 28" N.	64° 47' 57" W.	44	18° 0' 12" N.	64° 2' 29" W.
17	18° 24' 18" N.	64° 47' 1" W.	45	17° 59' 58" N.	64° 1' 4" W.
18	18° 23' 13" N.	64° 46' 37" W.	46	17° 58' 47" N.	63° 57' 1" W.
19	18° 22' 37" N.	64° 45' 20" W.	47	17° 57' 51" N.	63° 53' 54" W.
20	18° 22' 39" N.	64° 44' 42" W.	48	17° 56' 38" N.	63° 53' 21" W.
21	18° 22' 42" N.	64° 44' 36" W.	49	17° 39' 40" N.	63° 54' 53" W.
22	18° 22' 37" N.	64° 44' 24" W.	50	17° 37' 8" N.	63° 55' 10" W.
23	18° 22' 39" N.	64° 43' 42" W.	51	17° 30' 21" N.	63° 55' 56" W.
24	18° 22' 30" N.	64° 43' 36" W.	52	17° 11' 36" N.	63° 57' 57" W.
25	18° 22' 25" N.	64° 42' 58" W.	53	17° 4' 60" N.	63° 58' 41" W.
26	18° 22' 26" N.	64° 42' 28" W.	54	16° 59' 49" N.	63° 59' 18" W.
27	18° 22' 15" N.	64° 42' 3" W.	55	17° 18' 37" N.	67° 32' 14" W.
28	18° 22' 22" N.	64° 40' 60" W.			

"

RESOLUTION MEPC.203(62)

Adopted on 15 July 2011

AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973, AS MODIFIED BY THE PROTOCOL OF 1978 RELATING THERETO

(Inclusion of regulations on energy efficiency for ships in MARPOL Annex VI)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee (the Committee) conferred upon it by international conventions for the prevention and control of marine pollution,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1973 Convention"), article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1978 Protocol") and article 4 of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as the "1997 Protocol"), which together specify the amendment procedure of the 1997 Protocol and confer upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 and 1997 Protocols,

NOTING ALSO that, by the 1997 Protocol, Annex VI entitled Regulations for the Prevention of Air Pollution from Ships was added to the 1973 Convention (hereinafter referred to as "Annex VI"),

NOTING FURTHER that the revised Annex VI was adopted by resolution MEPC.176(58) and entered into force on 1 July 2010,

RECOGNIZING that the amendments to Annex VI and inclusion of a new chapter 4 intend to improve energy efficiency for ships through a set of technical performance standards, which would result in reduction of emissions of any substances that originate from fuel oil and its combustion process, including those already controlled by Annex VI,

RECOGNIZING ALSO that adoption of the amendments to Annex VI in no way prejudices the negotiations held in other international fora, such as the United Nations Framework Convention on Climate Change (UNFCCC), nor affect the positions of the countries that participate in such negotiations,

HAVING CONSIDERED draft amendments to the revised Annex VI for inclusion of regulations on energy efficiency for ships,

1. ADOPTS, in accordance with article 16(2)(d) of the 1973 Convention, the amendments to Annex VI, the text of which is set out in the annex to the present resolution;

2. DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on 1 July 2012, unless prior to that date, not less than one third of the Parties or Parties the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;
3. INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of the 1973 Convention, the said amendments shall enter into force on 1 January 2013 upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article 16(2)(e) of the 1973 Convention, to transmit to all Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, certified copies of the present resolution and the text of the amendments contained in the Annex;
5. REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, copies of the present resolution and its Annex; and
6. INVITES the Parties to MARPOL Annex VI and other Member Governments to bring the amendments to MARPOL Annex VI to the attention of shipowners, ship operators, shipbuilders, ship designers, marine diesel engine and equipment manufacturers as well as any other interested groups.

ANNEX

AMENDMENTS TO MARPOL ANNEX VI ON REGULATIONS FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS BY INCLUSION OF NEW REGULATIONS ON ENERGY EFFICIENCY FOR SHIPS

CHAPTER 1

GENERAL

Regulation 1

Application

1 *The regulation is amended as follows:*

"The provisions of this Annex shall apply to all ships, except where expressly provided otherwise in regulations 3, 5, 6, 13, 15, 16, 18, 19, 20, 21 and 22 of this Annex."

Regulation 2

Definitions

2 *Paragraph 21 is amended as follows:*

"21 *Tanker* in relation to regulation 15 of this Annex means an oil tanker as defined in regulation 1 of Annex I of the present Convention or a chemical tanker as defined in regulation 1 of Annex II of the present Convention."

3 *The following is added at the end of regulation 2:*

"For the purpose of chapter 4 of this Annex:

22 "Existing ship" means a ship which is not a new ship.

23 "New ship" means a ship:

- .1 for which the building contract is placed on or after 1 January 2013;
or
- .2 in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction on or after 1 July 2013;
or
- .3 the delivery of which is on or after 1 July 2015.

24 "Major Conversion" means in relation to chapter 4 of this Annex a conversion of a ship:

- .1 which substantially alters the dimensions, carrying capacity or engine power of the ship; or
- .2 which changes the type of the ship; or
- .3 the intent of which in the opinion of the Administration is substantially to prolong the life of the ship; or
- .4 which otherwise so alters the ship that, if it were a new ship, it would become subject to relevant provisions of the present Convention not applicable to it as an existing ship; or
- .5 which substantially alters the energy efficiency of the ship and includes any modifications that could cause the ship to exceed the applicable required EEDI as set out in regulation 21 of this Annex.

25 "Bulk carrier" means a ship which is intended primarily to carry dry cargo in bulk, including such types as ore carriers as defined in regulation 1 of chapter XII of SOLAS 74 (as amended), but excluding combination carriers.

26 "Gas carrier" means a cargo ship constructed or adapted and used for the carriage in bulk of any liquefied gas.

27 "Tanker" in relation to chapter 4 of this Annex means an oil tanker as defined in regulation 1 of Annex I of the present Convention or a chemical tanker or an NLS tanker as defined in regulation 1 of Annex II of the present Convention.

28 "Containership" means a ship designed exclusively for the carriage of containers in holds and on deck.

29 "General cargo ship" means a ship with a multi-deck or single deck hull designed primarily for the carriage of general cargo. This definition excludes specialized dry cargo ships, which are not included in the calculation of reference lines for general cargo ships, namely livestock carrier, barge carrier, heavy load carrier, yacht carrier, nuclear fuel carrier.

30 "Refrigerated cargo carrier" means a ship designed exclusively for the carriage of refrigerated cargoes in holds.

31 "Combination carrier" means a ship designed to load 100% deadweight with both liquid and dry cargo in bulk.

32 "Passenger ship" means a ship which carries more than 12 passengers.

33 "Ro-ro cargo ship (vehicle carrier)" means a multi deck roll-on/roll-off cargo ship designed for the carriage of empty cars and trucks.

34 "Ro-ro cargo ship" means a ship designed for the carriage of roll-on/roll-off cargo transportation units.

35 "Ro-ro passenger ship" means a passenger ship with roll-on/roll-off cargo spaces.

36 "Attained EEDI" is the EEDI value achieved by an individual ship in accordance with regulation 20 of this Annex.

37 "Required EEDI" is the maximum value of attained EEDI that is allowed by regulation 21 of this Annex for the specific ship type and size."

CHAPTER 2

SURVEY, CERTIFICATION AND MEANS OF CONTROL

Regulation 5

Surveys

4 *Paragraph 1 is amended as follows:*

"1 Every ship of 400 gross tonnage and above and every fixed and floating drilling rig and other platforms shall, to ensure compliance with the requirements of chapter 3 of this Annex, be subject to the surveys specified below:

- .1 An initial survey before the ship is put into service or before the certificate required under regulation 6 of this Annex is issued for the first time. This survey shall be such as to ensure that the equipment, systems, fittings, arrangements and material fully comply with the applicable requirements of chapter 3 of this Annex;
- .2 A renewal survey at intervals specified by the Administration, but not exceeding five years, except where regulation 9.2, 9.5, 9.6 or 9.7 of this Annex is applicable. The renewal survey shall be such as to ensure that the equipment, systems, fittings, arrangements and material fully comply with applicable requirements of chapter 3 of this Annex;
- .3 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 1.4 of this regulation. The intermediate survey shall be such as to ensure that the equipment and arrangements fully comply with the applicable requirements of chapter 3 of this Annex and are in good working order. Such intermediate surveys shall be endorsed on the IAPP Certificate issued under regulation 6 or 7 of this Annex;
- .4 An annual survey within three months before or after each anniversary date of the certificate, including a general inspection of the equipment, systems, fittings, arrangements and material referred to in paragraph 1.1 of this regulation to ensure that they have been maintained in accordance with paragraph 5 of this regulation and that they remain satisfactory for the service for which the ship is intended. Such annual surveys shall be endorsed on the IAPP Certificate issued under regulation 6 or 7 of this Annex; and

- .5 An additional survey either general or partial, according to the circumstances, shall be made whenever any important repairs or renewals are made as prescribed in paragraph 5 of this regulation or after a repair resulting from investigations prescribed in paragraph 6 of this regulation. The survey shall be such as to ensure that the necessary repairs or renewals have been effectively made, that the material and workmanship of such repairs or renewals are in all respects satisfactory and that the ship complies in all respects with the requirements of chapter 3 of this Annex."

5 *Paragraph 2 is amended as follows:*

"2 In the case of ships of less than 400 gross tonnage, the Administration may establish appropriate measures in order to ensure that the applicable provisions of chapter 3 of this Annex are complied with."

6 *A new paragraph 4 is added after existing paragraph 3 as follows:*

"4 Ships to which chapter 4 of this Annex applies shall also be subject to the surveys specified below, taking into account guidelines adopted by the Organization:

- .1 An initial survey before a new ship is put in service and before the International Energy Efficiency Certificate is issued. The survey shall verify that the ship's attained EEDI is in accordance with the requirements in chapter 4 of this Annex, and that the SEEMP required by regulation 22 of this Annex is on board;
- .2 A general or partial survey, according to the circumstances, after a major conversion of a ship to which this regulation applies. The survey shall ensure that the attained EEDI is recalculated as necessary and meets the requirement of regulation 21 of this Annex, with the reduction factor applicable to the ship type and size of the converted ship in the phase corresponding to the date of contract or keel laying or delivery determined for the original ship in accordance with regulation 2.23 of this Annex;
- .3 In cases where the major conversion of a new or existing ship is so extensive that the ship is regarded by the Administration as a newly constructed ship, the Administration shall determine the necessity of an initial survey on attained EEDI. Such a survey, if determined necessary, shall ensure that the attained EEDI is calculated and meets the requirement of regulation 21 of this Annex, with the reduction factor applicable corresponding to the ship type and size of the converted ship at the date of the contract of the conversion, or in the absence of a contract, the commencement date of the conversion. The survey shall also verify that the SEEMP required by regulation 22 of this Annex is on board; and
- .4 For existing ships, the verification of the requirement to have a SEEMP on board according to regulation 22 of this Annex shall take place at the first intermediate or renewal survey identified in paragraph 1 of this regulation, whichever is the first, on or after 1 January 2013."

7 *Paragraph 4 is renumbered paragraph 5.*

8 *Paragraph 5 is renumbered paragraph 6.*

Regulation 6

Issue or endorsement of a Certificate

9 *The heading is amended as follows:*

"Issue or endorsement of Certificates"

10 *The following sub-heading is added at the beginning of the regulation:*

"International Air Pollution Prevention Certificate"

11 *Paragraph 2 is amended as follows:*

"2 A ship constructed before the date this Annex enters into force for that particular ship's Administration, shall be issued with an International Air Pollution Prevention Certificate in accordance with paragraph 1 of this regulation no later than the first scheduled dry-docking after the date of such entry into force, but in no case later than three years after this date."

12 *The following is added at the end of the regulation:*

"International Energy Efficiency Certificate

4 An International Energy Efficiency Certificate for the ship shall be issued after a survey in accordance with the provisions of regulation 5.4 of this Annex to any ship of 400 gross tonnage and above before that ship may engage in voyages to ports or offshore terminals under the jurisdiction of other Parties.

5 The certificate shall be issued or endorsed either by the Administration or any organization duly authorized by it. In every case, the Administration assumes full responsibility for the certificate."

Regulation 7

Issue of a Certificate by another Party

13 *Paragraph 1 is amended as follows:*

"1 A Party may, at the request of the Administration, cause a ship to be surveyed and, if satisfied that the applicable provisions of this Annex are complied with, shall issue or authorize the issuance of an International Air Pollution Prevention Certificate or an International Energy Efficiency Certificate to the ship, and where appropriate, endorse or authorize the endorsement of such certificates on the ship, in accordance with this Annex."

14 *Paragraph 4 is amended as follows:*

"4 No International Air Pollution Prevention Certificate or International Energy Efficiency Certificate shall be issued to a ship which is entitled to fly the flag of a State which is not a Party."

Regulation 8*Form of Certificate*

15 *The heading is amended as follows:*

"Form of Certificates"

16 *The following subheading is added, and the existing regulation is renumbered as paragraph 1:*

"International Air Pollution Prevention Certificate"

17 *The following new paragraph 2 is added at the end of the regulation:*

"International Energy Efficiency Certificate

2 The International Energy Efficiency Certificate shall be drawn up in a form corresponding to the model given in appendix VIII to this Annex and shall be at least in English, French or Spanish. If an official language of the issuing Party is also used, this shall prevail in case of a dispute or discrepancy."

Regulation 9*Duration and Validity of Certificate*

18 *The heading is amended as follows:*

"Duration and Validity of Certificates"

19 *The following subheading is added at the beginning of the regulation:*

"International Air Pollution Prevention Certificate"

20 *The following is added at the end of the regulation:*

"International Energy Efficiency Certificate

10 The International Energy Efficiency Certificate shall be valid throughout the life of the ship subject to the provisions of paragraph 11 below.

11 An International Energy Efficiency Certificate issued under this Annex shall cease to be valid in any of the following cases:

- .1 if the ship is withdrawn from service or if a new certificate is issued following major conversion of the ship; or
- .2 upon transfer of the ship to the flag of another State. A new certificate shall only be issued when the Government issuing the new certificate is fully satisfied that the ship is in compliance with the requirements of chapter 4 of this Annex. In the case of a transfer between Parties, if requested within three months after the transfer has taken place, the Government of the Party whose flag the ship was formerly entitled to fly shall, as soon as possible, transmit to the Administration copies of the certificate carried by the ship before the transfer and, if available, copies of the relevant survey reports."

Regulation 10*Port State Control on Operational Requirements*

21 *A new paragraph 5 is added at the end of the regulation as follows:*

"5 In relation to chapter 4 of this Annex, any port State inspection shall be limited to verifying, when appropriate, that there is a valid International Energy Efficiency Certificate on board, in accordance with article 5 of the Convention."

22 *A new chapter 4 is added at the end of the Annex as follows:*

"CHAPTER 4**REGULATIONS ON ENERGY EFFICIENCY FOR SHIPS****Regulation 19***Application*

1 This chapter shall apply to all ships of 400 gross tonnage and above.

2 The provisions of this chapter shall not apply to:

.1 ships solely engaged in voyages within waters subject to the sovereignty or jurisdiction of the State the flag of which the ship is entitled to fly. However, each Party should ensure, by the adoption of appropriate measures, that such ships are constructed and act in a manner consistent with the requirements of chapter 4 of this Annex, so far as is reasonable and practicable.

3 Regulations 20 and 21 of this Annex shall not apply to ships which have diesel-electric propulsion, turbine propulsion or hybrid propulsion systems.

4 Notwithstanding the provisions of paragraph 1 of this regulation, the Administration may waive the requirement for a ship of 400 gross tonnage and above from complying with regulations 20 and 21 of this Annex.

5 The provision of paragraph 4 of this regulation shall not apply to ships of 400 gross tonnage and above:

.1 for which the building contract is placed on or after 1 January 2017;
or

.2 in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction on or after 1 July 2017; or

.3 the delivery of which is on or after 1 July 2019; or

.4 in cases of a major conversion of a new or existing ship, as defined in regulation 2.24 of this Annex, on or after 1 January 2017, and in which regulations 5.4.2 and 5.4.3 of this Annex apply.

6 The Administration of a Party to the present Convention which allows application of paragraph 4, or suspends, withdraws or declines the application of that paragraph, to a ship entitled to fly its flag shall forthwith communicate to the

Organization for circulation to the Parties to the present Protocol particulars thereof, for their information.

Regulation 20

Attained Energy Efficiency Design Index (Attained EEDI)

- 1 The attained EEDI shall be calculated for:
 - .1 each new ship;
 - .2 each new ship which has undergone a major conversion; and
 - .3 each new or 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,

which falls into one or more of the categories in regulations 2.25 to 2.35 of this Annex. The attained EEDI shall be specific to each ship and shall indicate the estimated performance of the ship in terms of energy efficiency, and be accompanied by the EEDI technical file that contains the information necessary for the calculation of the attained EEDI and that shows the process of calculation. The attained EEDI shall be verified, based on the EEDI technical file, either by the Administration or by any organization duly authorized by it.

- 2 The attained EEDI shall be calculated taking into account guidelines developed by the Organization.

Regulation 21

Required EEDI

- 1 For each:
 - .1 new ship;
 - .2 new ship which has undergone a major conversion; and
 - .3 new or 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,

which falls into one of the categories defined in regulations 2.25 to 2.31 of this Annex and to which this chapter is applicable, the attained EEDI shall be as follows:

$$\text{Attained EEDI} \leq \text{Required EEDI} = (1-X/100) \times \text{Reference line value}$$

where X is the reduction factor specified in Table 1 for the required EEDI compared to the EEDI Reference line.

- 2 For each new and existing ship that has undergone a major conversion which is so extensive that the ship is regarded by the Administration as a newly constructed ship, the attained EEDI shall be calculated and meet the requirement of paragraph 21.1 with the reduction factor applicable corresponding to the ship type and size of the converted ship at the date of the contract of the conversion, or in the absence of a contract, the commencement date of the conversion.

Table 1. Reduction factors (in percentage) for the EEDI relative to the EEDI Reference line

Ship Type	Size	Phase 0 1 Jan 2013 – 31 Dec 2014	Phase 1 1 Jan 2015 – 31 Dec 2019	Phase 2 1 Jan 2020 – 31 Dec 2024	Phase 3 1 Jan 2025 and onwards
Bulk carrier	20,000 DWT and above	0	10	20	30
	10,000 – 20,000 DWT	n/a	0-10*	0-20*	0-30*
Gas carrier	10,000 DWT and above	0	10	20	30
	2,000 – 10,000 DWT	n/a	0-10*	0-20*	0-30*
Tanker	20,000 DWT and above	0	10	20	30
	4,000 – 20,000 DWT	n/a	0-10*	0-20*	0-30*
Containership	15,000 DWT and above	0	10	20	30
	10,000 – 15,000 DWT	n/a	0-10*	0-20*	0-30*
General Cargo ships	15,000 DWT and above	0	10	15	30
	3,000 – 15,000 DWT	n/a	0-10*	0-15*	0-30*
Refrigerated cargo carrier	5,000 DWT and above	0	10	15	30
	3,000 – 5,000 DWT	n/a	0-10*	0-15*	0-30*
Combination carrier	20,000 DWT and above	0	10	20	30
	4,000 – 20,000 DWT	n/a	0-10*	0-20*	0-30*

* Reduction factor to be linearly interpolated between the two values dependent upon vessel size. The lower value of the reduction factor is to be applied to the smaller ship size.

n/a means that no required EEDI applies.

3 The Reference line values shall be calculated as follows:

$$\text{Reference line value} = a \times b^{-c}$$

where a, b and c are the parameters given in Table 2.

Table 2. Parameters for determination of reference values for the different ship types

Ship type defined in regulation 2	a	b	c
2.25 Bulk carrier	961.79	DWT of the ship	0.477
2.26 Gas carrier	1120.00	DWT of the ship	0.456
2.27 Tanker	1218.80	DWT of the ship	0.488
2.28 Containership	174.22	DWT of the ship	0.201
2.29 General cargo ship	107.48	DWT of the ship	0.216
2.30 Refrigerated cargo carrier	227.01	DWT of the ship	0.244
2.31 Combination carrier	1219.00	DWT of the ship	0.488

4 If the design of a ship allows it to fall into more than one of the ship type definitions specified in table 2, the required EEDI for the ship shall be the most stringent (the lowest) required EEDI.

5 For each ship to which this regulation applies, the installed propulsion power shall not be less than the propulsion power needed to maintain the manoeuvrability of the ship under adverse conditions as defined in the guidelines to be developed by the Organization.

6 At the beginning of Phase 1 and at the midpoint of Phase 2, the Organization shall review the status of technological developments and, if proven necessary, amend the time periods, the EEDI reference line parameters for relevant ship types and reduction rates set out in this regulation.

Regulation 22

Ship Energy Efficiency Management Plan (SEEMP)

1 Each ship shall keep on board a ship specific Ship Energy Efficiency Management Plan (SEEMP). This may form part of the ship's Safety Management System (SMS).

2 The SEEMP shall be developed taking into account guidelines adopted by the Organization.

Regulation 23

Promotion of technical co-operation and transfer of technology relating to the improvement of energy efficiency of ships

1 Administrations shall, in co-operation with the Organization and other international bodies, promote and provide, as appropriate, support directly or through the Organization to States, especially developing States, that request technical assistance.

2 The Administration of a Party shall co-operate actively with other Parties, subject to its national laws, regulations and policies, to promote the development and transfer of technology and exchange of information to States which request technical assistance, particularly developing States, in respect of the implementation of measures to fulfil the requirements of chapter 4 of this Annex, in particular regulations 19.4 to 19.6."

23 *A new appendix VIII is added at the end of the Annex as follows:*

"APPENDIX VIII

Form of International Energy Efficiency (IEE) Certificate

INTERNATIONAL ENERGY EFFICIENCY CERTIFICATE

Issued under the provisions of the Protocol of 1997, as amended by resolution MEPC.203(62), to amend the International Convention for the Prevention of Pollution by Ships, 1973, as modified by the Protocol of 1978 related thereto (hereinafter referred to as "the Convention") under the authority of the Government of:

.....
(Full designation of the Party)

by
(Full designation of the competent person or organization
authorized under the provisions of the Convention)

Particulars of ship

Name of ship

Distinctive number or letters

Port of registry

Gross tonnage

IMO Number

THIS IS TO CERTIFY:

- 1 That the ship has been surveyed in accordance with regulation 5.4 of Annex VI of the Convention; and
- 2 That the survey shows that the ship complies with the applicable requirements in regulation 20, regulation 21 and regulation 22.

Completion date of survey on which this Certificate is based: (dd/mm/yyyy)

Issued at
(Place of issue of certificate)

(dd/mm/yyyy):
(Date of issue)

.....
(Signature of duly authorized official
issuing the certificate)

(Seal or stamp of the authority, as appropriate)

**Supplement to the International Energy Efficiency Certificate
(IEE Certificate)**

RECORD OF CONSTRUCTION RELATING TO ENERGY EFFICIENCY

Notes:	
1	This Record shall be permanently attached to the IEE Certificate. The IEE Certificate shall be available on board the ship at all times.
2	The Record shall be at least in English, French or Spanish. If an official language of the issuing Party is also used, this shall prevail in case of a dispute or discrepancy.
3	Entries in boxes shall be made by inserting either: a cross (x) for the answers "yes" and "applicable"; or a dash (-) for the answers "no" and "not applicable", as appropriate.
4	Unless otherwise stated, regulations mentioned in this Record refer to regulations in Annex VI of the Convention, and resolutions or circulars refer to those adopted by the International Maritime Organization.

1 Particulars of ship

- 1.1 Name of ship
- 1.2 IMO number
- 1.3 Date of building contract
- 1.4 Gross tonnage
- 1.5 Deadweight
- 1.6 Type of ship*

2 Propulsion system

- 2.1 Diesel propulsion
- 2.2 Diesel-electric propulsion
- 2.3 Turbine propulsion
- 2.4 Hybrid propulsion
- 2.5 Propulsion system other than any of the above

* Insert ship type in accordance with definitions specified in regulation 2. Ships falling into more than one of the ship types defined in regulation 2 should be considered as being the ship type with the most stringent (the lowest) required EEDI. If ship does not fall into the ship types defined in regulation 2, insert "Ship other than any of the ship type defined in regulation 2".

3 Attained Energy Efficiency Design Index (EEDI)

3.1 The Attained EEDI in accordance with regulation 20.1 is calculated based on the information contained in the EEDI technical file which also shows the process of calculating the Attained EEDI.

The Attained EEDI is: grams-CO₂/tonne-mile

3.2 The Attained EEDI is not calculated as:

3.2.1 the ship is exempt under regulation 20.1 as it is not a new ship as defined in regulation 2.23

3.2.2 the type of propulsion system is exempt in accordance with regulation 19.3

3.2.3 the requirement of regulation 20 is waived by the ship's Administration in accordance with regulation 19.4

3.2.4 the type of ship is exempt in accordance with regulation 20.1

4 Required EEDI

4.1 Required EEDI is: grams-CO₂/tonne-mile

4.2 The required EEDI is not applicable as:

4.2.1 the ship is exempt under regulation 21.1 as it is not a new ship as defined in regulation 2.23

4.2.2 the type of propulsion system is exempt in accordance with regulation 19.3

4.2.3 the requirement of regulation 21 is waived by the ship's Administration in accordance with regulation 19.4

4.2.4 the type of ship is exempt in accordance with regulation 21.1

4.2.5 the ship's capacity is below the minimum capacity threshold in Table 1 of regulation 21.2

5 Ship Energy Efficiency Management Plan

5.1 The ship is provided with a Ship Energy Efficiency Management Plan (SEEMP) in compliance with regulation 22

6 EEDI technical file

6.1 The IEE Certificate is accompanied by the EEDI technical file in compliance with regulation 20.1

6.2 The EEDI technical file identification/verification number

6.3 The EEDI technical file verification date

MARINE ENVIRONMENT PROTECTION
COMMITTEE
62nd session
Agenda item 24

MEPC 62/24/Corr.1
26 September 2011
ENGLISH ONLY

**REPORT OF THE MARINE ENVIRONMENT PROTECTION COMMITTEE
ON ITS SIXTY-SECOND SESSION**

Corrigenda

Document MEPC 62/24, annex 12, annex

1 In paragraph 3 of regulation 11, the references to "regulation 12*bis*, subparagraph 2" are replaced by "paragraph 2 of regulation 12*bis*".

2 In paragraph 2 of regulation 12*bis*, the words "subparagraph .1" are replaced by "paragraph 1".

Document MEPC 62/24, annex 13, annex

3 In the first sentence of paragraph 9 of regulation 1, the words "incinerator ashes," are inserted after the words "cargo residues,".

4 The first phrase of paragraph 1 of regulation 4 is deleted and, consequently, paragraph 1 of regulation 4 starts with "Discharge of the following garbage...".

5 In regulation 8, the order of paragraphs 2 and 3 is exchanged.

6 In paragraph 6 of regulation 10, the references to "regulations 7.1.3 and 7.1.3*bis*" are replaced by "regulations 7.1.3 and 7.1.4".

7 In the first sentence of paragraph 2 of the Appendix, the words "incinerator ashes," are inserted after the words "cargo residues,".

Document MEPC 62/24, annex 14, annex

8 In paragraph 3.1 of regulation 14, the reference to "regulation 1.12.6" is replaced by "regulation 1.14.6".

Document MEPC 62/24/Add.1, annex 19, annex

9 In regulation 1, the references to "regulations 3, 5, 6, 13, 15, 16, 18, 19, 20, 21, 22, and 23" are replaced by "regulations 3, 5, 6, 13, 15, 16, 18, 19, 20, 21 and 22".

10 The first sentence in paragraph 1 of regulation 5 is replaced by the following:

"1 Every ship of 400 gross tonnage and above and every fixed and floating drilling rig and other platforms shall, to ensure compliance with the requirements of chapter 3 of this Annex, be subject to the surveys specified below:".

11 Paragraph 4 of regulation 21 is replaced by the following:

"4 If the design of a ship allows it to fall into more than one of the ship type definitions specified in table 2, the required EEDI for the ship shall be the most stringent (the lowest) required EEDI."

**RESOLUTION MEPC.217(63)
Adopted on 2 March 2012**

**AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND THE
INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM
SHIPS, 1973, AS MODIFIED BY THE PROTOCOL OF 1978 RELATING THERETO**

**(Regional arrangements for port reception facilities under MARPOL Annex VI and
Certification of marine diesel engines fitted with Selective Catalytic Reduction
systems under the NO_x Technical Code 2008)**

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1973 Convention"), article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1978 Protocol") and article 4 of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as the "1997 Protocol"), which together specify the amendment procedure of the 1997 Protocol and confer upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 and 1997 Protocols,

NOTING that, by the 1997 Protocol, Annex VI entitled Regulations for the Prevention of Air Pollution from Ships was added to the 1973 Convention (hereinafter referred to as "Annex VI"),

NOTING FURTHER regulation 13 of MARPOL Annex VI which makes the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines (NO_x Technical Code) mandatory under that Annex,

NOTING ALSO that both the revised Annex VI adopted by resolution MEPC.176(58) and the NO_x Technical Code 2008 adopted by resolution MEPC.177(58) entered into force on 1 July 2010,

HAVING CONSIDERED draft amendments to the revised Annex VI and the NO_x Technical Code 2008,

1. ADOPTS, in accordance with article 16(2)(d) of the 1973 Convention, the amendments to Annex VI and the NO_x Technical Code 2008, the text of which is set out in the annex to the present resolution;
2. DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on 1 February 2013, unless prior to that date, not less than one third of the Parties or Parties the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;
3. INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of the 1973 Convention, the said amendments shall enter into force on 1 August 2013 upon their acceptance in accordance with paragraph 2 above;

4. REQUESTS the Secretary-General, in conformity with article 16(2)(e) of the 1973 Convention, to transmit to all Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, certified copies of the present resolution and the text of the amendments contained in the annex;

5. REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, copies of the present resolution and its annex.

ANNEX

AMENDMENTS TO MARPOL ANNEX VI AND THE NO_x TECHNICAL CODE 2008***Amendments to MARPOL Annex VI*****1** *New paragraph 1bis is added to regulation 17:*

1bis Small Island Developing States may satisfy the requirements in paragraph 1 of this regulation through regional arrangements when, because of those States' unique circumstances, such arrangements are the only practical means to satisfy these requirements. Parties participating in a regional arrangement shall develop a Regional Reception Facilities Plan, taking into account the guidelines developed by the Organization.

The Government of each Party participating in the arrangement shall consult with the Organization for circulation to the Parties of the present Convention:

- .1 how the Regional Reception Facilities Plan takes into account the Guidelines;
- .2 particulars of the identified Regional Ships Waste Reception Centres; and
- .3 particulars of those ports with only limited facilities.

Amendments to the NO_x Technical Code 2008**2** *Existing paragraph 2.2.4 is replaced by the following:*

"2.2.4 Engines not pre-certified on a test-bed

- .1 There are engines which, due to their size, construction and delivery schedule, cannot be pre-certified on a test-bed. In such cases, the engine manufacturer, shipowner or shipbuilder shall make application to the Administration requesting an onboard test (see 2.1.2.2). The applicant must demonstrate to the Administration that the onboard test fully meets all of the requirements of a test-bed procedure as specified in chapter 5 of this Code. In no case shall an allowance be granted for possible deviations of measurements if an initial survey is carried out on board a ship without any valid pre-certification test. For engines undergoing an onboard certification test, in order to be issued with an EIAPP Certificate, the same procedures apply as if the engine had been pre-certified on a test-bed, subject to the limitations given in paragraph 2.2.4.2.
- .2 This pre-certification survey procedure may be accepted for an Individual Engine or for an Engine Group represented by the Parent Engine only, but it shall not be accepted for an Engine Family certification."

3 *Paragraph 2.2.5.1 is replaced by the following:*

- "1.1 Where a NO_x-reducing device is to be included within the EIAPP certification, it must be recognized as a component of the engine, and its presence shall be recorded in the engine's Technical File. The engine shall be tested with the NO_x-reducing device fitted unless, due to technical and practical reasons, the combined testing is not appropriate and the procedures specified in paragraph 2.2.4.1 cannot be applied, subject to approval by the Administration. In the latter case, the applicable test procedure shall be performed and the combined engine/NO_x-reducing device shall be approved and pre-certified by the Administration taking into account guidelines developed by the Organization. However, this pre-certification is subject to the limitations given in paragraph 2.2.4.2."

ANNEX 8

**RESOLUTION MEPC.247(66)
Adopted on 4 April 2014**

**AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND THE
INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM
SHIPS, 1973, AS MODIFIED BY THE PROTOCOL OF 1978 RELATING THERETO**

(To make the use of the III Code mandatory)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee (the Committee) conferred upon it by international conventions for the prevention and control of marine pollution from ships,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1973 Convention"), article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1978 Protocol") and article 4 of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as the "1997 Protocol"), which together specify the amendment procedure of the 1997 Protocol and confer upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 and 1997 Protocols,

NOTING ALSO that, by the 1997 Protocol, Annex VI entitled Regulations for the Prevention of Air Pollution from Ships was added to the 1973 Convention (hereinafter referred to as "Annex VI"),

RECALLING that the Assembly, at its twenty-eighth regular session, adopted, by resolution A.1070(28), the *IMO Instruments Implementation Code (III Code)*,

HAVING CONSIDERED proposed amendments to MARPOL Annexes VI to make the use of the III Code mandatory,

1. ADOPTS, in accordance with article 16(2)(d) of the 1973 Convention, amendments to Annex VI, the text of which is set out in the annex to the present resolution;
2. DETERMINES that, pursuant to new regulation 24 of Annex VI, whenever the word "should" is used in the III Code (annex to resolution A.1070(28)), it is to be read as being "shall", except for paragraphs 29, 30, 31 and 32;
3. DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on 1 July 2015, unless prior to that date, not less than one third of the Parties or Parties, the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;

4. INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of the 1973 Convention, the said amendments shall enter into force on 1 January 2016 upon their acceptance in accordance with paragraph 2 above;
5. REQUESTS the Secretary-General, in conformity with article 16(2)(e) of the 1973 Convention, to transmit to all Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, certified copies of the present resolution and the text of the amendments contained in the annex;
6. REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, copies of the present resolution and its annex.

ANNEX

AMENDMENTS TO MARPOL ANNEX VI

1 The following is added at the end of regulation 2:

"For the purposes of this annex:

44 *Audit* means a systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled.

45 *Audit Scheme* means the IMO Member State Audit Scheme established by the Organization and taking into account the guidelines developed by the Organization*.

46 *Code for Implementation* means the IMO Instruments Implementation Code (III Code) adopted by the Organization by resolution A.1070(28).

47 *Audit Standard* means the Code for Implementation.

* Refer to the *Framework and Procedures for the IMO Member State Audit Scheme*, adopted by the Organization by resolution A.1067(28)."

2 A new chapter 5 is added to read as follows:

"Chapter 5 – Verification of compliance with the provisions of this annex

Regulation 24

Application

Parties shall use the provisions of the Code for Implementation in the execution of their obligations and responsibilities contained in this Annex.

Regulation 25

Verification of compliance

(1) Every Party shall be subject to periodic audits by the Organization in accordance with the audit standard to verify compliance with and implementation of this Annex.

(2) The Secretary-General of the Organization shall have responsibility for administering the Audit Scheme, based on the guidelines developed by the Organization*.

(3) Every Party shall have responsibility for facilitating the conduct of the audit and implementation of a programme of actions to address the findings, based on the guidelines developed by the Organization*.

- (4) Audit of all Parties shall be:
- .1 based on an overall schedule developed by the Secretary-General of the Organization, taking into account the guidelines developed by the Organization^{*}; and
 - .2 conducted at periodic intervals, taking into account the guidelines developed by the Organization^{*}.

^{*} Refer to the *Framework and Procedures for the IMO Member State Audit Scheme*, adopted by the Organization by resolution A.1067(28)."

RESOLUTION MEPC.251(66)

(Adopted on 4 April 2014)

**AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND
THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF
POLLUTION FROM SHIPS, 1973, AS MODIFIED BY THE
PROTOCOL OF 1978 RELATING THERETO**

**(Amendments to regulations 2, 13, 19, 20 and 21 and the Supplement to
the IAPP Certificate under MARPOL Annex VI and certification of
dual-fuel engines under the NO_x Technical Code 2008)**

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1973 Convention"), article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1978 Protocol") and article 4 of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as the "1997 Protocol"), which together specify the amendment procedure of the 1997 Protocol and confer upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 and 1997 Protocols,

NOTING that, by the 1997 Protocol, Annex VI entitled Regulations for the Prevention of Air Pollution from Ships was added to the 1973 Convention (hereinafter referred to as "Annex VI"),

NOTING FURTHER regulation 13 of MARPOL Annex VI which makes the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines (NO_x Technical Code 2008) mandatory under that Annex,

NOTING ALSO that both the revised Annex VI, adopted by resolution MEPC.176(58) and the NO_x Technical Code 2008, adopted by resolution MEPC.177(58) entered into force on 1 July 2010,

HAVING CONSIDERED draft amendments to the revised Annex VI and the NO_x Technical Code 2008,

1 ADOPTS, in accordance with article 16(2)(d) of the 1973 Convention, the amendments to Annex VI and the NO_x Technical Code 2008, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on 1 March 2015, unless prior to that date, not less than one third of the Parties or Parties the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;

3 INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of the 1973 Convention, the said amendments shall enter into force on 1 September 2015 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, in conformity with article 16(2)(e) of the 1973 Convention, to transmit to all Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, certified copies of the present resolution and the text of the amendments contained in the annex;

5 REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, copies of the present resolution and its annex.

ANNEX

AMENDMENTS TO MARPOL ANNEX VI AND THE NO_x TECHNICAL CODE 2008

AMENDMENTS TO MARPOL ANNEX VI

Chapter 1 – General

Regulation 2 – Definitions

1 Paragraph 26 is amended to read as follows:

"26 *Gas carrier* in relation to chapter 4 of this Annex means a cargo ship, other than an LNG carrier as defined in paragraph 38 of this regulation, constructed or adapted and used for the carriage in bulk of any liquefied gas."

2 New paragraphs 38 to 43 are added after existing paragraph 37 as follows:

"38 *LNG carrier* in relation to chapter 4 of this Annex means a cargo ship constructed or adapted and used for the carriage in bulk of liquefied natural gas (LNG).

39 *Cruise passenger ship* in relation to chapter 4 of this Annex means a passenger ship not having a cargo deck, designed exclusively for commercial transportation of passengers in overnight accommodations on a sea voyage.

40 *Conventional propulsion* in relation to chapter 4 of this Annex means a method of propulsion where a main reciprocating internal combustion engine(s) is the prime mover and coupled to a propulsion shaft either directly or through a gear box.

41 *Non-conventional propulsion* in relation to chapter 4 of this Annex means a method of propulsion, other than conventional propulsion, including diesel-electric propulsion, turbine propulsion, and hybrid propulsion systems.

42 *Cargo ship having ice-breaking capability* in relation to chapter 4 of this Annex means a cargo ship which is designed to break level ice independently with a speed of at least 2 knots when the level ice thickness is 1.0 m or more having ice bending strength of at least 500 kPa.

43 A ship *delivered on or after* 1 September 2019 means a ship:

- .1 for which the building contract is placed on or after 1 September 2015; or
- .2 in the absence of a building contract, the keel of which is laid, or which is at a similar stage of construction, on or after 1 March 2016; or
- .3 the delivery of which is on or after 1 September 2019."

Chapter 2 – Survey, certification and means of control

Regulation 5 – Surveys

3 In the first sentence of paragraph 4.2, the words "a ship" are replaced with the words "a new ship".

Chapter 3 – Requirements for control of emissions from ships**Regulation 13 – Nitrogen oxides (NO_x)**

4 Paragraph 2.2 is amended to read as follows:

"2.2 For a major conversion involving the replacement of a marine diesel engine with a non-identical marine diesel engine, or the installation of an additional marine diesel engine, the standards in this regulation at the time of the replacement or addition of the engine shall apply. In the case of replacement engines only, if it is not possible for such a replacement engine to meet the standards set forth in paragraph 5.1.1 of this regulation (Tier III, as applicable), then that replacement engine shall meet the standards set forth in paragraph 4 of this regulation (Tier II), taking into account guidelines developed by the Organization.

5 Paragraphs 5.1 and 5.2 are amended to read as follows:

"Tier III

5.1 Subject to regulation 3 of this Annex, in an emission control area designated for Tier III NO_x control under paragraph 6 of this regulation, the operation of a marine diesel engine that is installed on a ship:

.1 is prohibited except when the emission of nitrogen oxides (calculated as the total weighted emission of NO_x) from the engine is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):

.1 3.4 g/kWh when n is less than 130 rpm;

.2 $9 n^{(-0.2)}$ g/kWh when n is 130 or more but less than 2,000 rpm;

.3 2.0 g/kWh when n is 2,000 rpm or more;

when:

.2 that ship is constructed on or after 1 January 2016 and is operating in the North American Emission Control Area or the United States Caribbean Sea Emission Control Area;

when:

.3 that ship is operating in an emission control area designated for Tier III NO_x control under paragraph 6 of this regulation, other than an emission control area described in paragraph 5.1.2 of this regulation, and is constructed on or after the date of adoption of such an emission control area, or a later date as may be specified in the amendment designating the NO_x Tier III emission control area, whichever is later.

- 5.2 The standards set forth in paragraph 5.1.1 of this regulation shall not apply to:
- .1 a marine diesel engine installed on a ship with a length (L), as defined in regulation 1.19 of Annex I to the present Convention, of less than 24 metres when it has been specifically designed, and is used solely, for recreational purposes; or
 - .2 a marine diesel engine installed on a ship with a combined nameplate diesel engine propulsion power of less than 750 kW if it is demonstrated, to the satisfaction of the Administration, that the ship cannot comply with the standards set forth in paragraph 5.1.1 of this regulation because of design or construction limitations of the ship; or
 - .3 a marine diesel engine installed on a ship constructed prior to 1 January 2021 of less than 500 gross tonnage, with a length (L), as defined in regulation 1.19 of Annex I to the present convention, of 24 m or over when it has been specifically designed, and is used solely, for recreational purposes."

6 Paragraph 10 is deleted.

Chapter 4 – Regulations for energy efficiency of ships

Regulation 19 – Application

- 7 A new subparagraph 2.2 is added as follows:
- "2 ships not propelled by mechanical means, and platforms including FPSOs and FSUs and drilling rigs, regardless of their propulsion."
- 8 Paragraph 3 is amended to read as follows:
- "3 Regulations 20 and 21 of this Annex shall not apply to ships which have non-conventional propulsion, except that regulations 20 and 21 shall apply to cruise passenger ships having non-conventional propulsion and LNG carriers having conventional or non-conventional propulsion, delivered on or after 1 September 2019, as defined in paragraph 43 of regulation 2. Regulations 20 and 21 shall not apply to cargo ships having ice-breaking capability."

Regulation 20 – Attained Energy Efficiency Design Index (attained EEDI)

- 9 Paragraph 1 is replaced with the following:
- "1 The attained EEDI shall be calculated for:
- .1 each new ship;
 - .2 each new ship which has undergone a major conversion; and
 - .3 each new or 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,

which falls into one or more of the categories in regulations 2.25 to 2.35, 2.38 and 2.39 of this Annex. The attained EEDI shall be specific to each ship and shall

indicate the estimated performance of the ship in terms of energy efficiency, and be accompanied by the EEDI technical file that contains the information necessary for

the calculation of the attained EEDI and that shows the process of calculation. The attained EEDI shall be verified, based on the EEDI technical file, either by the Administration or by any organization duly authorized by it*.

* Refer to *Code for Recognized Organizations (RO Code)*, adopted by the MEPC by resolution MEPC.237(65), as may be amended."

Regulation 21 – Required EEDI

10 Paragraph 1 is replaced with the following:

"1 For each:

- .1 new ship;
- .2 new ship which has undergone a major conversion; and
- .3 new or 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,

which falls into one of the categories in regulations 2.25 to 2.31, 2.33 to 2.35, 2.38 and 2.39 and to which this chapter is applicable, the attained EEDI shall be as follows:

$$\text{Attained EEDI} \leq \text{Required EEDI} = (1-X/100) \times \text{reference line value}$$

where X is the reduction factor specified in table 1 for the required EEDI compared to the EEDI reference line."

11 New rows are added to table 1 in paragraph 2 for ro-ro cargo ships (vehicle carrier), LNG carrier, cruise passenger ship having non-conventional propulsion, ro-ro cargo ships and ro-ro passenger ships, and marks ** and *** and their explanations are added, as follows:

"

Ship Type	Size	Phase 0 1 Jan 2013 – 31 Dec 2014	Phase 1 1 Jan 2015 – 31 Dec 2019	Phase 2 1 Jan 2020 – 31 Dec 2024	Phase 3 1 Jan 2025 and onwards
LNG carrier***	10,000 DWT and above	n/a	10**	20	30
Ro-ro cargo ship (vehicle carrier)***	10,000 DWT and above	n/a	5**	15	30
Ro-ro cargo ship***	2,000 DWT and above	n/a	5**	20	30
	1,000 – 2,000 DWT	n/a	0-5* **	0-20*	0-30*
Ro-ro passenger ship***	1000 DWT and above	n/a	5**	20	30
	250 – 1,000 DWT	n/a	0-5* **	0-20*	0-30*
Cruise passenger ship*** having non-conventional propulsion	85,000 GT and above	n/a	5**	20	30
	25,000 – 85,000 GT	n/a	0-5* **	0-20*	0-30*

* Reduction factor to be linearly interpolated between the two values dependent upon ship size. The lower value of the reduction factor is to be applied to the smaller ship size.

** Phase 1 commences for those ships on 1 September 2015.

*** Reduction factor applies to those ships delivered on or after 1 September 2019, as defined in paragraph 43 of regulation 2.

Note: n/a means that no required EEDI applies."

12 New rows are added to table 2 in paragraph 3 for ro-ro cargo ship (vehicle carrier), LNG carrier, cruise passenger ship having non-conventional propulsion, ro-ro cargo ships and ro-ro passenger ships as follows:

"

Ship type defined in regulation 2	a	b	c
2.33 Ro-ro cargo ship (vehicle carrier)	$(DWT/GT)^{-0.7} \cdot 780.36$ where $DWT/GT < 0.3$ 1812.63 where $DWT/GT \geq 0.3$	DWT of the ship	0.471
2.34 Ro-ro cargo ship	1405.15	DWT of the ship	0.498
2.35 Ro-ro passenger ship	752.16	DWT of the ship	0.381
2.38 LNG carrier	2253.7	DWT of the ship	0.474
2.39 Cruise passenger ship having non-conventional propulsion	170.84	GT of the ship	0.214

"

Appendix I – Form of International Air Pollution Prevention (IAPP) Certificate (regulation 8)

13 The footnote in the Supplement to International Air Pollution Prevention Certificate (IAPP Certificate) is amended to read as follows:

"* Completed only in respect of ships constructed on or after 1 January 2016 that are specially designed, and used solely, for recreational purposes and to which, in accordance with regulation 13.5.2.1 and regulation 13.5.2.3, the NO_x emission limit as given by regulation 13.5.1.1 will not apply."

AMENDMENTS TO THE NO_x TECHNICAL CODE 2008

Abbreviations, subscripts and symbols

14 Table 4 is replaced by the following:

"Table 4 – Symbols for fuel composition"

Symbol	Definition	Unit
<i>W_{ALF}</i> *	H content of fuel	% m/m
<i>W_{BET}</i> *	C content of fuel	% m/m
<i>W_{GAM}</i>	S content of fuel	% m/m
<i>W_{DEL}</i> *	N content of fuel	% m/m
<i>W_{EPS}</i> *	O content of fuel	% m/m
α	Molar ratio (H/C)	1

* Subscripts "_G" denotes gas-fuel fraction.
 "_L" denotes liquid-fuel fraction."

Chapter 1 – General

15 Paragraph 1.3.10 is replaced by the following:

"1.3.10 *Marine diesel engine* means any reciprocating internal combustion engine operating on liquid or dual fuel, to which regulation 13 applies, including booster/compound systems, if applied.

Where an engine is intended to be operated normally in the gas mode, i.e. with the gas fuel as the main fuel and with liquid fuel as the pilot or balance fuel, the requirements of regulation 13 have to be met only for this operation mode. Operation on pure liquid fuel resulting from restricted gas supply in cases of failures shall be exempted for the voyage to the next appropriate port for the repair of the failure."

Chapter 5 – Procedures for NO_x emission measurements on a test bed

16 Existing paragraph 5.3.4 is deleted and new paragraphs 5.3.4, 5.3.5 and 5.3.6 are added after existing paragraph 5.3.3 as follows:

"5.3.4 The selection of gas fuel for testing for dual fuel depends on the aim of tests. In case where an appropriate standard gas fuel is not available, other gas

fuels shall be used with the approval of the Administration. A gas fuel sample shall be collected during the test of the parent engine. The gas fuel shall be analysed to give fuel composition and fuel specification.

5.3.5 Gas fuel temperature shall be measured and recorded together with the measurement point position.

5.3.6 Gas mode operation of dual fuel engines using liquid fuel as pilot or balance fuel shall be tested using maximum liquid-to-gas fuel ratio, such maximum ratio means for the different test cycle modes the maximum liquid-to-gas setting certified. The liquid fraction of the fuel shall comply with 5.3.1, 5.3.2 and 5.3.3."

17 A new sentence is added at the end of existing paragraph 5.12.3.3, as follows:

"In case of the use of dual fuel, the calculation shall be in accordance with paragraphs 5.12.3.1 to 5.12.3.3. However, q_{mf} , W_{ALF} , W_{BET} , W_{DEL} , W_{EPS} , f_{fw} values shall be calculated in accordance with the following table:

Factors in the formula (6) (7) (8)	=	Formula for factors
q_{mf}	=	$q_{mf_G} + q_{mf_L}$
W_{ALF}	=	$\frac{q_{mf_G} \times W_{ALF_G} + q_{mf_L} \times W_{ALF_L}}{q_{mf_G} + q_{mf_L}}$
W_{BET}	=	$\frac{q_{mf_G} \times W_{BET_G} + q_{mf_L} \times W_{BET_L}}{q_{mf_G} + q_{mf_L}}$
W_{DEL}	=	$\frac{q_{mf_G} \times W_{DEL_G} + q_{mf_L} \times W_{DEL_L}}{q_{mf_G} + q_{mf_L}}$
W_{EPS}	=	$\frac{q_{mf_G} \times W_{EPS_G} + q_{mf_L} \times W_{EPS_L}}{q_{mf_G} + q_{mf_L}}$

"

18 In paragraph 5.12.5.1, table 5 is replaced by the following:

"Table 5 – Coefficient u_{gas} and fuel-specific parameters for raw exhaust gas

Gas	NO_x	CO	HC	CO_2	O_2	
ρ_{gas} kg/m ³	2.053	1.250	*	1.9636	1.4277	
	ρ_e †	Coefficient u_{gas}^\ddagger				
Liquid fuel**	1.2943	0.001586	0.000966	0.000479	0.001517	0.001103
Rapeseed Methyl Ester	1.2950	0.001585	0.000965	0.000536	0.001516	0.001102
Methanol	1.2610	0.001628	0.000991	0.001133	0.001557	0.001132
Ethanol	1.2757	0.001609	0.000980	0.000805	0.001539	0.001119
Natural gas	1.2661	0.001621	0.000987	0.000558	0.001551	0.001128
Propane	1.2805	0.001603	0.000976	0.000512	0.001533	0.001115
Butane	1.2832	0.001600	0.000974	0.000505	0.001530	0.001113

* Depending on fuel.

** Petroleum derived.

† ρ_e is the nominal density of the exhaust gas.

‡ At $\lambda = 2$, wet air, 273 K, 101.3 kPa.

Values for u given in table 5 are based on ideal gas properties.

In multiple fuel type operation, the u_{gas} value used shall be determined from the values applicable to those fuels in the table set out above proportioned in accordance with the fuel ratio used."

Chapter 6 – Procedures for demonstrating compliance with NOx emission limits on board

19 Paragraph 6.3.1.4 is replaced by the following:

"6.3.1.4 In practical cases, it is often impossible to measure the fuel oil consumption once an engine has been installed on board a ship. To simplify the procedure on board, the results of the measurement of the fuel oil consumption from an engine's pre-certification test-bed testing may be accepted. In such cases, especially concerning residual fuel oil operation (RM-grade fuel oil according to ISO 8217:2005) and dual fuel operation, an estimation with a corresponding estimated error shall be made. Since the fuel oil flow rate used in the calculation (q_{mf}) must relate to the fuel oil composition determined in respect of the fuel sample drawn during the test, the measurement of q_{mf} from the test-bed testing shall be corrected for any difference in net calorific values between the test bed and test fuel oils and gases. The consequences of such an error on the final emissions shall be calculated and reported with the results of the emission measurement."

20 In paragraph 6.3.2.1, table 6 is replaced by the following:

"Table 6 – Engine parameters to be measured and recorded"

Symbol	Term	Unit
H_a	Absolute humidity (mass of engine intake air water content related to mass of dry air)	g/kg
$n_{d,i}$	Engine speed (at the i^{th} mode during the cycle)	min ⁻¹
$n_{turb,i}$	Turbocharger speed (if applicable) (at the i^{th} mode during the cycle)	min ⁻¹
P_b	Total barometric pressure (in ISO 3046-1:1995: $p_x = P_x$ = site ambient total pressure)	kPa
$P_{C,i}$	Charge air pressure after the charge air cooler (at the i^{th} mode during the cycle)	kPa
P_i	Brake power (at the i^{th} mode during the cycle)	kW
$q_{mf,i}$	Fuel oil (in case of dual fuel engine, it would be fuel oil and gas) (at the i^{th} mode during the cycle)	kg/h
S_i	Fuel rack position (of each cylinder, if applicable) (at the i^{th} mode during the cycle)	
T_a	Intake air temperature at air inlet (in ISO 3046-1:1995: $T_x = TT_x$ = site ambient thermodynamic air temperature)	K
$T_{SC,i}$	Charge air temperature after the charge air cooler (if applicable) (at the i^{th} mode during the cycle)	K
T_{caclin}	Charge air cooler, coolant inlet temperature	°C
$T_{caclout}$	Charge air cooler, coolant outlet temperature	°C
$T_{Exh,i}$	Exhaust gas temperature at the sampling point (at the i^{th} mode during the cycle)	°C
T_{Fuel_L}	Fuel oil temperature before the engine	°C
T_{Sea}	Seawater temperature	°C
$T_{Fuel_G}^*$	Gas fuel temperature before the engine	°C

* Only for dual-fuel engine."

21 A new paragraph 6.3.4.3 is added after existing paragraph 6.3.4.2 as follows:

"6.3.4.3 In case of a dual fuel engine, the gas fuel used shall be the gas fuel available on board."

22 Paragraph 6.3.11.2 is replaced by the following:

"6.3.11.2 The NO_x emission of an engine may vary depending on the ignition quality of the fuel oil and the fuel-bound nitrogen. If there is insufficient information available on the influence of the ignition quality on the NO_x formation during the combustion process and the fuel-bound nitrogen conversion rate also depends on the engine efficiency, an allowance of 10% may be granted for an on board test run carried out on an RM-grade fuel oil (ISO 8217:2005), except that there will be no allowance for the pre-certification test on board. The fuel oil and gas fuel used shall be analysed for its composition of carbon, hydrogen, nitrogen, sulphur and, to the extent given in (ISO 8217:2005) and (ISO 8178-5:2008), any additional components necessary for a specification of the fuel oil and gas fuel."

23 In paragraph 6.4.11.1, table 9 is replaced by the following:

"Table 9 – Default fuel oil parameters

	Carbon	Hydrogen	Nitrogen	Oxygen
	<i>W_{BET}</i>	<i>W_{ALF}</i>	<i>W_{DEL}</i>	<i>W_{EPS}</i>
Distillate fuel oil (ISO 8217:2005, DM grade)	86.2%	13.6%	0.0%	0.0%
Residual fuel oil (ISO 8217:2005, RM grade)	86.1%	10.9%	0.4%	0.0%
Natural gas	75.0%	25.0%	0.0%	0.0%

For other fuel oils, default value as approved by the Administration."

Appendix VI – Calculation of exhaust gas mass flow (carbon balance method)

24 A new paragraph 2.5 is added after existing paragraph 2.4 as follows:

"2.5 q_{mf} , W_{ALF} , W_{BET} , W_{DEL} , W_{EPS} , f_{fd} parameters, in formula (1), in case of gas mode operation of dual-fuel engine, shall be calculated as follows:

Factors in formula (1)		Formula of factors
q_{mf}	=	$q_{mf_G} + q_{mf_L}$
W_{ALF}	=	$\frac{q_{mf_G} \times W_{ALF_G} + q_{mf_L} \times W_{ALF_L}}{q_{mf_G} + q_{mf_L}}$
W_{BET}	=	$\frac{q_{mf_G} \times W_{BET_G} + q_{mf_L} \times W_{BET_L}}{q_{mf_G} + q_{mf_L}}$
W_{DEL}	=	$\frac{q_{mf_G} \times W_{DEL_G} + q_{mf_L} \times W_{DEL_L}}{q_{mf_G} + q_{mf_L}}$
W_{EPS}	=	$\frac{q_{mf_G} \times W_{EPS_G} + q_{mf_L} \times W_{EPS_L}}{q_{mf_G} + q_{mf_L}}$

MARINE ENVIRONMENT PROTECTION
COMMITTEE
66th session
Agenda item 21

MEPC 66/21/Corr.1
26 June 2014
ENGLISH ONLY

**REPORT OF THE MARINE ENVIRONMENT PROTECTION COMMITTEE
ON ITS SIXTY-SIXTH SESSION**

Corrigendum

Annex 7, annex

1 In paragraph 1, the paragraph numbers "44", "45", "46" and "47" are replaced with the numbers "35", "36", "37" and "38", respectively.

Annex 9

2 The subtitle of resolution MEPC.248(66) is replaced with the following:

"(Amendments to MARPOL Annex I on mandatory carriage requirements for a stability instrument)"

Annex 9, annex

Chapter 4 – Requirements for the cargo area of oil tankers

3 New paragraphs 2 and 3 are inserted after existing paragraph 1, as follows:

"Regulation 19 – Double hull and double bottom requirements for oil tanker delivered on or after 6 July 1996

2 In paragraph 19.2.2, the term "regulation 28.6" is replaced with the term "regulation 28.7".

Regulation 20 – Double hull and double bottom requirements for oil tanker delivered before 6 July 1996

3 In paragraphs 20.1.2 and 20.4, the term "paragraph 28.6" is replaced with the term "paragraph 28.7".

4 The existing paragraphs 2, 3 and 4 are renumbered as paragraphs 4, 5 and 6, respectively.

5 In the renumbered paragraph 5, the words "on or" are inserted between the words "renewal survey of the ship" and "after 1 January 2016" in the referenced subparagraph 6.1.

6 In the renumbered paragraph 6, the second sentence of the chapeau of the referenced paragraph 5.7.6 is replaced with the following:

"Stability is verified by one or more of the following means:"

7 A new paragraph 7 is added after renumbered paragraph 6, as follows:

"7 In paragraph 5.8.4, the term "paragraph 28.6" is replaced with the term "paragraph 28.7"."

Annex 10, annex

8 In paragraph 1, in the referenced subparagraph 2.2.1.2, the words "on or" are inserted between the words "renewal survey of the ship" and "after 1 January 2016".

9 In paragraph 2, in the referenced subparagraph 6.2, the words "one or more of" are inserted between the words "in accordance with" and "the following approved methods".

Annex 11, annex

10 In paragraph 3, in the referenced subparagraph 2.2.6.1, the words "on or" are inserted between the words "renewal survey of the ship" and "after 1 January 2016".

11 The following sentence is added at the end of paragraph 7:

"In the renumbered paragraphs 8.6.2 and 8.6.3, the referenced paragraph numbers "8.5.1", "8.5.1.2" and "8.5.1.3" are replaced with "8.6.1", "8.6.1.2" and "8.6.1.3", respectively."

12 A new paragraph 10 is added after existing paragraph 9, under the heading "Chapter 15 – Special requirements", as follows:

"10 The following footnote is added at the end of paragraph 15.13.3.2:

"
* Refer to the MSC–MEPC circular on Products requiring oxygen dependent inhibitors."

13 The existing paragraphs 10 to 12 are renumbered as paragraphs 11 to 13, respectively.

14 In the renumbered paragraph 13, in the referenced subparagraph 6.2, the words "one or more of" are inserted between the words "in accordance with" and "the following approved methods".

Annex 12

15 The subtitle "Amendments to MARPOL Annex VI and the NO_x Technical Code 2008" is deleted.

Annex 12, annex

16 Paragraphs 9, 10 and 11 are replaced by the following:

Regulation 20 – Attained Energy Efficiency Design Index (attained EEDI)

"9 Paragraph 1 is replaced with the following:

"1 The attained EEDI shall be calculated for:

- .1 each new ship;
- .2 each new ship which has undergone a major conversion;
and
- .3 each new or 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,

which falls into one or more of the categories in regulations 2.25 to 2.35, 2.38 and 2.39 of this Annex. The attained EEDI shall be specific to each ship and shall indicate the estimated performance of the ship in terms of energy efficiency, and be accompanied by the EEDI technical file that contains the information necessary for the calculation of the attained EEDI and that shows the process of calculation. The attained EEDI shall be verified, based on the EEDI technical file, either by the Administration or by any organization duly authorized by it*.

* Refer to the *Code for Recognized Organizations (RO Code)*, adopted by the MEPC by resolution MEPC.237(65), as may be amended."

Regulation 21 – Required EEDI

"10 Paragraph 1 is replaced with the following:

"1 For each:

- .1 new ship;
- .2 new ship which has undergone a major conversion; and
- .3 new or 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,

which falls into one of the categories in regulations 2.25 to 2.31, 2.33 to 2.35, 2.38 and 2.39 and to which this chapter is applicable, the attained EEDI shall be as follows:

$$\text{Attained EEDI} \leq \text{Required EEDI} = (1-X/100) \times \text{reference line value}$$

where X is the reduction factor specified in table 1 for the required EEDI compared to the EEDI reference line.

11 New rows are added to table 1 in paragraph 2 for ro-ro cargo ships (vehicle carrier), LNG carrier, cruise passenger ship having non-conventional propulsion, ro-ro cargo ships and ro-ro passenger ships, and marks ** and *** and their explanations are added, as follows:

Ship Type	Size	Phase 0 1 Jan 2013 – 31 Dec 2014	Phase 1 1 Jan 2015 – 31 Dec 2019	Phase 2 1 Jan 2020 – 31 Dec 2024	Phase 3 1 Jan 2025 and onwards
LNG carrier***	10,000 DWT and above	n/a	10**	20	30
Ro-ro cargo ship (vehicle carrier)***	10,000 DWT and above	n/a	5**	15	30
Ro-ro cargo ship***	2,000 DWT and above	n/a	5**	20	30
	1,000 – 2,000 DWT	n/a	0-5*,**	0-20*	0-30*
Ro-ro passenger ship***	1000 DWT and above	n/a	5**	20	30
	250 – 1,000 DWT	n/a	0-5*,**	0-20*	0-30*
Cruise passenger ship*** having non-conventional propulsion	85,000 GT and above	n/a	5**	20	30
	25,000 – 85,000 GT	n/a	0-5*,**	0-20*	0-30*

* Reduction factor to be linearly interpolated between the two values dependent upon ship size. The lower value of the reduction factor is to be applied to the smaller ship size.

** Phase 1 commences for those ships on 1 September 2015.

*** Reduction factor applies to those ships delivered on or after 1 September 2019, as defined in paragraph 43 of regulation 2.

Note: n/a means that no required EEDI applies."

Annex 18

17 For outputs 7.1.2.6, 7.1.2.10, 7.1.2.11 and 7.3.2.2, the target completion year "2014" is replaced with "2015".

ANNEX 9

RESOLUTION MEPC.258(67)

Adopted on 17 October 2014

**AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND
THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF
POLLUTION FROM SHIPS, 1973, AS MODIFIED BY THE
PROTOCOL OF 1978 RELATING THERETO**

Amendments to MARPOL Annex VI

(Amendments to regulations 2 and 13 and the Supplement to the IAPP Certificate)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 ("1973 Convention"), article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 ("1978 Protocol") and article 4 of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto ("1997 Protocol"), which together specify the amendment procedure of the 1997 Protocol and confer upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 and 1997 Protocols,

NOTING ALSO that, by the 1997 Protocol, Annex VI entitled Regulations for the prevention of air pollution from ships was added to the 1973 Convention,

NOTING FURTHER that the revised Annex VI, which was adopted by resolution MEPC.176(58), entered into force on 1 July 2010,

HAVING CONSIDERED draft amendments to the revised Annex VI concerning engines solely fuelled by gaseous fuels,

1 ADOPTS, in accordance with article 16(2)(d) of the 1973 Convention, amendments to Annex VI, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on 1 September 2015, unless prior to that date, not less than one third of the Parties or Parties, the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;

3 INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of the 1973 Convention, said amendments shall enter into force on 1 March 2016 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, in conformity with article 16(2)(e) of the 1973 Convention, to transmit to all Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, certified copies of the present resolution and the text of the amendments contained in the annex;

5 REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to the 1973 Convention, as modified by the 1978 and 1997 Protocols, copies of the present resolution and its annex.

ANNEX

AMENDMENTS TO MARPOL ANNEX VI**(Amendments to regulations 2 and 13 and appendix I)****MARPOL Annex VI****Regulations for the prevention of air pollution from ships****Chapter 1
General****Regulation 2***Definitions*

- 1 The definition of "fuel oil" in paragraph 9 is replaced by the following definition:

"Fuel oil means any fuel delivered to and intended for combustion purposes for propulsion or operation on board a ship, including gas, distillate and residual fuels."
- 2 The definition of "marine diesel engine" in paragraph 14 is replaced by the following definition:

"*Marine diesel engine* means any reciprocating internal combustion engine operating on liquid or dual fuel, to which regulation 13 of this Annex applies, including booster/compound systems if applied. In addition, a gas fuelled engine installed on a ship constructed on or after 1 March 2016 or a gas fuelled additional or non-identical replacement engine installed on or after that date is also considered as a marine diesel engine."

Chapter 3**Requirements for control of emissions from ships****Regulation 13***Nitrogen oxides (NO_x)*

- 3 Paragraph 7.3 is replaced by the following paragraph:

"7.3 With regard to a marine diesel engine with a power output of more than 5,000 kW and a per cylinder displacement at or above 90 litres installed on a ship constructed on or after 1 January 1990, but prior to 1 January 2000, the International Air Pollution Prevention Certificate shall, for a marine diesel engine to which paragraph 7.1 of this regulation applies, indicate one of the following:
 - .1 an approved method has been applied pursuant to paragraph 7.1.1 of this regulation;
 - .2 the engine has been certified pursuant to paragraph 7.1.2 of this regulation;

- .3 an approved method is not yet commercially available as described in paragraph 7.2 of this regulation; or
- .4 an approved method is not applicable."

Appendix I

Form of International Air Pollution Prevention (IAPP) Certificate (Regulation 8)

Supplement to the International Air Pollution Prevention Certificate (IAPP Certificate)

- 4 The footnote relating to paragraph 1.4 is replaced by the following footnote:

"* Completed only in respect of ships constructed on or after 1 January 2016 that are specially designed, and used solely for recreational purposes and to which, in accordance with regulation 13.5.2.1 or regulation 13.5.2.3, the NO_x emission limit as given by regulation 13.5.1.1 will not apply."
- 5 Paragraph 2.2.1 is replaced by the following paragraph:

"2.2.1 The following marine diesel engines installed on this ship are in accordance with the requirements of regulation 13, as indicated:

Applicable regulation of MARPOL Annex VI (NTC = NO _x Technical Code 2008) (AM = Approved Method)		Engine #1	Engine #2	Engine #3	Engine #4	Engine #5	Engine #6
1	Manufacturer and model						
2	Serial number						
3	Use (applicable application cycle(s) – NTC 3.2)						
4	Rated power (kW) (NTC 1.3.11)						
5	Rated speed (RPM) (NTC 1.3.12)						
6	Identical engine installed ≥ 1/1/2000 exempted by 13.1.1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Identical engine installation date (dd/mm/yyyy) as per 13.1.1.2						
8a	Major Conversion (dd/mm/yyyy)	13.2.1.1 & 13.2.2					
8b		13.2.1.2 & 13.2.3					
8c		13.2.1.3 & 13.2.3					
9a	Tier I	13.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9b		13.2.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9c		13.2.3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9d		13.2.3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9e		13.7.1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10a	Tier II	13.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10b		13.2.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10c		13.2.2 (Tier III not possible)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10d		13.2.3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10e		13.5.2 (Exemptions)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10f		13.7.1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11a	Tier III (ECA-NO _x only)	13.5.1.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11b		13.2.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11c		13.2.3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11d		13.7.1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	AM*	installed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	AM*	not commercially available at this survey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	AM*	not applicable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* Refer to the 2014 Guidelines on the approved method process (resolution MEPC.243(66))."

6 Paragraph 2.5 is replaced by the following paragraph:

"2.5 Shipboard incineration (regulation 16)

The ship has an incinerator:

.1 installed on or after 1 January 2000 that complies with:

.1 resolution MEPC.76(40), as amended *

.2 resolution MEPC.244(66)

.2 installed before 1 January 2000 that complies with:

.1 resolution MEPC.59(33), as amended **

.2 resolution MEPC.76(40), as amended *

* As amended by resolution MEPC.93(45).

** As amended by resolution MEPC.92(45)."

ANNEX 2

**RESOLUTION MEPC.271(69)
(Adopted on 22 April 2016)**

**AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND
THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF
POLLUTION FROM SHIPS, 1973, AS MODIFIED BY THE
PROTOCOL OF 1978 RELATING THERETO**

Amendments to regulation 13 of MARPOL Annex VI

**(Record requirements for operational compliance with NO_x Tier III
emission control areas)**

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocols of 1978 and 1997 relating thereto (MARPOL), which specifies the amendment procedure and confers upon the appropriate body of the Organization the function of considering and adopting amendments thereto,

HAVING CONSIDERED, at its sixty-ninth session, draft amendments to MARPOL Annex VI, related to record requirements for operational compliance with NO_x Tier III emission control areas,

1 ADOPTS, in accordance with article 16(2)(d) of MARPOL, amendments to regulation 13 of MARPOL Annex VI, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article 16(2)(f)(iii) of MARPOL, that the amendments shall be deemed to have been accepted on 1 March 2017, unless prior to that date, not less than one third of the Parties or Parties the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;

3 INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of MARPOL, the said amendments shall enter into force on 1 September 2017 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of article 16(2)(e) of MARPOL, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to MARPOL;

5 REQUESTS FURTHER the Secretary-General to transmit copies of the present resolution and its annex to the Members of the Organization which are not Parties MARPOL.

ANNEX

**AMENDMENTS TO MARPOL ANNEX VI
(Record requirements for operational compliance with
NO_x Tier III emission control areas)**

ANNEX VI

REGULATION FOR THE PREVENTION OF AIR POLLUTION FROM SHIP

Chapter 3

Requirements for control of emissions from ships

Regulation 13 – Nitrogen oxides (NO_x)

- 1 A new paragraph 5.3 is added after existing paragraph 5.2, as follows:

"5.3 The tier and on/off status of marine diesel engines installed on board a ship to which paragraph 5.1 of this regulation applies which are certified to both Tier II and Tier III or which are certified to Tier II only shall be recorded in such logbook as prescribed by the Administration at entry into and exit from an emission control area designated under paragraph 6 of this regulation, or when the on/off status changes within such an area, together with the date, time and position of the ship."

- 2 In paragraph 5.1.1, the symbol "NO_x" is replaced with the symbol "NO₂".

ANNEX 3

**RESOLUTION MEPC.278(70)
(Adopted on 28 October 2016)**

**AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND THE
INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS,
1973, AS MODIFIED BY THE PROTOCOL OF 1978 RELATING THERETO**

Amendments to MARPOL Annex VI

(Data collection system for fuel oil consumption of ships)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocols of 1978 and 1997 relating thereto (MARPOL), which specifies the amendment procedure and confers upon the appropriate body of the Organization the function of considering and adopting amendments thereto,

HAVING CONSIDERED, at its seventieth session, proposed amendments to MARPOL Annex VI concerning the data collection system for fuel oil consumption,

1 ADOPTS, in accordance with article 16(2)(d) of MARPOL, amendments to MARPOL Annex VI, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article 16(2)(f)(iii) of MARPOL, that the amendments shall be deemed to have been accepted on 1 September 2017 unless prior to that date, not less than one third of the Parties or Parties the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;

3 INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of MARPOL, the said amendments shall enter into force on 1 March 2018 upon their acceptance in accordance with paragraph 2 above;

4 INVITES FURTHER the Parties to consider the application of the aforesaid amendments to Annex VI of MARPOL as soon as possible to ships entitled to fly their flag;

5 ENCOURAGES the Organization to establish as soon as possible the IMO Ship Fuel Oil Consumption Database;

6 REQUESTS the Secretary-General, for the purposes of article 16(2)(e) of MARPOL, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to MARPOL;

7 REQUESTS FURTHER the Secretary-General to transmit copies of the present resolution and its annex to Members of the Organization which are not Parties to MARPOL.

ANNEX

AMENDMENTS TO MARPOL ANNEX VI

(Data collection system for fuel oil consumption of ships)

ANNEX VI

REGULATIONS FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS

**Regulation 1
Application**

1 The reference to "regulations 3, 5, 6, 13, 15, 16, 18, 19, 20, 21 and 22" is replaced with "regulations 3, 5, 6, 13, 15, 16, 18, 19, 20, 21, 22 and 22A".

**Regulation 2
Definitions**

2 After existing paragraph 47, new paragraphs 48, 49 and 50 are added as follows:

"48 *Calendar year* means the period from 1 January until 31 December inclusive.

49 *Company* means the owner of the ship or any other organization or person such as the manager, or the bareboat charterer, who has assumed the responsibility for operation of the ship from the owner of the ship and who on assuming such responsibility has agreed to take over all the duties and responsibilities imposed by the *International Management Code for the Safe Operation of Ships and for Pollution Prevention*, as amended.

50 *Distance travelled* means distance travelled over ground."

**Regulation 3
Exceptions and exemptions**

3 In the chapeau of paragraph 2, between existing sentences 2 and 3, a new sentence is added as follows:

"A permit issued under this regulation shall not exempt a ship from the reporting requirement under regulation 22A and shall not alter the type and scope of data required to be reported under regulation 22A."

**Regulation 5
Surveys**

4 At the end of paragraph 4.3, after the words "on board", new text is added as follows:

"and for a ship to which regulation 22A applies, has been revised appropriately to reflect a major conversion in those cases where the major conversion affects data collection methodology and/or reporting processes"

and the word "and" following the semicolon at the end of the paragraph is deleted.

5 In paragraph 4.4, the full stop at the end of the paragraph is replaced by "; and".

6 After the existing paragraph 4.4, a new paragraph 4.5 is added as follows:

".5 The Administration shall ensure that for each ship to which regulation 22A applies, the SEEMP complies with regulation 22.2 of this Annex. This shall be done prior to collecting data under regulation 22A of this Annex in order to ensure the methodology and processes are in place prior to the beginning of the ship's first reporting period. Confirmation of compliance shall be provided to and retained on board the ship."

Regulation 6

Issue or endorsement of Certificates and Statements of Compliance related to fuel oil consumption reporting

7 In the title of regulation 6, the words "and Statements of Compliance related to fuel oil consumption reporting" are inserted following the word "Certificates".

8 After existing paragraph 5, new paragraphs 6 and 7 are added as follows:

"Statement of Compliance – Fuel Oil Consumption Reporting

6 Upon receipt of reported data pursuant to regulation 22A.3 of this Annex, the Administration or any organization duly authorized by it* shall determine whether the data has been reported in accordance with regulation 22A of this Annex and, if so, issue a Statement of Compliance related to fuel oil consumption to the ship no later than five months from the beginning of the calendar year. In every case, the Administration assumes full responsibility for this Statement of Compliance.

7 Upon receipt of reported data pursuant to regulations 22A.4, 22A.5 or 22A.6 of this Annex, the Administration or any organization duly authorized by it* shall promptly determine whether the data has been reported in accordance with regulation 22A and, if so, issue a Statement of Compliance related to fuel oil consumption to the ship at that time. In every case, the Administration assumes full responsibility for this Statement of Compliance."

Regulation 8

Form of Certificates and Statements of Compliance related to fuel oil consumption reporting

9 In the title of regulation 8, the words "and Statements of Compliance related to fuel oil consumption reporting" are inserted following the word "Certificates".

* Refer to the Guidelines for the authorization of organizations acting on behalf of the Administration, adopted by the Organization by resolution A.739(18), as may be amended by the Organization, and the Specifications on the survey and certification functions of recognized organizations acting on behalf of the Administration, adopted by the Organization by resolution A.789(19), as may be amended by the Organization.

10 After existing paragraph 2, a new paragraph 3 is added as follows:

"Statement of Compliance – Fuel Oil Consumption Reporting

3 The Statement of Compliance pursuant to regulations 6.6 and 6.7 of this Annex shall be drawn up in a form corresponding to the model given in appendix X to this Annex and shall be at least in English, French or Spanish. If an official language of the issuing Party is also used, this shall prevail in case of a dispute or discrepancy."

Regulation 9

Duration and validity of Certificates and Statements of Compliance related to fuel oil consumption reporting

11 In the title of regulation 9, the words "and Statements of Compliance related to fuel oil consumption reporting" are inserted following the word "Certificates".

12 After existing paragraph 11, a new paragraph 12 is added as follows:

"Statement of Compliance – Fuel Oil Consumption Reporting

12 The Statement of Compliance pursuant to regulation 6.6 of this Annex shall be valid for the calendar year in which it is issued and for the first five months of the following calendar year. The Statement of Compliance pursuant to regulation 6.7 of this Annex shall be valid for the calendar year in which it is issued, for the following calendar year, and for the first five months of the subsequent calendar year. All Statements of Compliance shall be kept on board for at least the period of their validity."

Regulation 10

Port State control on operational requirements

13 In paragraph 5, the words "Statement of Compliance related to fuel oil consumption reporting and" are inserted before the words "International Energy Efficiency Certificate".

Regulation 22

Ship Energy Efficiency Management Plan (SEEMP)

14 After existing paragraph 1, a new paragraph 2 is inserted as follows and the existing paragraph 2 is renumbered as paragraph 3:

"2 On or before 31 December 2018, in the case of a ship of 5,000 gross tonnage and above, the SEEMP shall include a description of the methodology that will be used to collect the data required by regulation 22A.1 of this Annex and the processes that will be used to report the data to the ship's Administration."

15 After existing regulation 22, a new 22A is inserted as follows:

**"Regulation 22A
Collection and reporting of ship fuel oil consumption data**

1 From calendar year 2019, each ship of 5,000 gross tonnage and above shall collect the data specified in appendix IX to this Annex, for that and each subsequent calendar year or portion thereof, as appropriate, according to the methodology included in the SEEMP.

2 Except as provided for in paragraphs 4, 5 and 6 of this regulation, at the end of each calendar year, the ship shall aggregate the data collected in that calendar year or portion thereof, as appropriate.

3 Except as provided for in paragraphs 4, 5 and 6 of this regulation, within three months after the end of each calendar year, the ship shall report to its Administration or any organization duly authorized by it*, the aggregated value for each datum specified in appendix IX to this Annex, via electronic communication and using a standardized format to be developed by the Organization†.

4 In the event of the transfer of a ship from one Administration to another, the ship shall on the day of completion of the transfer or as close as practical thereto report to the losing Administration or any organization duly authorized by it*, the aggregated data for the period of the calendar year corresponding to that Administration, as specified in appendix IX to this Annex and, upon prior request of that Administration, the disaggregated data.

5 In the event of a change from one Company to another, the ship shall on the day of completion of the change or as close as practical thereto report to its Administration or any organization duly authorized by it*, the aggregated data for the portion of the calendar year corresponding to the Company, as specified in appendix IX to this Annex and, upon request of its Administration, the disaggregated data.

6 In the event of change from one Administration to another and from one Company to another concurrently, paragraph 4 of this regulation shall apply.

7 The data shall be verified according to procedures established by the Administration, taking into account guidelines to be developed by the Organization.

8 Except as provided for in paragraphs 4, 5 and 6 of this regulation, the disaggregated data that underlies the reported data noted in appendix IX to this Annex for the previous calendar year shall be readily accessible for a period of not less than 12 months from the end of that calendar year and be made available to the Administration upon request.

9 The Administration shall ensure that the reported data noted in appendix IX to this Annex by its registered ships of 5,000 gross tonnage and above are transferred to the IMO Ship Fuel Oil Consumption Database via electronic communication and using a standardized format to be developed by the Organization not later than one month after issuing the Statements of Compliance of these ships.

10 On the basis of the reported data submitted to the IMO Ship Fuel Oil Consumption Database, the Secretary-General of the Organization shall produce an annual report to the Marine Environment Protection Committee summarizing the data collected, the status of missing data, and such other relevant information as may be requested by the Committee.

* Refer to the *Guidelines for the authorization of organizations acting on behalf of the Administration*, adopted by the Organization by resolution A.739(18), as may be amended by the Organization, and the *Specifications on the survey and certification functions of recognized organizations acting on behalf of the Administration*, adopted by the Organization by resolution A.789(19), as may be amended by the Organization.

† Refer to the *2016 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP Guidelines)* (resolution MEPC.282(70)).

11 The Secretary-General of the Organization shall maintain an anonymized database such that identification of a specific ship will not be possible. Parties shall have access to the anonymized data strictly for their analysis and consideration.

12 The IMO Ship Fuel Oil Consumption Database shall be undertaken and managed by the Secretary-General of the Organization, pursuant to guidelines to be developed by the Organization."

16 After existing appendix VIII, new appendices IX and X are inserted as follows:

"Appendix IX

Information to be submitted to the IMO Ship Fuel Oil Consumption Database

Identity of the ship
IMO number

Period of calendar year for which the data is submitted
Start date (dd/mm/yyyy)
End date (dd/mm/yyyy)

Technical characteristics of the ship
Ship type, as defined in regulation 2 of this Annex or other (to be stated)
Gross tonnage (GT)¹
Net tonnage (NT)²
Deadweight tonnage (DWT)³
Power output (rated power⁴) of main and auxiliary reciprocating internal combustion engines over 130 kW (to be stated in kW)
EEDI (if applicable)
Ice class⁵

Fuel oil consumption, by fuel oil type⁶ in metric tonnes and methods used for collecting fuel oil consumption data

Distance travelled
Hours underway

¹ Gross tonnage should be calculated in accordance with the International Convention on Tonnage Measurement of Ships, 1969.

² Net tonnage should be calculated in accordance with the International Convention on Tonnage Measurement of Ships, 1969. If not applicable, note "N/A".

³ DWT means the difference in tonnes between the displacement of a ship in water of relative density of 1025 kg/m³ at the summer load draught and the lightweight of the ship. The summer load draught should be taken as the maximum summer draught as certified in the stability booklet approved by the Administration or an organization recognized by it.

⁴ Rated power means the maximum continuous rated power as specified on the nameplate of the engine.

⁵ Ice class should be consistent with the definition set out in the *International Code for ships operating in polar waters (Polar Code)*, (resolutions MEPC.264(68) and MSC.385(94)). If not applicable, note "N/A".

⁶ As defined in the *2014 Guidelines on the method of calculation of the Attained Energy Efficiency Design Index (EEDI) for new ships* (resolution MEPC.245(66), as amended) or other (to be stated).

Appendix X

Form of Statement of Compliance – Fuel Oil Consumption Reporting

STATEMENT OF COMPLIANCE – FUEL OIL CONSUMPTION REPORTING

Issued under the provisions of the Protocol of 1997, as amended, to amend the International Convention for the Prevention of Pollution by Ships, 1973, as modified by the Protocol of 1978 related thereto (hereinafter referred to as "the Convention") under the authority of the Government of:

.....
(full designation of the Party)

by
(full designation of the competent person or organization authorized under the provisions of the Convention)

Particulars of ship¹

Name of ship

Distinctive number or letters.

IMO Number²

Port of registry

Gross tonnage.

THIS IS TO DECLARE:

1. That the ship has submitted to this Administration the data required by regulation 22A of Annex VI of the Convention, covering ship operations from (dd/mm/yyyy) through (dd/mm/yyyy); and
2. The data was collected and reported in accordance with the methodology and processes set out in the ship's SEEMP that was in effect over the period from (dd/mm/yyyy) through (dd/mm/yyyy).

This Statement of Compliance is valid until (dd/mm/yyyy).

Issued at:
(place of issue of Statement)

Date (dd/mm/yyyy)

(date of issue)

*(signature of duly authorized official
issuing the Statement)*

(seal or stamp of the authority, as appropriate) "

¹ Alternatively, the particulars of the ship may be placed horizontally in boxes.

² In accordance with the *IMO Ship Identification Number Scheme*, adopted by the Organization by resolution A.1078(28).

ANNEX 1

**RESOLUTION MEPC.286(71)
(adopted on 7 July 2017)**

**AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND THE
INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS,
1973, AS MODIFIED BY THE PROTOCOL OF 1978 RELATING THERETO**

Amendments to MARPOL Annex VI

**(Designation of the Baltic Sea and the North Sea Emission Control Areas
for NO_x Tier III control)
(Information to be included in the bunker delivery note)**

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocols of 1978 and 1997 relating thereto (MARPOL), which specifies the amendment procedure and confers upon the appropriate body of the Organization the function of considering and adopting amendments thereto,

HAVING CONSIDERED, at its seventy-first session, proposed amendments to MARPOL Annex VI concerning the designation of the Baltic Sea and the North Sea Emission Control Areas for NO_x Tier III control and the information to be included in the bunker delivery note,

1 ADOPTS, in accordance with article 16(2)(d) of MARPOL, amendments to MARPOL Annex VI, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article 16(2)(f)(iii) of MARPOL, that the amendments shall be deemed to have been accepted on 1 July 2018 unless prior to that date, not less than one third of the Parties or Parties the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;

3 INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of MARPOL, the said amendments shall enter into force on 1 January 2019 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of article 16(2)(e) of MARPOL, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to MARPOL;

5 REQUESTS FURTHER the Secretary-General to transmit copies of the present resolution and its annex to Members of the Organization which are not Parties to MARPOL.

ANNEX

AMENDMENTS TO MARPOL ANNEX VI

(Designation of the Baltic Sea and the North Sea Emission Control Areas
for NO_x Tier III control)
(Information to be included in the bunker delivery note)

ANNEX VI

REGULATIONS FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS

Regulation 13*Nitrogen oxides (NO_x)*

- 1 In paragraph 5.1 after the words "an emission control area designated for Tier III NO_x control under paragraph 6 of this regulation" insert the words "(NO_x Tier III emission control area)".
- 2 The existing text of paragraph 5.1.2 is replaced by the following:
 - .2 that ship is constructed on or after:
 - .1 1 January 2016 and is operating in the North American Emission Control Area or the United States Caribbean Sea Emission Control Area;
 - .2 1 January 2021 and is operating in the Baltic Sea Emission Control Area or the North Sea Emission Control Area;
- 3 Between paragraph 5.1.2 and 5.1.3 the word "when" is deleted.
- 4 In paragraph 5.1.3 the words "an emission control area designated for Tier III NO_x control under paragraph 6 of this regulation" are replaced by "a NO_x Tier III emission control area".
- 5 In paragraph 5.2.3 the word "convention" is replaced by "Convention" and the expression "24 m" is replaced by "24 metres".
- 6 Insert new paragraphs 5.4 and 5.5, as follows:

"5.4 Emissions of nitrogen oxides from a marine diesel engine subject to paragraph 5.1 of this regulation that occur immediately following building and sea trials of a newly constructed ship, or before and following converting, repairing, and/or maintaining the ship, or maintenance or repair of a Tier II engine or a dual fuel engine when the ship is required to not have gas fuel or gas cargo on board due to safety requirements, for which activities take place in a shipyard or other repair facility located in a NO_x Tier III emission control area are temporarily exempted provided the following conditions are met:

 - .1 the engine meets the Tier II NO_x limits; and

- .2 the ship sails directly to or from the shipyard or other repair facility, does not load or unload cargo during the duration of the exemption, and follows any additional specific routing requirements indicated by the port State in which the shipyard or other repair facility is located, if applicable.

5.5 The exemption described in paragraph 5.4 of this regulation applies only for the following period:

- .1 for a newly constructed ship, the period beginning at the time the ship is delivered from the shipyard, including sea trials, and ending at the time the ship directly exits the NO_x Tier III emission control area(s) or, with regard to a ship fitted with a dual fuel engine, the ship directly exits the NO_x Tier III emission control area(s) or proceeds directly to the nearest gas fuel bunkering facility appropriate to the ship located in the NO_x Tier III emission control area(s);
- .2 for a ship with a Tier II engine undergoing conversion, maintenance or repair, the period beginning at the time the ship enters the NO_x Tier III emission control area(s) and proceeds directly to the shipyard or other repair facility, and ending at the time the ship is released from the shipyard or other repair facility and directly exits the NO_x Tier III emission control area (s) after performing sea trials, if applicable; or
- .3 for a ship with a dual fuel engine undergoing conversion, maintenance or repair, when the ship is required to not have gas fuel or gas cargo on board due to safety requirements, the period beginning at the time the ship enters the NO_x Tier III emission control area(s) or when it is degassed in the NO_x Tier III emission control area(s) and proceeds directly to the shipyard or other repair facility, and ending at the time when the ship is released from the shipyard or other repair facility and directly exits the NO_x Tier III emission control area(s) or proceeds directly to the nearest gas fuel bunkering facility appropriate to the ship located in the NO_x Tier III emission control area(s)."

7 The existing text of paragraph 6 is replaced by the following:

"6 For the purposes of this regulation, a NO_x Tier III emission control area shall be any sea area, including any port area, designated by the Organization in accordance with the criteria and procedures set forth in appendix III to this Annex. The NO_x Tier III emission control areas are:

- .1 the North American Emission Control Area, which means the area described by the coordinates provided in appendix VII to this Annex;
- .2 the United States Caribbean Sea Emission Control Area, which means the area described by the coordinates provided in appendix VII to this Annex;

- .3 the Baltic Sea Emission Control Area as defined in regulation 1.11.2 of Annex I of the present Convention; and
- .4 the North Sea Emission Control Area as defined in regulation 1.14.6 of Annex V of the present Convention."

Appendix V

Information to be included in the bunker delivery note (regulation 18.5)

8 The items listed in the Appendix are numbered from 1 to 9.

9 In item 7, the comma after "15°C" is deleted and the expression "kg/m³" is replaced by "(kg/m³)".

10 Item 9 is replaced with the following:

"A declaration signed and certified by the fuel oil supplier's representative that the fuel oil supplied is in conformity with regulation 18.3 of this Annex and that the sulphur content of the fuel oil supplied does not exceed:

- the limit value given by regulation 14.1 of this Annex;
- the limit value given by regulation 14.4 of this Annex; or
- the purchaser's specified limit value of _____ (% m/m), as completed by the fuel oil supplier's representative and on the basis of the purchaser's notification that the fuel oil is intended to be used:
 - .1 in combination with an equivalent means of compliance in accordance with regulation 4 of this Annex; or
 - .2 is subject to a relevant exemption for a ship to conduct trials for sulphur oxides emission reduction and control technology research in accordance with regulation 3.2 of this Annex.

The declaration shall be completed by the fuel oil supplier's representative by marking the applicable box(es) with a cross (x)."

ANNEX 6

**RESOLUTION MEPC.301(72)
(adopted on 13 April 2018)**

**AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND THE
INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS,
1973, AS MODIFIED BY THE PROTOCOL OF 1978 RELATING THERETO**

Amendments to MARPOL Annex VI

(ECAs and required EEDI for ro-ro cargo ships and ro-ro passenger ships)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocols of 1978 and 1997 relating thereto (MARPOL), which specifies the amendment procedure and confers upon the appropriate body of the Organization the function of considering amendments thereto for adoption by the Parties,

HAVING CONSIDERED, at its seventy-second session, proposed amendments to MARPOL Annex VI concerning ECAs and the required EEDI for ro-ro cargo ships and ro-ro passenger ships,

1 ADOPTS, in accordance with article 16(2)(d) of MARPOL, amendments to MARPOL Annex VI, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article 16(2)(f)(iii) of MARPOL, that the amendments shall be deemed to have been accepted on 1 March 2019 unless prior to that date, not less than one third of the Parties or Parties the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;

3 INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of MARPOL, the said amendments shall enter into force on 1 September 2019 upon their acceptance in accordance with paragraph 2 above;

4 INVITES FURTHER the Parties to consider the application of the aforesaid amendments to regulation 21 of Annex VI of MARPOL concerning new parameters for determination of reference values of the EEDI to ships entitled to fly their flag as soon as possible, prior to entry into force;

5 REQUESTS the Secretary-General, for the purposes of article 16(2)(e) of MARPOL, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to MARPOL;

6 REQUESTS FURTHER the Secretary-General to transmit copies of the present resolution and its annex to Members of the Organization which are not Parties to MARPOL.

ANNEX

AMENDMENTS TO MARPOL ANNEX VI

(ECAs and the required EEDI for ro-ro cargo ships and ro-ro passenger ships)

Regulation 13 – Nitrogen oxides (NO_x)

1 In paragraph 5.3, the words "an emission control area designated under paragraph 6 of this regulation" are replaced with the words "a NO_x Tier III emission control area".

Regulation 21 - Required EEDI

2 In table 2 (Parameters for determination of reference values for the different ship types) of paragraph 3, rows 2.34 and 2.35 for ro-ro cargo ships and ro-ro passenger ships are replaced by the following:

2.34 Ro-ro cargo ship	1405.15	DWT of the ship	0.498
	1686.17*	DWT of the ship where DWT ≤ 17,000* 17,000 where DWT > 17,000*	
2.35 Ro-ro passenger ship	752.16	DWT of the ship	0.381
	902.59*	DWT of the ship where DWT ≤ 10,000* 10,000 where DWT > 10,000*	

* to be used from phase 2 and thereafter.

ANNEX 1

**RESOLUTION MEPC.305(73)
(adopted on 26 October 2018)**

**AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND THE
INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM
SHIPS, 1973, AS MODIFIED BY THE PROTOCOL OF 1978 RELATING THERETO**

Amendments to MARPOL Annex VI

**(Prohibition on the carriage of non-compliant fuel oil for combustion purposes for
propulsion or operation on board a ship)**

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocols of 1978 and 1997 relating thereto (MARPOL), which specifies the amendment procedure and confers upon the appropriate body of the Organization the function of considering amendments thereto for adoption by the Parties,

HAVING CONSIDERED, at its seventy-third session, proposed amendments to MARPOL Annex VI concerning the prohibition on the carriage of non-compliant fuel oil for combustion purposes for propulsion or operation on board a ship,

1 ADOPTS, in accordance with article 16(2)(d) of MARPOL, amendments to MARPOL Annex VI, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article 16(2)(f)(iii) of MARPOL, that the amendments shall be deemed to have been accepted on 1 September 2019 unless, prior to that date, not less than one third of the Parties or Parties the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;

3 INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of MARPOL, the said amendments shall enter into force on 1 March 2020 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of article 16(2)(e) of MARPOL, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to MARPOL;

5 REQUESTS FURTHER the Secretary-General to transmit copies of the present resolution and its annex to Members of the Organization which are not Parties to MARPOL.

ANNEX

AMENDMENTS TO MARPOL ANNEX VI

(Prohibition on the carriage of non-compliant fuel oil for combustion purposes for propulsion or operation on board a ship)

ANNEX VI

REGULATIONS FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS

Regulation 14

Sulphur oxides (SO_x) and particulate matter

General requirements

1 Paragraph 1 is replaced by the following:

"1 The sulphur content of fuel oil used or carried for use on board a ship shall not exceed 0.50% m/m."

Requirements within emission control areas

2 Paragraph 3 is replaced by the following:

"3 For the purpose of this regulation, an emission control area shall be any sea area, including any port area, designated by the Organization in accordance with the criteria and procedures set forth in appendix III to this Annex. The emission control areas under this regulation are:

- .1 the Baltic Sea area as defined in regulation 1.11.2 of Annex I of the present Convention;
- .2 the North Sea area as defined in regulation 1.14.6 of Annex V of the present Convention;
- .3 the North American Emission Control Area, which means the area described by the coordinates provided in appendix VII to this Annex; and
- .4 the United States Caribbean Sea Emission Control Area, which means the area described by the coordinates provided in appendix VII to this Annex."

3 Paragraph 4 is replaced by the following:

"4 While a ship is operating within an emission control area, the sulphur content of fuel oil used on board that ship shall not exceed 0.10% m/m."

4 The subtitle "Review provision" and paragraphs 8, 9 and 10 are deleted.

Appendix I

Form of International Air Pollution Prevention (IAPP) Certificate (Regulation 8)

Supplement to International Air Pollution Prevention Certificate (IAPP Certificate)

5 Paragraphs 2.3.1 and 2.3.2 are replaced by the following and a new paragraph 2.3.3 is added as follows:

"2.3.1 When the ship operates outside of an emission control area specified in regulation 14.3, the ship uses:

.1 fuel oil with a sulphur content as documented by bunker delivery notes that does not exceed the limit value of 0.50% m/m, and/or
.....□

.2 an equivalent arrangement approved in accordance with regulation 4.1 as listed in paragraph 2.6 that is at least as effective in terms of SO_x emission reductions as compared to using a fuel oil with a sulphur content limit value of 0.50% m/m
.....□

2.3.2 When the ship operates inside an emission control area specified in regulation 14.3, the ship uses:

.1 fuel oil with a sulphur content as documented by bunker delivery notes that does not exceed the limit value of 0.10% m/m, and/or
.....□

.2 an equivalent arrangement approved in accordance with regulation 4.1 as listed in paragraph 2.6 that is at least as effective in terms of SO_x emission reductions as compared to using a fuel oil with a sulphur content limit value of 0.10% m/m
.....□

2.3.3 For a ship without an equivalent arrangement approved in accordance with regulation 4.1 as listed in paragraph 2.6, the sulphur content of fuel oil carried for use on board the ship shall not exceed 0.50% m/m as documented by bunker delivery notes

.....□"

ANNEX 5

**RESOLUTION MEPC.316(74)
(adopted on 17 May 2019)**

**AMENDMENTS TO THE ANNEX OF THE PROTOCOL OF 1997 TO AMEND THE
INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS,
1973, AS MODIFIED BY THE PROTOCOL OF 1978 RELATING THERETO**

Amendments to MARPOL Annex VI

(Electronic Record Books and EEDI regulations for ice-strengthened ships)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

RECALLING ALSO article 16 of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocols of 1978 and 1997 relating thereto (MARPOL), which specifies the amendment procedure and confers upon the appropriate body of the Organization the function of considering amendments thereto for adoption by the Parties,

HAVING CONSIDERED, at its seventy-fourth session, proposed amendments to MARPOL Annex VI concerning Electronic Record Books and EEDI regulations for ice-strengthened ships, which were circulated in accordance with article 16(2)(a) of MARPOL,

1 ADOPTS, in accordance with article 16(2)(d) of MARPOL, amendments to MARPOL Annex VI, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article 16(2)(f)(iii) of MARPOL, that the amendments shall be deemed to have been accepted on 1 April 2020 unless prior to that date, not less than one third of the Parties or Parties the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;

3 INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of MARPOL, the said amendments shall enter into force on 1 October 2020 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of article 16(2)(e) of MARPOL, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to MARPOL;

5 REQUESTS ALSO the Secretary-General to transmit copies of the present resolution and its annex to Members of the Organization which are not Parties to MARPOL.

ANNEX

AMENDMENTS TO MARPOL ANNEX VI**(Electronic Record Books and EEDI regulations for ice-strengthened ships)****Regulation 2 – Definitions**

1 Paragraph 42 is replaced by the following:

"42 *Polar Code* means the International Code for Ships Operating in Polar Waters, consisting of an introduction, parts I-A and II-A and parts I-B and II-B, adopted by resolutions MSC.385(94) and MEPC.264(68), as may be amended, provided that:

- .1 amendments to the environment-related provisions of the introduction and chapter 1 of part II-A of the Polar Code are adopted, brought into force and take effect in accordance with the provisions of article 16 of the present Convention concerning the amendment procedures applicable to an appendix to an annex; and
- .2 amendments to part II-B of the Polar Code are adopted by the Marine Environment Protection Committee in accordance with its Rules of Procedure."

2 A new paragraph 51 is added as follows:

"51 *Electronic Record Book* means a device or system, approved by the Administration, used to electronically record the required entries for discharges, transfers and other operations as required under this Annex in lieu of a hard copy record book."

Regulation 12 – Ozone-depleting substances

3 In the second sentence of paragraph 6, the words "recording system" are replaced by "record book**".

4 A new sentence is inserted at the end of paragraph 6 as follows:

"An electronic recording system referred to in regulation 12.6, as adopted by resolution MEPC.176(58), shall be considered an electronic record book, provided the electronic recording system is approved by the Administration on or before the first International Air Pollution Prevention (IAPP) Certificate renewal survey carried out on or after 1 October 2020, but not later than 1 October 2025, taking into account the Guidelines developed by the Organization"

Regulation 13 – Nitrogen oxides (NO_x)

5 In paragraph 5.3, the words "or electronic record book*", " are inserted after the words "shall be recorded in such logbook".

** Refer to the *Guidelines for the use of electronic record books under MARPOL*, adopted by resolution MEPC.312(74)."

Regulation 14 – Sulphur oxides (SO_x) and particulate matter

6 In the last sentence of paragraph 6, the words "or electronic record book*," are inserted after the words "shall be recorded in such logbook".

Regulation 19 – Application

7 In the last sentence of paragraph 3, the words "cargo ships having ice-breaking capability" are replaced by the words "category A ships as defined in the Polar Code".

Appendix I

Form of International Air Pollution Prevention (IAPP) Certificate (Regulation 8)

8 In the introductory paragraph of Appendix I, the words "by resolution MEPC.176(58) in 2008" are deleted.

Appendix VIII

Form of International Energy Efficiency (IEE) Certificate

9 In the introductory paragraph, the words "by resolution MEPC.203(62)" are deleted.

Appendix X

Form of Statement of Compliance – Fuel Oil Consumption Reporting

10 In the introductory paragraph, the word "by" between "Pollution" and "Ships" in the first sentence is replaced by the word "from".

* Refer to the *Guidelines for the use of electronic record books under MARPOL*, adopted by resolution MEPC.312(74)."

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ANNEX 3

**RESOLUTION MEPC.314(74)
(adopted on 17 May 2019)**

**AMENDMENTS TO THE ANNEX OF THE INTERNATIONAL CONVENTION FOR THE
PREVENTION OF POLLUTION FROM SHIPS, 1973, AS MODIFIED BY THE
PROTOCOL OF 1978 RELATING THERETO**

Amendments to MARPOL Annexes I, II and V

(Electronic Record Books)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

RECALLING ALSO article 16 of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL), which specifies the amendment procedure and confers upon the appropriate body of the Organization the function of considering and adopting amendments thereto,

HAVING CONSIDERED, at its seventy-fourth session, proposed amendments to MARPOL Annexes I, II and V concerning Electronic Record Books, which were circulated in accordance with article 16(2)(a) of MARPOL,

1 ADOPTS, in accordance with article 16(2)(d) of MARPOL, amendments to MARPOL Annexes I, II and V, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article 16(2)(f)(iii) of MARPOL, that the amendments shall be deemed to have been accepted on 1 April 2020 unless prior to that date, not less than one third of the Parties or Parties the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;

3 INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of MARPOL, the said amendments shall enter into force on 1 October 2020 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of article 16(2)(e) of MARPOL, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to MARPOL;

5 REQUESTS ALSO the Secretary-General to transmit copies of the present resolution and its annex to Members of the Organization which are not Parties to MARPOL.

ANNEX

AMENDMENTS TO MARPOL ANNEXES I, II AND V

(Electronic Record Books)

MARPOL ANNEX I

REGULATIONS FOR THE PREVENTION OF POLLUTION BY OIL

Regulation 1 – Definitions

1 A new paragraph 39 is added as follows:

"39 *Electronic Record Book* means a device or system, approved by the Administration, used to electronically record the required entries for discharges, transfers and other operations as required under this Annex in lieu of a hard copy record book."

Regulation 17 – Oil Record Book Part I – Machinery space operations

2 The second sentence of paragraph 1 is replaced by the following:

"The Oil Record Book, whether as a part of the ship's official logbook, as an electronic record book which shall be approved by the Administration taking into account the Guidelines developed by the Organization*, or otherwise, shall be in the form specified in appendix III to this Annex."

3 In the second sentence of paragraph 4, the words "or group of electronic entries" are inserted after the words "each completed page".

Regulation 36 – Oil Record Book Part II – Cargo/ballast operations

4 The second sentence of paragraph 1 is replaced by the following:

"The Oil Record Book Part II, whether as a part of the ship's official logbook, as an electronic record book which shall be approved by the Administration taking into account the Guidelines developed by the Organization*, or otherwise, shall be in the Form specified in appendix III to this Annex."

5 In the second sentence of paragraph 5, the words "or group of electronic entries" are inserted after the words "each completed page".

* Refer to the *Guidelines for the use of electronic record books under MARPOL*, adopted by resolution MEPC.312(74)"

MARPOL ANNEX II**REGULATIONS FOR THE CONTROL OF POLLUTION OF NOXIOUS LIQUID
SUBSTANCES IN BULK****Regulation 1 – Definitions**

6 A new paragraph 22 is added as follows:

"22 *Electronic Record Book* means a device or system, approved by the Administration, used to electronically record the required entries for discharges, transfers and other operations as required under this Annex in lieu of a hard copy record book."

Regulation 15 – Cargo Record Book

7 The existing paragraph 1 is replaced by the following:

"Every ship to which this Annex applies shall be provided with a Cargo Record Book, whether as a part of the ship's official logbook, as an electronic record book which shall be approved by the Administration taking into account Guidelines developed by the Organization*, or otherwise, in the form specified in appendix II to this Annex."

8 In the first sentence of paragraph 4, the words "or group of electronic entries" are inserted after the words "each page".

MARPOL ANNEX V**REGULATIONS FOR THE PREVENTION OF POLLUTION BY GARBAGE FROM SHIPS****Regulation 1 – Definitions**

9 A new paragraph 19 is added as follows:

"19 *Electronic Record Book* means a device or system, approved by the Administration, used to electronically record the required entries for discharges, transfers and other operations as required under this Annex in lieu of a hard copy record book."

Regulation 10 – Placards, garbage management plans and garbage record-keeping

10 The second sentence of the chapeau of paragraph 3 is replaced by the following:

"The Garbage Record Book, whether as a part of the ship's official logbook, or as an electronic record book which shall be approved by the Administration taking into account the Guidelines developed by the Organization*, or otherwise, shall be in the form specified in appendix II to this Annex:"

11 In the second sentence of paragraph 3.1, the words "or group of electronic entries" are inserted after the words "each completed page".

* Refer to the *Guidelines for the use of electronic record books under MARPOL*, adopted by resolution MEPC.312(74)"

ANNEX 4

**RESOLUTION MEPC.315(74)
(adopted on 17 May 2019)**

**AMENDMENTS TO THE ANNEX OF THE INTERNATIONAL CONVENTION FOR THE
PREVENTION OF POLLUTION FROM SHIPS, 1973, AS MODIFIED BY THE
PROTOCOL OF 1978 RELATING THERETO**

Amendments to MARPOL Annex II

(Cargo residues and tank washings of persistent floating products)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

RECALLING ALSO article 16 of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL), which specifies the amendment procedure and confers upon the appropriate body of the Organization the function of considering and adopting amendments thereto,

HAVING CONSIDERED, at its seventy-fourth session, proposed amendments to MARPOL Annex II concerning cargo residues and tank washings of persistent floating products, which were circulated in accordance with article 16(2)(a) of MARPOL,

1 ADOPTS, in accordance with article 16(2)(d) of MARPOL, amendments to MARPOL Annex II, the text of which is set out in the annex to the present resolution;

2 DETERMINES, in accordance with article 16(2)(f)(iii) of MARPOL, that the amendments shall be deemed to have been accepted on 1 July 2020 unless prior to that date, not less than one third of the Parties or Parties the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objection to the amendments;

3 INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of MARPOL, the said amendments shall enter into force on 1 January 2021 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of article 16(2)(e) of MARPOL, to transmit certified copies of the present resolution and the text of the amendments contained in the annex to all Parties to MARPOL;

5 REQUESTS ALSO the Secretary-General to transmit copies of the present resolution and its annex to Members of the Organization which are not Parties to MARPOL.

ANNEX

AMENDMENTS TO MARPOL ANNEX II

(Cargo residues and tank washings of persistent floating products)

CHAPTER 1 – GENERAL

Regulation 1 – Definitions

1 A new paragraph 23 is added as follows:

"23 *Persistent floater* means a slick forming substance with the following properties:

- Density: \leq sea water (1025 kg/m³ at 20°C);
- Vapour pressure: \leq 0.3 kPa;
- Solubility: \leq 0.1% (for liquids) \leq 10% (for solids); and
- Kinematic viscosity: $>$ 10 cSt at 20°C."

CHAPTER 5 – OPERATIONAL DISCHARGES OF RESIDUES
OF NOXIOUS LIQUID SUBSTANCES

Regulation 13 – Control of discharges of residues of noxious liquid substances

2 A new paragraph 7.1.4 is inserted after existing paragraph 7.1.3 as follows:

"7.1.4 For substances assigned to category Y that are persistent floaters with a viscosity equal to or greater than 50 mPa·s at 20°C and/or with a melting point equal to or greater than 0°C, as identified by '16.2.7' in column 'o' of chapter 17 of the IBC Code, the following shall apply in the areas in paragraph 9:

- .1 a prewash procedure as specified in appendix VI to this annex shall be applied;
- .2 the residue/water mixture generated during the prewash shall be discharged to a reception facility at the port of unloading until the tank is empty; and
- .3 any water subsequently introduced into the tank may be discharged into the sea in accordance with the discharge standards in regulation 13.2."

3 A new paragraph 9 is inserted after existing paragraph 8.2 as follows:

"9 Areas to which regulation 13.7.1.4 applies

9.1 the *North West European waters* include the North Sea and its approaches, the Irish Sea and its approaches, the Celtic Sea, the English Channel and its approaches and part of the North East Atlantic immediately to the west of Ireland. The area is bounded by lines joining the following points:

48°27' N on the French coast
48°27' N; 006°25' W
49°52' N; 007°44' W
50°30' N; 012° W
56°30' N; 012° W
62° N; 003° W
62° N on the Norwegian coast
57°44.8' N on the Danish and Swedish coasts

9.2 the *Baltic Sea area* means the Baltic Sea proper with the Gulf of Bothnia, the Gulf of Finland and the entrance to the Baltic Sea bounded by the parallel of the Skaw in the Skagerrak at 57°44.8' N;

9.3 the *Western European waters* is an area that covers the United Kingdom, Ireland, Belgium, France, Spain and Portugal, from the Shetland Islands in the North to Cape S. Vicente in the South, and the English Channel and its approaches. The area is bounded by lines joining the following points:

58°30' N on the UK coast
58°30' N; 000° W
62° N; 000° W
62° N; 003° W
56°30' N; 012° W
54°40'40.9" N; 015° W
50°56'45.3" N; 015° W
48°27' N; 006°25' W
48°27' N; 008° W
44°52' N; 003°10' W
44°52' N; 010° W
44°14' N; 011°34' W
42°55' N; 012°18' W
41°50' N; 011°34' W
37°00' N; 009°49' W
36°20' N; 009°00' W
36°20' N; 007°47' W
37°10' N; 007°25' W
51°22'25" N; 003°21'52.5" E
52°12' N; on the UK east coast
52°10.3' N; 006°21.8' W
52°01.52' N; 005°04.18' W
54°51.43' N; 005°08.47' W
54°40.39' N; 005°34.34' W

9.4 the *Norwegian Sea* is bounded by lines joining the following points:"

69°47.6904' N; 030°49.059' E
69°58.758' N; 031°6.2598' E
70°8.625' N; 031°35.1354' E
70°16.4826' N; 032°4.3836' E
73°23.0652' N; 036°28.5732' E
73°35.6586' N; 035°27.3378' E
74°2.9748' N; 033°17.8596' E
74°20.7084' N; 030°33.5052' E
74°29.7972' N; 026°28.1808' E
74°24.2448' N; 022°55.0272' E
74°13.7226' N; 020°15.9762' E
73°35.439' N; 016°36.4974' E
73°14.8254' N; 014°9.4266' E
72°42.54' N; 011°42.1392' E
71°58.2' N; 009°54.96' E
71°37.5612' N; 008°43.8222' E
70°43.161' N; 006°36.0672' E
69°36.624' N; 004°47.322' E
68°58.3164' N; 003°51.2154' E
68°14.9892' N; 003°17.0322' E
67°25.7982' N; 003°10.2078' E
66°49.7292' N; 003°25.1304' E
66°25.9344' N; 003°17.1102' E
65°22.7214' N; 001°24.5928' E
64°25.9692' N; 000°29.3214' W
63°53.2242' N; 000°29.442' W
62°53.4654' N; 000°38.355' E
62° N; 001°22.2498' E
62° N; 004°52.3464' E

APPENDIX IV – STANDARD FORMAT FOR THE PROCEDURES AND ARRANGEMENTS MANUAL

Section 4 – Procedures relating to the cleaning of cargo tanks, the discharge of residues, ballasting and deballasting

4 Paragraph 4.4.5 is replaced by the following:

".5 Persistent floaters with a viscosity equal to or greater than 50 mPa·s at 20°C and/or a melting point equal to or greater than 0°C

This section should contain instructions on how to deal with tank washings of substances identified by the presence of '16.2.7' in column 'o' of chapter 17 of the IBC Code and the latest version of the MEPC.2/Circular, when operating in the areas specified in regulation 13.9 of Annex II."

Addendum A – Flow diagrams – Cleaning of cargo tanks and disposal of tank washings/ballast containing residues of category X, Y and Z substances

5 A new Note 4 is inserted after existing Note 3 as follows:

"Note 4: Within the areas specified in regulation 13.9 of Annex II, regulation 13.7.1.4 applies to substances that are identified by '16.2.7' in column 'o' of chapter 17 of the IBC Code."

APPENDIX VI – PREWASH PROCEDURES

6 A new section C is added after existing paragraph 21 as follows:

"C For all ships

Prewash procedures for persistent floaters to which regulation 13.7.1.4 of Annex II of MARPOL applies

Persistent floaters with a viscosity equal to or greater than 50 mPa·s at 20°C and/or a melting point equal to or greater than 0°C, shall be treated as solidifying or high-viscosity substances for the purposes of the prewash.

Where it is determined that the use of small amounts of cleaning additives would improve and maximize the removal of cargo residues during a prewash, then this should be done in consultation and with prior agreement from the reception facility."