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PREVENTION OF POLLUTION OF THE SEA ACT (CHAPTER 243)

PREVENTION OF POLLUTION OF THE SEA (AIR) REGULATIONS 2005

ARRANGEMENT OF REGULATIONS

In exercise of the powers conferred by section 34 of the Prevention of Pollution of the Sea Act, the Maritime and Port Authority of Singapore, with the approval of the Minister for Transport, hereby makes the following Regulations:

Citation and commencement

1. These Regulations may be cited as the Prevention of Pollution of the Sea (Air) Regulations 2005 and shall come into operation on 19th May 2005.

Definitions

2. In these Regulations, unless the context otherwise requires —

"Annex I" means Annex I to the Convention which contains regulations for the prevention of pollution by oil and which is set out in the First Schedule to the Prevention of Pollution of the Sea (Oil) Regulations 2006 (G.N. No. S 685/2006);

[S 398/2011 wef 01/08/2011]

"Annex II" means Annex II to the Convention which contains regulations for the control of noxious liquid substances in bulk and which is set out in the First Schedule to the Prevention of Pollution of the Sea (Noxious Liquid Substances in Bulk) Regulations 2006 (G.N. No. S 686/2006);

[S 398/2011 wef 01/08/2011]

"Annex III" means Annex III to the Convention which contains regulations for the control of harmful substances carried in packaged form;

[S 398/2011 wef 01/08/2011]

"Annex V" means Annex V to the Convention which contains regulations for the prevention of pollution by garbage;

[S 398/2011 wef 01/08/2011]

"Annex VI" means Annex VI to the Convention which contains regulations for the prevention of air pollution from ships and which is set out in the First Schedule;

"authorised organisation" means an organisation authorised by regulations made under section 116 of the Merchant Shipping Act (Cap. 179) for the purposes of surveying ships and issuing certificates under Part V of that Act;

"IAPP Certificate" means an International Air Pollution Prevention Certificate issued under regulation 6 of Annex VI by the Administration of any Contracting Party to the Convention;

"IMO" or "Organization" means the International Maritime Organization;

[S 398/2011 wef 01/08/2011]

"SAPP Certificate" means a Singapore Air Pollution Prevention Certificate issued by the Director or an authorised organisation under regulation 8.

Application

3.—(1) Annex VI shall, subject to these Regulations, have the force of law in Singapore.

(2) A provision of Annex VI interpreted or explained by a provision of these Regulations shall be read as having the same meaning attributed by that provision.

(3) For the purpose of regulation 1 of Annex VI, reference to "all ships" in that regulation shall be read as a reference to —

(*a*) Singapore ships; and

(*b*) other ships while they are in Singapore waters,

and these Regulations shall apply to such ships.

Exemptions

4. The Director may grant exemptions from all or any of these Regulations including Annex VI (as may be specified in the exemption) for classes of cases or individual cases on such terms as he may specify and may, subject to giving reasonable notice, alter or cancel any such exemption.

Administration

5.—(1) Except where provided in these Regulations, for the purposes of these Regulations, references to the Administration and to officer of the Administration shall be read as references to the Director and the surveyor of ships respectively and references to the nominated surveyor or recognised organisation shall be read as references to an authorised organisation respectively.

(2) For the purposes of regulations 6 and 20 of Annex VI, references to the Administration shall be read as a reference to the Director and

references to persons or organisations duly authorised by the Administration shall be read as references to authorised organisations respectively.

[S 331/2010 wef 01/07/2010]

[S 661/2012 wef 01/01/2013]

(3) For the purpose of regulations 11 and 18 and Appendix VI of Annex VI, references to the Administration, appropriate authorities or competent authority shall be read as references to the Authority.

[S 331/2010 wef 01/07/2010]

Powers to inspect

6.—(1) A ship to which these Regulations apply shall be subject, in Singapore waters, to inspection by a surveyor of ships.

(2) Any such inspection shall be limited to verifying that there is on board in relation to that ship a valid IAPP Certificate in the form prescribed by the Convention or a valid SAPP Certificate unless there are clear grounds for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of that Certificate.

(3) In the case referred to in paragraph (2), or if the ship does not carry a valid Certificate, the surveyor of ships shall take such steps as he may consider necessary to ensure that the ship shall not sail until it can proceed to sea without presenting an unreasonable threat of harm to the atmosphere or sea.

(4) The Director may in such a case permit the ship to proceed to the nearest appropriate repair yard.

(5) Upon receiving evidence that a particular ship has emitted any of the substances covered by Annex VI in violation of the provisions of these Regulations, the Director shall cause the matter to be investigated by an inspector and shall inform the State which has reported the contravention as well as IMO, of the action taken.

(6) The Director may also cause a ship other than a Singapore ship to be inspected by an inspector when it enters Singapore waters if a request for an investigation is received from any State which is a Party to the Convention together with sufficient evidence that the ship has

emitted any of the substances covered by Annex VI in violation of the provisions of these Regulations in any place.

(7) The report of such investigation may be sent to the State requesting the investigation and the State in which the ship is registered.

Prohibition on proceeding to sea without IAPP Certificate

7.—(1) The master of every ship of 400 gross tonnage and above shall produce to the Port Master, at the time a clearance for the ship is demanded for a voyage from Singapore to a port or place outside Singapore waters, the IAPP Certificate to be in force when the ship proceeds to sea.

(2) A clearance shall not be granted, and the ship may be detained, until the IAPP Certificate is so produced.

SAPP Certificate

8. The Director or an authorised organisation shall, after a survey in accordance with the provisions of regulation 5 of Annex VI which relates to all ships of 400 gross tonnage and above which operate within Singapore waters and are not engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to the Convention, issue in relation to that ship a SAPP Certificate in such form as the Director may determine.

Penalties

9. If any ship fails to comply with any requirement of these Regulations, the owner and the master of the ship shall each be guilty of an offence and shall each be liable on conviction to a fine not exceeding $10,000 or to imprisonment for a term not exceeding 2 years or to both.

Fees

10. The fees specified in the Second Schedule shall be payable to the Director in respect of the services provided by the Director specified in that Schedule.

FIRST SCHEDULE

Regulation 2

ANNEX VI OF THE CONVENTION

REGULATIONS FOR THE PREVENTION OF AIR POLLUTION FROM SHIPS

ARRANGEMENT OF REGULATIONS

CHAPTER I

GENERAL

CHAPTER II

SURVEY, CERTIFICATION AND MEANS OF CONTROL

CHAPTER III

REQUIREMENTS FOR CONTROL OF EMISSIONS FROM SHIPS

FIRST SCHEDULE — *continued*

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, 18, 19, 20, 21, 22 and 23 of this Annex.

[S 661/2012 wef 01/01/2013]

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 (MARPOL 73/78), and as modified by the Protocol of 1997, as

FIRST SCHEDULE — *continued*

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 tonnes 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 that 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 that 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

FIRST SCHEDULE — *continued*

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

FIRST SCHEDULE — *continued*

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-tetraflouroethane (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 that 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.

FIRST SCHEDULE — *continued*

21 Tanker in relation to regulation 15 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.";

For the purpose of Chapter IV:

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 IV 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.

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 SOLAS Chapter XII, regulation 1, 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.

FIRST SCHEDULE — *continued*

27 "Tanker" in relation to Chapter IV means an oil tanker as defined in MARPOL Annex I, regulation 1 or a chemical tanker or an NLS tanker as defined in MARPOL Annex II, regulation 1.

28 "Container ship" 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 Chapter IV.

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

[S 661/2012 wef 01/01/2013]

FIRST SCHEDULE — *continued*

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 1-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

FIRST SCHEDULE — *continued*

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 that 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,

FIRST SCHEDULE — *continued*

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 that 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 that 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 to ensure compliance with Chapter III 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 III;

.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 III;

.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 III 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 III.

[S 661/2012 wef 01/01/2013]

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 III are complied with.

[S 661/2012 wef 01/01/2013]

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

*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.

FIRST SCHEDULE — *continued*

by it. Such organizations shall comply with the guidelines adopted by the Organization;

.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, it 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 Ships to which Chapter IV 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 IV, and that the SEEMP required by regulation 22 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, 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;

† Refer to Guidelines on Survey and Certification of the Energy Efficiency Design Index.

FIRST SCHEDULE — *continued*

.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, 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 is on board; and

.4 For existing ships, the verification of the requirement to have a SEEMP on board according to regulation 22 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.

5 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.

[S 661/2012 wef 01/01/2013]

6 Whenever an accident occurs to a ship or a defect is discovered that 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 Certificates

International Air Pollution Prevention Certificate

[S 661/2012 wef 01/01/2013]

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:

FIRST SCHEDULE — *continued*

.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 Annex VI 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.

[S 661/2012 wef 01/01/2013]

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.

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 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.

[S 661/2012 wef 01/01/2013]

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 applicable provisions of this Annex are complied with, shall issue or authorize the issuance of an International Air Pollution Prevention

*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.

FIRST SCHEDULE — *continued*

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.

[S 661/2012 wef 01/01/2013]

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 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.

[S 661/2012 wef 01/01/2013]

Regulation 8

Form of Certificates

International Air Pollution Prevention Certificate

[S 661/2012 wef 01/01/2013]

1 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.

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.

[S 661/2012 wef 01/01/2013]

FIRST SCHEDULE — *continued*

Regulation 9

Duration and validity of Certificates

International Air Pollution Prevention Certificate

[S 661/2012 wef 01/01/2013]

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 that shall not exceed five months from the expiry date.

FIRST SCHEDULE — *continued*

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 that 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 that 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.

FIRST SCHEDULE — *continued*

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.

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 IV. 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.

[S 661/2012 wef 01/01/2013]

FIRST SCHEDULE — *continued*

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.

5 In relation to Chapter IV, 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.

[S 661/2012 wef 01/01/2013]

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

FIRST SCHEDULE — *continued*

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 that 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

FIRST SCHEDULE — *continued*

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 that contain ozone-depleting substances, other than hydrochlorofluorocarbons, 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 that contain hydrochlorofluorocarbons 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.

6 Each ship subject to regulation 6.1 that has rechargeable systems that contain ozone-depleting substances shall maintain an *ozone-depleting substances record*

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

FIRST SCHEDULE — *continued*

book. This record book may form part of an existing logbook or electronic recording system as approved by the Administration.

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 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 that 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 that 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

FIRST SCHEDULE — *continued*

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 paragraph 1.1 of this regulation, the Administration may provide an exclusion from the application of this regulation for any marine diesel engine that is installed on a ship constructed, or for any marine diesel engine that 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

FIRST SCHEDULE — *continued*

the Organization to set forth the criteria of when it is not possible for a replacement engine to meet the standards in paragraph 5.1.1 of this regulation.

2.3 A marine diesel engine referred to in paragraph 2.1.2 or 2.1.3 of this regulation 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 that 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 NO_2) 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 that 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 NO_2) 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

FIRST SCHEDULE — *continued*

5.1 Subject to regulation 3 of this Annex, the operation of a marine diesel engine that 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 NO_2) 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 paragraph 5.1.1 of this regulation 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, 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;

FIRST SCHEDULE — *continued*

.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.

[S 661/2012 wef 01/01/2013]

[S 398/2011 wef 01/08/2011]

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 paragraph 7.4 of this regulation, 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 Paragraph 7.1 of this regulation shall apply no later than the first renewal survey that occurs 12 months or more after deposit of the notification in paragraph 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 that falls after the approved method is commercially available.

FIRST SCHEDULE — *continued*

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.

[S 661/2012 wef 01/01/2013]

7.4 Subject to regulation 3 of this Annex, the operation of a marine diesel engine described in paragraph 7.1 of this regulation is prohibited, except when the emission of nitrogen oxides (calculated as the total weighted emission of NO_2) 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 paragraph 7.4 of this regulation and the cost of purchasing and installing such approved method.*

Certification

* The cost of an approved method shall not exceed 375 Special Drawing Rights/metric tonne NO_x calculated in accordance with the cost-effectiveness (Ce) formula below:

FIRST SCHEDULE — *continued*

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 (effective date) set forth in that paragraph.

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;

.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.

Requirements within emission control areas

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

*MEPC.82(43), Guidelines for monitoring the world-wide average sulphur content of residual fuel oils supplied for use on board ships.

FIRST SCHEDULE — *continued*

.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.

[S 661/2012 wef 01/01/2013]

[S 398/2011 wef 01/08/2011]

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;

.3 0.10% m/m on and after 1 January 2015; and

.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.

[S 661/2012 wef 01/01/2013]

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 changeover 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

FIRST SCHEDULE — *continued*

position of the ship when any fuel oil changeover 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 logbook as prescribed by the Administration.

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 regulation.

[S 661/2012 wef 01/01/2013]

Review provision

8 A review of the standard set forth in paragraph 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 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 paragraph shall become effective on 1 January 2025.

FIRST SCHEDULE — *continued*

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 that designates ports or terminals at which VOC emissions from tankers are to be regulated shall ensure that vapour emission control systems, approved by the Party taking into account the safety standards for such systems developed by Organization, 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 Organization, and shall use this system during the loading of relevant cargoes. A port or terminal that has installed vapour emission control systems in accordance with this regulation may accept tankers that 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:

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

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

FIRST SCHEDULE — *continued*

.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 types of loading and containment systems allow safe retention of non-methane VOCs on board or their safe return ashore.

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 is not generated on board the ship; and

.6 exhaust gas cleaning system residues.

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

FIRST SCHEDULE — *continued*

* 3 Shipboard incineration of polyvinyl chlorides (PVCs) shall be prohibited, except in shipboard incinerators for which IMO Type Approval Certificates have 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 paragraph 6.2 of this regulation, each incinerator on a ship constructed on or after 1 January 2000 or incinerator that 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 paragraph shall be approved by the Administration taking into account the standard specification for shipboard incinerators developed by the Organization†; or

6.2 The Administration may allow exclusion from the application of paragraph 6.1 of this regulation to any incinerator 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.

* Type Approval Certificates issued in accordance with resolution MEPC.59(33), Revised guidelines for the implementation of Annex V of MARPOL 73/78, or MEPC.76(40), Standard specification for shipboard incinerators.

† Refer to resolution MEPC.76(40), as modified by resolution MEPC.93(45), Standard specification for shipboard incinerators.

FIRST SCHEDULE — *continued*

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 8508°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 6008°C within five minutes after start-up and will thereafter stabilize at a temperature not less than 8508°C.

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.

1A 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:

FIRST SCHEDULE — *continued*

.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.

[S 467/2013 wef 01/08/2013]

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 that 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

FIRST SCHEDULE — *continued*

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 paragraph 2.1 of this regulation, 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 paragraph 3.2 of this regulation:

.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:

FIRST SCHEDULE — *continued*

.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 that 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.

FIRST SCHEDULE — *continued*

* 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. 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;

.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:

* Refer to MEPC.96(47), Guidelines for the sampling of fuel oil for determination of compliance with Annex VI of MARPOL 73/78.

FIRST SCHEDULE — *continued*

.1 inform the Party or non-Party under whose jurisdiction a bunker delivery note was issued of cases of delivery of non-compliant fuel oil, giving all relevant information; and

.2 ensure that remedial action as appropriate is taken to bring non-compliant 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.

CHAPTER IV

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 Chapter IV, so far as is reasonable and practicable.

3 Regulation 20 and regulation 21 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 regulation 20 and regulation 21.

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

FIRST SCHEDULE — *continued*

.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, on or after 1 January 2017, and in which regulation 5.4.2 and regulation 5.4.3 of Chapter II 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. 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 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.

FIRST SCHEDULE — *continued*

† 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 and to which this Chapter is applicable, the attained EEDI shall be as follows:

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

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***

† Guidelines on the method of calculation of the Energy Efficiency Design Index for new ships.

FIRST SCHEDULE — *continued*

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*
Container Ship	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:

FIRST SCHEDULE — *continued*

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 Container ship	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 above ship type definitions, 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).

FIRST SCHEDULE — *continued*

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 IV of this annex, in particular regulations 19.4 to 19.6.

[S 661/2012 wef 01/01/2013]

APPENDIX I

FORM OF INTERNATIONAL POLLUTION PREVENTION (IAPP) CERTIFICATE

(Regulation 8)

INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE

FIRST SCHEDULE — *continued*

Issued under the provisions of the Protocol of 1997, as amended by resolution MEPC.1706(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† .....

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.

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

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

FIRST SCHEDULE — *continued*

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.

FIRST SCHEDULE — *continued*

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.

FIRST SCHEDULE — *continued*

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*)

*Delete as appropriate.

FIRST SCHEDULE — *continued*

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

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*)

*Delete as appropriate.

FIRST SCHEDULE — *continued*

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*)

FIRST SCHEDULE — *continued*

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 .....

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 hydrochlorofluorocarbons (HCFCs), installed before 19 May 2005 may continue in service:

System or equipment	*Location on board*	*Substance*

*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, the NO_x emission limit as given by regulation 13.5.1.1 will not apply.

FIRST SCHEDULE — *continued*

2.1.2 The following systems containing HCFCs installed before 1 January 2020 may continue in service:

System or equipment	*Location on board*	*Substance*

2.2 *Nitrogen oxides (NO_x) (regulation 13)*

2.2.1 The following marine diesel engines installed on this ship comply with the applicable emission limit of regulation 13 in accordance with the revised NO_x Technical Code 2008:

		Engine #1	Engine #2	Engine #3	Engine #4	Engine #5	Engine #6
Manufacturer and model							
Serial number							
Use							
Power output (kW)							
Rated speed (rpm)							
Date of installation (dd/mm/yyyy)							
Date of major conversion (dd/mm/yyyy)	According to Reg. 13.2.2						
	According to Reg. 13.2.3						
Exempted by regulation 13.1.1.2		☐	☐	☐	☐	☐	☐
Tier I Reg.13.3		☐	☐	☐	☐	☐	☐
Tier II Reg.13.4		☐	☐	☐	☐	☐	☐
Tier II Reg. 13.2.2 or 13.5.2		☐	☐	☐	☐	☐	☐
Tier III Reg.13.5.1.1		☐	☐	☐	☐	☐	☐
Approved method exists		☐	☐	☐	☐	☐	☐
Approved method not commercially available		☐	☐	☐	☐	☐	☐
Approved method installed		☐	☐	☐	☐	☐	☐

FIRST SCHEDULE — *continued*

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:

.1.1 4.50% m/m (not applicable on or after 1 January 2012); or ..... ☐

.1.2 3.50% m/m (not applicable on or after 1 January 2020); or ..... ☐

.1.3 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:

.2.1 4.50% m/m (not applicable on or after 1 January 2012); or ..... ☐

.2.2 3.50% m/m (not applicable on or after 1 January 2020); or ..... ☐

.2.3 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:

.1.1 1.00% m/m (not applicable on or after 1 January 2015); or ..... ☐

.1.2 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:

.2.1 4.50% m/m (not applicable on or after 1 January 2012); or ..... ☐

.2.2 3.50% m/m (not applicable on or after 1 January 2020); or ..... ☐

.2.3 0.50% m/m ..... ☐

FIRST SCHEDULE — *continued*

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 that complies with resolution MEPC.76(40) as amended ..... ☐

.2 installed before 1 January 2000 that complies with:

.2.1 resolution MEPC.59(33) ..... ☐

.2.2 resolution MEPC.76(40) ..... ☐

2.6 *Equivalents (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*

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 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 weighting 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;

FIRST SCHEDULE — *continued*

.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

FIRST SCHEDULE — *continued*

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 paragraph 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*

FIRST SCHEDULE — *continued*

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

FIRST SCHEDULE — *continued*

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 that 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 that 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 Shipboard incinerators described in regulation 16.6.1 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

FIRST SCHEDULE — *continued*

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 heavy fuel oil (HFO); 5% waste lubricating oil; and 20% emulsified water.
Solid waste consisting of:	50% food waste; 50% rubbish containing; approx. 30% paper, approx. 40% cardboard, approx. 10% rags, approx. 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:	850–12008°C

APPENDIX V

Information to be included in
the bunker delivery note

FIRST SCHEDULE — *continued*

(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 tonnes

Density at 15°C, kg/m^3*

†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 paragraph or regulation 4.1 or 14.4 and regulation 18.3 of this Annex.

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*

* 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.

FIRST SCHEDULE — *continued*

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 is that it 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 subsamples from the MARPOL sample; and

.3 reseal the MARPOL sample and record the new reseal details on the test record.

2.4 The two subsamples shall be tested in succession, in accordance with the specified test method referred to in Appendix V (second footnote). 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 subsamples 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 subsamples have been taken.

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

FIRST SCHEDULE — *continued*

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 0.59*R* (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 paragraph 2.3.3 above and the sample label on the test record;

.2 draw two subsamples from the MARPOL sample; and

.3 reseal the MARPOL sample and record the new reseal details on the test record.

3.3 The two subsamples shall be tested in succession, in accordance with the test method specified in Appendix V (second footnote). 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 subsamples shall be taken by the laboratory and analysed. The sample bottle should be resealed in accordance with paragraph 3.2.3 above after the new subsamples 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.

FIRST SCHEDULE — *continued*

.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 results 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.

[S 331/2010 wef 01/07/2010]

APPENDIX VII

EMISSION CONTROL AREA

(Regulation 13.6 and Regulation 14.3)

[S 661/2012 wef 01/01/2013]

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 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:

[S 661/2012 wef 01/01/2013]

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

FIRST SCHEDULE — *continued*

POINT	LATITUDE	LONGITUDE
9	30º 33′ 25″ N.	121º 47′ 29″ W.
10	31º 46′ 11″ N.	123º 17′ 22″ W.
11	32º 21′ 58″ N.	123º 50′ 44″ W.
12	32º 56′ 39″ N.	124º 11′ 47″ W.
13	33º 40′ 12″ N.	124º 27′ 15″ W.
14	34º 31′ 28″ N.	125º 16′ 52″ W.
15	35º 14′ 38″ N.	125º 43′ 23″ W.
16	35º 43′ 60″ N.	126º 18′ 53″ W.
17	36º 16′ 25″ N.	126º 45′ 30″ W.
18	37º 01′ 35″ N.	127º 07′ 18″ W.
19	37º 45′ 39″ N.	127º 38′ 02″ W.
20	38º 25′ 08″ N.	127º 52′ 60″ W.
21	39º 25′ 05″ N.	128º 31′ 23″ W.
22	40º 18′ 47″ N.	128º 45′ 46″ W.
23	41º 13′ 39″ N.	128º 40′ 22″ W.
24	42º 12′ 49″ N.	129º 00′ 38″ W.
25	42º 47′ 34″ N.	129º 05′ 42″ W.
26	43º 26′ 22″ N.	129º 01′ 26″ W.
27	44º 24′ 43″ N.	128º 41′ 23″ W.
28	45º 30′ 43″ N.	128º 40′ 02″ W.
29	46º 11′ 01″ N.	128º 49′ 01″ W.
30	46º 33′ 55″ N.	129º 04′ 29″ W.
31	47º 39′ 55″ N.	131º 15′ 41″ W.
32	48º 32′ 32″ N.	132º 41′ 00″ W.
33	48º 57′ 47″ N.	133º 14′ 47″ W.
34	49º 22′ 39″ N.	134º 15′ 51″ W.
35	50º 01′ 52″ N.	135º 19′ 01″ W.
36	51º 03′ 18″ N.	136º 45′ 45″ W.

FIRST SCHEDULE — *continued*

POINT	LATITUDE	LONGITUDE
37	51º 54′ 04″ N.	137º 41′ 54″ W.
38	52º 45′ 12″ N.	138º 20′ 14″ W.
39	53º 29′ 20″ N.	138º 40′ 36″ W.
40	53º 40′ 39″ N.	138º 48′ 53″ W.
41	54º 13′ 45″ N.	139º 32′ 38″ W.
42	54º 39′ 25″ N.	139º 56′ 19″ W.
43	55º 20′ 18″ N.	140º 55′ 45″ W.
44	56º 07′ 12″ N.	141º 36′ 18″ W.
45	56º 28′ 32″ N.	142º 17′ 19″ W.
46	56º 37′ 19″ N.	142º 48′ 57″ W.
47	58º 51′ 04″ N.	153º 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	60º 00′ 00″ N.	64º 09′ 36″ W.
2	60º 00′ 00″ N.	56º 43′ 00″ W.
3	58º 54′ 01″ N.	55º 38′ 05″ W.
4	57º 50′ 52″ N.	55º 03′ 47″ W.
5	57º 35′ 13″ N.	54º 00′ 59″ W.
6	57º 14′ 20″ N.	53º 07′ 58″ W.
7	56º 48′ 09″ N.	52º 23′ 29″ W.
8	56º 18′ 13″ N.	51º 49′ 42″ W.
9	54º 23′ 21″ N.	50º 17′ 44″ W.
10	53º 44′ 54″ N.	50º 07′ 17″ W.
11	53º 04′ 59″ N.	50º 10′ 05″ W.

FIRST SCHEDULE — *continued*

POINT	LATITUDE	LONGITUDE
12	52º 20′ 06″ N.	49º 57′ 09″ W.
13	51º 34′ 20″ N.	48º 52′ 45″ W.
14	50º 40′ 15″ N.	48º 16′ 04″ W.
15	50º 02′ 28″ N.	48º 07′ 03″ W.
16	49º 24′ 03″ N.	48º 09′ 35″ W.
17	48º 39′ 22″ N.	47º 55′ 17″ W.
18	47º 24′ 25″ N.	47º 46′ 56″ W.
19	46º 35′ 12″ N.	48º 00′ 54″ W.
20	45º 19′ 45″ N.	48º 43′ 28″ W.
21	44º 43′ 38″ N.	49º 16′ 50″ W.
22	44º 16′ 38″ N.	49º 51′ 23″ W.
23	43º 53′ 15″ N.	50º 34′ 01″ W.
24	43º 36′ 06″ N.	51º 20′ 41″ W.
25	43º 23′ 59″ N.	52º 17′ 22″ W.
26	43º 19′ 50″ N.	53º 20′ 13″ W.
27	43º 21′ 14″ N.	54º 09′ 20″ W.
28	43º 29′ 41″ N.	55º 07′ 41″ W.
29	42º 40′ 12″ N.	55º 31′ 44″ W.
30	41º 58′ 19″ N.	56º 09′ 34″ W.
31	41º 20′ 21″ N.	57º 05′ 13″ W.
32	40º 55′ 34″ N.	58º 02′ 55″ W.
33	40º 41′ 38″ N.	59º 05′ 18″ W.
34	40º 38′ 33″ N.	60º 12′ 20″ W.
35	40º 45′ 46″ N.	61º 14′ 03″ W.
36	41º 04′ 52″ N.	62º 17′ 49″ W.
37	40º 36′ 55″ N.	63º 10′ 49″ W.
38	40º 17′ 32″ N.	64º 08′ 37″ W.
39	40º 07′ 46″ N.	64º 59′ 31″ W.

FIRST SCHEDULE — *continued*

POINT	LATITUDE	LONGITUDE
40	40º 05′ 44″ N.	65º 53′ 07″ W.
41	39º 58′ 05″ N.	65º 59′ 51″ W.
42	39º 28′ 24″ N.	66º 21′ 14″ W.
43	39º 01′ 54″ N.	66º 48′ 33″ W.
44	38º 39′ 16″ N.	67º 20′ 59″ W.
45	38º 19′ 20″ N.	68º 02′ 01″ W.
46	38º 05′ 29″ N.	68º 46′ 55″ W.
47	37º 58′ 14″ N.	69º 34′ 07″ W.
48	37º 57′ 47″ N.	70º 24′ 09″ W.
49	37º 52′ 46″ N.	70º 37′ 50″ W.
50	37º 18′ 37″ N.	71º 08′ 33″ W.
51	36º 32′ 25″ N.	71º 33′ 59″ W.
52	35º 34′ 58″ N.	71º 26′ 02″ W.
53	34º 33′ 10″ N.	71º 37′ 04″ W.
54	33º 54′ 49″ N.	71º 52′ 35″ W.
55	33º 19′ 23″ N.	72º 17′ 12″ W.
56	32º 45′ 31″ N.	72º 54′ 05″ W.
57	31º 55′ 13″ N.	74º 12′ 02″ W.
58	31º 27′ 14″ N.	75º 15′ 20″ W.
59	31º 03′ 16″ N.	75º 51′ 18″ W.
60	30º 45′ 42″ N.	76º 31′ 38″ W.
61	30º 12′ 48″ N.	77º 18′ 29″ W.
62	29º 25′ 17″ N.	76º 56′ 42″ W.
63	28º 36′ 59″ N.	76º 47′ 60″ W.
64	28º 17′ 13″ N.	76º 40′ 10″ W.
65	28º 17′ 12″ N.	79º 11′ 23″ W.
66	27º 52′ 56″ N.	79º 28′ 35″ W.
67	27º 26′ 01″ N.	79º 31′ 38″ W.

FIRST SCHEDULE — *continued*

POINT	LATITUDE	LONGITUDE
68	27º 16′ 13″ N.	79º 34′ 18″ W.
69	27º 11′ 54″ N.	79º 34′ 56″ W.
70	27º 05′ 59″ N.	79º 35′ 19″ W.
71	27º 00′ 28″ N.	79º 35′ 17″ W.
72	26º 55′ 16″ N.	79º 34′ 39″ W.
73	26º 53′ 58″ N.	79º 34′ 27″ W.
74	26º 45′ 46″ N.	79º 32′ 41″ W.
75	26º 44′ 30″ N.	79º 32′ 23″ W.
76	26º 43′ 40″ N.	79º 32′ 20″ W.
77	26º 41′ 12″ N.	79º 32′ 01″ W.
78	26º 38′ 13″ N.	79º 31′ 32″ W.
79	26º 36′ 30″ N.	79º 31′ 06″ W.
80	26º 35′ 21″ N.	79º 30′ 50″ W.
81	26º 34′ 51″ N.	79º 30′ 46″ W.
82	26º 34′ 11″ N.	79º 30′ 38″ W.
83	26º 31′ 12″ N.	79º 30′ 15″ W.
84	26º 29′ 05″ N.	79º 29′ 53″ W.
85	26º 25′ 31″ N.	79º 29′ 58″ W.
86	26º 23′ 29″ N.	79º 29′ 55″ W.
87	26º 23′ 21″ N.	79º 29′ 54″ W.
88	26º 18′ 57″ N.	79º 31′ 55″ W.
89	26º 15′ 26″ N.	79º 33′ 17″ W.
90	26º 15′ 13″ N.	79º 33′ 23″ W.
91	26º 08′ 09″ N.	79º 35′ 53″ W.
92	26º 07′ 47″ N.	79º 36′ 09″ W.
93	26º 06′ 59″ N.	79º 36′ 35″ W.
94	26º 02′ 52″ N.	79º 38′ 22″ W.
95	25º 59′ 30″ N.	79º 40′ 03″ W.

FIRST SCHEDULE — *continued*

POINT	LATITUDE	LONGITUDE
96	25º 59′ 16″ N.	79º 40′ 08″ W.
97	25º 57′ 48″ N.	79º 40′ 38″ W.
98	25º 56′ 18″ N.	79º 41′ 06″ W.
99	25º 54′ 04″ N.	79º 41′ 38″ W.
100	25º 53′ 24″ N.	79º 41′ 46″ W.
101	25º 51′ 54″ N.	79º 41′ 59″ W.
102	25º 49′ 33″ N.	79º 42′ 16″ W.
103	25º 48′ 24″ N.	79º 42′ 23″ W.
104	25º 48′ 20″ N.	79º 42′ 24″ W.
105	25º 46′ 26″ N.	79º 42′ 44″ W.
106	25º 46′ 16″ N.	79º 42′ 45″ W.
107	25º 43′ 40″ N.	79º 42′ 59″ W.
108	25º 42′ 31″ N.	79º 42′ 48″ W.
109	25º 40′ 37″ N.	79º 42′ 27″ W.
110	25º 37′ 24″ N.	79º 42′ 27″ W.
111	25º 37′ 08″ N.	79º 42′ 27″ W.
112	25º 31′ 03″ N.	79º 42′ 12″ W.
113	25º 27′ 59″ N.	79º 42′ 11″ W.
114	25º 24′ 04″ N.	79º 42′ 12″ W.
115	25º 22′ 21″ N.	79º 42′ 20″ W.
116	25º 21′ 29″ N.	79º 42′ 08″ W.
117	25º 16′ 52″ N.	79º 41′ 24″ W.
118	25º 15′ 57″ N.	79º 41′ 31″ W.
119	25º 10′ 39″ N.	79º 41′ 31″ W.
120	25º 09′ 51″ N.	79º 41′ 36″ W.
121	25º 09′ 03″ N.	79º 41′ 45″ W.
122	25º 03′ 55″ N.	79º 42′ 29″ W.
123	25º 02′ 60″ N.	79º 42′ 56″ W.

FIRST SCHEDULE — *continued*

POINT	LATITUDE	LONGITUDE
124	25º 00′ 30″ N.	79º 44′ 05″ W.
125	24º 59′ 03″ N.	79º 44′ 48″ W.
126	24º 55′ 28″ N.	79º 45′ 57″ W.
127	24º 44′ 18″ N.	79º 49′ 24″ W.
128	24º 43′ 04″ N.	79º 49′ 38″ W.
129	24º 42′ 36″ N.	79º 50′ 50″ W.
130	24º 41′ 47″ N.	79º 52′ 57″ W.
131	24º 38′ 32″ N.	79º 59′ 58″ W.
132	24º 36′ 27″ N.	80º 03′ 51″ W.
133	24º 33′ 18″ N.	80º 12′ 43″ W.
134	24º 33′ 05″ N.	80º 13′ 21″ W.
135	24º 32′ 13″ N.	80º 15′ 16″ W.
136	24º 31′ 27″ N.	80º 16′ 55″ W.
137	24º 30′ 57″ N.	80º 17′ 47″ W.
138	24º 30′ 14″ N.	80º 19′ 21″ W.
139	24º 30′ 06″ N.	80º 19′ 44″ W.
140	24º 29′ 38″ N.	80º 21′ 05″ W.
141	24º 28′ 18″ N.	80º 24′ 35″ W.
142	24º 28′ 06″ N.	80º 25′ 10″ W.
143	24º 27′ 23″ N.	80º 27′ 20″ W.
144	24º 26′ 30″ N.	80º 29′ 30″ W.
145	24º 25′ 07″ N.	80º 32′ 22″ W.
146	24º 23′ 30″ N.	80º 36′ 09″ W.
147	24º 22′ 33″ N.	80º 38′ 56″ W.
148	24º 22′ 07″ N.	80º 39′ 51″ W.
149	24º 19′ 31″ N.	80º 45′ 21″ W.
150	24º 19′ 16″ N.	80º 45′ 47″ W.
151	24º 18′ 38″ N.	80º 46′ 49″ W.

FIRST SCHEDULE — *continued*

POINT	LATITUDE	LONGITUDE
152	24º 18′ 35″ N.	80º 46′ 54″ W.
153	24º 09′ 51″ N.	80º 59′ 47″ W.
154	24º 09′ 48″ N.	80º 59′ 51″ W.
155	24º 08′ 58″ N.	81º 01′ 07″ W.
156	24º 08′ 30″ N.	81º 01′ 51″ W.
157	24º 08′ 26″ N.	81º 01′ 57″ W.
158	24º 07′ 28″ N.	81º 03′ 06″ W.
159	24º 02′ 20″ N.	81º 09′ 05″ W.
160	23º 59′ 60″ N.	81º 11′ 16″ W.
161	23º 55′ 32″ N.	81º 12′ 55″ W.
162	23º 53′ 52″ N.	81º 19′ 43″ W.
163	23º 50′ 52″ N.	81º 29′ 59″ W.
164	23º 50′ 02″ N.	81º 39′ 59″ W.
165	23º 49′ 05″ N.	81º 49′ 59″ W.
166	23º 49′ 05″ N.	82º 00′ 11″ W.
167	23º 49′ 42″ N.	82º 09′ 59″ W.
168	23º 51′ 14″ N.	82º 24′ 59″ W.
169	23º 51′ 14″ N.	82º 39′ 59″ W.
170	23º 49′ 42″ N.	82º 48′ 53″ W.
171	23º 49′ 32″ N.	82º 51′ 11″ W.
172	23º 49′ 24″ N.	82º 59′ 59″ W.
173	23º 49′ 52″ N.	83º 14′ 59″ W.
174	23º 51′ 22″ N.	83º 25′ 49″ W.
175	23º 52′ 27″ N.	83º 33′ 01″ W.
176	23º 54′ 04″ N.	83º 41′ 35″ W.
177	23º 55′ 47″ N.	83º 48′ 11″ W.
178	23º 58′ 38″ N.	83º 59′ 59″ W.
179	24º 09′ 37″ N.	84º 29′ 27″ W.

FIRST SCHEDULE — *continued*

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

FIRST SCHEDULE — *continued*

.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	22º 32′ 54″ N.	153º 00′ 33″ W.
2	23º 06′ 05″ N.	153º 28′ 36″ W.
3	23º 32′ 11″ N.	154º 02′ 12″ W.
4	23º 51′ 47″ N.	154º 36′ 48″ W.
5	24º 21′ 49″ N.	155º 51′ 13″ W.
6	24º 41′ 47″ N.	156º 27′ 27″ W.
7	24º 57′ 33″ N.	157º 22′ 17″ W.
8	25º 13′ 41″ N.	157º 54′ 13″ W.
9	25º 25′ 31″ N.	158º 30′ 36″ W.
10	25º 31′ 19″ N.	159º 09′ 47″ W.
11	25º 30′ 31″ N.	159º 54′ 21″ W.
12	25º 21′ 53″ N.	160º 39′ 53″ W.
13	25º 00′ 06″ N.	161º 38′ 33″ W.
14	24º 40′ 49″ N.	162º 13′ 13″ W.
15	24º 15′ 53″ N.	162º 43′ 08″ W.
16	23º 40′ 50″ N.	163º 13′ 00″ W.
17	23º 03′ 20″ N.	163º 32′ 58″ W.
18	22º 20′ 09″ N.	163º 44′ 41″ W.
19	21º 36′ 45″ N.	163º 46′ 03″ W.
20	20º 55′ 26″ N.	163º 37′ 44″ W.
21	20º 13′ 34″ N.	163º 19′ 13″ W.
22	19º 39′ 03″ N.	162º 53′ 48″ W.
23	19º 09′ 43″ N.	162º 20′ 35″ W.
24	18º 39′ 16″ N.	161º 19′ 14″ W.
25	18º 30′ 31″ N.	160º 38′ 30″ W.

FIRST SCHEDULE — *continued*

POINT	LATITUDE	LONGITUDE
26	18º 29′ 31″ N.	159º 56′ 17″ W.
27	18º 10′ 41″ N.	159º 14′ 08″ W.
28	17º 31′ 17″ N.	158º 56′ 55″ W.
29	16º 54′ 06″ N.	158º 30′ 29″ W.
30	16º 25′ 49″ N.	157º 59′ 25″ W.
31	15º 59′ 57″ N.	157º 17′ 35″ W.
32	15º 40′ 37″ N.	156º 21′ 06″ W.
33	15º 37′ 36″ N.	155º 22′ 16″ W.
34	15º 43′ 46″ N.	154º 46′ 37″ W.
35	15º 55′ 32″ N.	154º 13′ 05″ W.
36	16º 46′ 27″ N.	152º 49′ 11″ W.
37	17º 33′ 42″ N.	152º 00′ 32″ W.
38	18º 30′ 16″ N.	151º 30′ 24″ W.
39	19º 02′ 47″ N.	151º 22′ 17″ W.
40	19º 34′ 46″ N.	151º 19′ 47″ W.
41	20º 07′ 42″ N.	151º 22′ 58″ W.
42	20º 38′ 43″ N.	151º 31′ 36″ W.
43	21º 29′ 09″ N.	151º 59′ 50″ W.
44	22º 06′ 58″ N.	152º 31′ 25″ W.
45	22º 32′ 54″ N.	153º 00′ 33″ W.

[S 398/2011 wef 01/08/2011]

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	17º 18′ 37″ N.	67º 32′ 14″ W.

FIRST SCHEDULE — *continued*

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

FIRST SCHEDULE — *continued*

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

FIRST SCHEDULE — *continued*

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.

* 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).

FIRST SCHEDULE — *continued*

Completion date of the 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 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 .....

FIRST SCHEDULE — *continued*

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 .....

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: ..... grames-CO_2/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 .....

* 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".

FIRST SCHEDULE — *continued*

4. Required EEDI

4.1 Required EEDI is: ..... grames-CO_2/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 .....

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)*

FIRST SCHEDULE — *continued*

(Seal or stamp of the authority, as appropriate)

[S 661/2012 wef 01/01/2013]

SECOND SCHEDULE

Regulation 10

FEES

1. Time spent involving the following:	
(*a*) review of plans, drawings, record books, manuals, specifications, calculations, arrangements and details of hull, systems, materials, machinery and equipment and processing applications for exemption and extension of certificates;	
(*b*) surveys (initial, annual, intermediate and renewal) full or partial; or	
(*c*) inspection of equipment for the issue of type approval or acceptance certificate (per model):	
(i) per hour or part thereof	$60
(ii) transport for each visit within Singapore, if required	$40
2. Inspection or survey outside office hours (in addition to the appropriate fee prescribed for the survey or inspection):	
(*a*) first hour or part thereof;	$120
(*b*) each additional 30 minutes or part thereof;	$60
(*c*) transport for each visit within Singapore, if required	$40
3. Survey or inspection conducted abroad (in addition to the appropriate fee prescribed for the survey or inspection):	

SECOND SCHEDULE — *continued*

first 24 hours or part thereof during which the surveyor is absent from Singapore on account of such survey or inspection;	$600
(*b*) each subsequent hour or part thereof after the first 24 hours, subject to a maximum charge of $600 for each period of 24 hours;	$60
(*c*) travelling, taxation, fee for a visa if required and any expenses incurred arising from the survey abroad; and	Actual cost
(*d*) board, lodging, insurance coverage and reasonable subsistence for the surveyor	Sum to be determined by the Director in accordance with Instruction Manual of the Authority
4. Issue of a certificate or a report or a new certificate on strength of an existing certificate	$65
5. Amendment of any particulars on any certificate (if any inspection or survey is required, charges in accordance with item 1 shall be added)	$14
6. Engine International Air Pollution Certificate and type approval/acceptance certificate on strength of certificate/report issued by other Convention countries (per model)	$180.

Made this 9th day of March 2005.

PETER ONG
Chairman,
Maritime and Port Authority of Singapore.

[MPA 46/06.C11.V01/JL; AG/LEG/SL/243/2003/1 Vol. 2]