DIRECTORATE GENERAL OF SHIPPING, MUMBAI.

F. No. SL-RUL-3(1)/2019 **Dated: 28.05.2020**

Pre-legislative consultation with stakeholders

The following draft Merchant Shipping (Prevention of Air Pollution from Ships) Rules, 2020, are proposed to be notified. The stakeholders concerned may send their comments/ suggestions upto 28th June, 2020, on following e-mail IDs:
amohd-dgs@nic.in, vikrant.rai@gov.in, rajeshkumar-dgs@gov.in, msl-dgs@nic.in,

DRAFT

[To be published in ____, Section ____, Sub-Section ___ of the Gazette of India]
Government of India
Ministry of Shipping,
New Delhi, the _____, 2020

NOTIFICATION

G.S.R. – In exercise of the powers conferred by the section 356-O read with section 457 of the Merchant Shipping Act, 1958 (44 of 1958), the Central Government hereby makes the following rules, namely:-

1. Short Title and commencement–(1) These rules may be called the Merchant Shipping (Prevention of Air Pollution from Ships) Rules, 2020.

(2) They shall come into force on the date of their publication in the Official Gazette.

CHAPTER – 1

GENERAL

1A. Application— (1) Unless expressly provided otherwise, these rules shall apply to all ships, except where expressly provided otherwise in rules 3, 5, 6, 13, 15, 16, 18, 19, 20, 21, 22 and 22A.

2. Definitions- (1) In these rules, unless the content otherwise requires, -

(a) **"Act** "means the Merchant Shipping Act, 1958 (44 of 1958);

(b) **"Annex"** means the Annex VI to the International Convention for the Prevention of Pollution from Ships, 1973 (MARPOL) as modified by the Protocol of 1978relatingthereto, and as modified by the Protocol of 1997, as amended by the International Maritime Organization,

(c) **"a similar stage of construction"** means the stage at which:-

(i) construction identifiable with a specific ship begins; and

(ii) assembly of that ship has commenced comprising at least fifty tonnes or one per cent of the estimated mass of all structural material, whichever is less;

(d) **"Anniversary date"** means the day and the month of each year which will correspond to the date of expiry of the International Air Pollution Prevention Certificate;

(d) **"Attained Energy Efficiency Design Index (EEDI)"** is the value achieved by an individual ship in accordance with rule 25;

(e) "**Existing ship**" means a ship which is not a new ship.

(f) **"auxiliary control device"** means (a) a system, function, or control strategy installed on a marine diesel engine that is used to protect the engine 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; or (b) a strategy or measure that has been satisfactorily demonstrated not to be a defeat device for auxiliary control;

(g) **"bulk carrier"** means a ship which is intended primarily to carry dry cargo in bulk, including such types as ore carriers as defined in chapter XII of the SOLAS Convention, but excluding combination carriers;

(h) **"Certifying Authority"** means the Central Government or any organization recognised by it in accordance with IMO Assembly Resolution A739. (18) as amended, and IMO Assembly Resolution A789. (19) and has a valid agreement;

(i) **"container ship"** means a ship designed exclusively for the carriage of containers in holds and on deck;

(j) **"combination carrier"** means a ship designed to load one hundred percent deadweight with both liquid and dry cargo in bulk;

(k) **"continuous feeding"** means 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 1200°C;

(l) **"Convention"** means the convention as defined in clause (e) of sub section (2) of section 356-B;

(m) **"defeat device"** means a device which measures, senses, or responds to operating variables such as 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;

(n) **"Flag State"** means the State whose flag a ship is entitled to fly;

(o) **"fuel oil"** means any fuel delivered to and intended for combustion purposes for propulsion or operation on board a ship, including gas, distillate and residual fuels;

(p) **"gas carrier"** in relation to chapter IV means a cargo ship, other than an LNG carrier as defined in (zp) of this, constructed or adapted and used for the carriage in bulk of any liquefied gas.

(q) **"Government ship"** means the ship owned by the Central Government or the State Government;

(r) **"gross tonnage"** means the gross tonnage calculated in accordance with the tonnage measurement rule contained in Annex I to the International Convention on Tonnage Measurements of Ships, 1969 as amended;

(s) **"installations"** in relation to rule 12 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;

(t) **"Installed"** in relation to a marine diesel engine means the 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.

(u) **"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;

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

(w) **"merchant shipping notice"** means a notice described as such and issued by the Director General and any reference to a particular merchant shipping notice includes a reference to any document amending or replacing that notice which is considered by the Director General to be relevant from time to time and specified in a merchant shipping notice.

(x) **"major conversion"** in relation to chapter- IV means a conversion of a ship

(i) which substantially alters the dimensions, carrying capacity or engine power of the ship; or

(ii) which changes the type of the ship; or

(iii) the intent of which in the opinion of the Central Government is substantially to prolong the life of the ship; or

(iv) 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

(v) 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 rule 26;

See Eleventh Schedule for interpretation

(y) **"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 Organisation, provided that such amendments are adopted and brought into force in accordance with the provisions of article 16 of the Convention concerning amendment procedures applicable to an appendix to an Annex;

(z) **"new ship"** in relation to chapter IV means a ship -

(i) for which the building contract is placed on or after the 1st January 2013; or

(ii) 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 the 1st July 2013; or

(iii) the delivery of which is on or after the 1st July 2015.

See Eleventh schedule for interpretation

(za) **"Organisation"** means the International Maritime Organisation;

(zb) **"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 found on board a ship on the date of commencement of these rules including, but are not limited to the following:-

- 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 Dichlorodiflouromethane
- CFC-113 1, 1, 2–Trichloro–1, 2, 2–tetrafluoroethane
- CFC-114 1, 2–Dichloro–1, 1, 2, 2–tetrafluoroethane
- CFC-115 Chloropentafluoroethane;

(zc) **"refrigerated cargo carrier"** means a ship designed exclusively for the carriage of refrigerated cargoes in holds;

(zd) **"Required EEDI"** is the maximum value of attained EEDI that is allowed by rule 26 of chapter IV for the specific ship type and size;

(ze) **"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;

(zf) **"ro-ro cargo ship"** means a ship designed for the carriage of roll-on-roll-off cargo transportation units;

(zg) **"ro-ro passenger ship"** means a passenger ship with roll-on-roll-off cargo spaces;

(zh) **"Schedule"** means the Schedule annexed to these rules;

(zi) **"shipboard incineration"** means the incineration of wastes or other matters on board a ship, if such wastes or other matter were generated during the normal operation of that ship;

(zj) **"shipboard incinerator"** means a shipboard facility designed for the primary purpose of incineration;

(zk) **"ships constructed"** means ships the keels of which are laid or which are at a similar stage of construction;

(zl) **"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;

(zm) **"Tanker"** in relation to rule 19 of these rules means an oil tanker as defined in regulation I of Annex I or a chemical tanker as defined in regulation 1 of Annex II of the Convention.

(zn) **"Tanker"** in relation to Chapter- V means an oil tanker as defined in regulation 1 of Annex I, or a chemical tanker or a noxious liquid substance tanker as defined in regulation 1 of Annex II of the Convention.

(zo) words and expressions not defined in these rules but defined in the Act and the Convention shall have the respective meanings as assigned to them in the Act and in the Convention;

Rules: paragraph

Sub-rule: sub paragraph

Clause: item

Sub clause: Sub item

(zp) LNG carrier in relation to chapter IV means a cargo ship constructed or adapted and used for the carriage in bulk of liquefied natural gas (LNG).

(zq) Cruise passenger ship in relation to chapter IV means a passenger ship not having a cargo deck, designed exclusively for commercial transportation of passengers in overnight accommodations on a sea voyage.

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

(zs) Non-conventional propulsion in relation to chapter IV means a method of propulsion, other than conventional propulsion, including diesel-electric propulsion, turbine propulsion, and hybrid propulsion systems.

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

(zu) A ship delivered on or after 1 September 2019 means a ship:

.1 for which the building contract is placed on or after 1 September 2015; or

.2 in the absence of a building contract, the keel of which is laid, or which is at a similar stage of construction, on or after 1 March 2016; or

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

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

(zw) Audit Scheme means the IMO Member State Audit Scheme established by the Organization and taking into account the guidelines developed by the Organization

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

(zy) Audit Standard means the Code for Implementation.

(zz) Calendar year means the period from 1 January until 31 December inclusive.

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

(zzb) Distance travelled means distance travelled over ground.

(zzc) Passenger ship means a ship which carries more than 12 passengers

(zzd) 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.

3. EXCEPTIONS AND EXEMPTIONS-

General- (1): Unless expressly otherwise provided, the provisions of these rules shall not apply to the following:-

(a) any emission necessary for the purpose of securing the safety of a ship or saving life at sea; or

(b) any emission resulting from damage to a ship or its equipment:

(i) provided that all reasonable precautions have been taken by the owner or the master after the occurrence of the damage or discovery of the emission for the purpose of preventing or minimising the emission; and

(ii) except if the owner or the master acted either with intent to cause damage, or recklessly and with knowledge that damage would probably result.

(c) any warship, naval auxiliary or a ship owned or operated by the Central Government or the State Government only on Government non-commercial service.

(2). Trials for Ship Emission Reduction and Control Technology Research-The Central Government may, in co-operation with other Maritime Administration as appropriate, shall issue an exemption from specific provisions of these rules for a ship to conduct trials for the development of ship emission reduction and control technologies and engine design programmes;

Provided that an exemption shall only be provided if the applications of specific provisions of these rules or the NO_x Technical Code could impede research into the development of such technologies or programmes. A permit issued under this rule shall not exempt a ship from the reporting requirement under regulation 22A and shall not alter the type and scope of data required to be reported under regulation 22AAn exemption shall only be provided to the minimum number of ships necessary and be subject to the following namely:-

(a) for marine diesel engines with per cylinder displacement up to thirty litres, the duration of the sea trial shall not exceed eighteen months;

(b) If additional time is required, the Central Government may extend the same only for a limited period, as it deems fit on case to case basis and may permit a renewal for another additional eighteen month period*;* or

(c) for a marine diesel engine with a per cylinder displacement at or above thirty litres, the duration of the ship trial shall not exceed five years and shall require a progress review by the each intermediate survey;

(d) An exception may be withdrawn based on this review if the testing has not adhered to the conditions of the permit or if it is determined that the technology or programme is not likely to produce effective results in the reduction and control of ship emissions. If the reviewing Certifying Authority determines 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.

(3). Emissions from Seabed Mineral Activities—

(a) Emissions directly arising from the exploration, exploitation and associated offshore processing of seabed mineral resources, consistent with article 2 (3) (b) (ii) of the Convention, shall be exempt from the provisions of these rules, as follows:-

(i) emissions resulting from the incineration of substances that are solely and directly the result of exploration, exploitation and offshore processing of seabed mineral resources, including but not limited to the flaring of hydrocarbons and the burning of cuttings, muds, or stimulation fluids during well completion and testing operations, and flaring arising from upset conditions;

(ii) the release of gases and volatile compounds entrained in drilling fluids and cuttings;

(iii) emissions associated solely and directly with the treatment, handling, storage of seabed minerals; and;

(iv) emissions from marine diesel engines that are solely dedicated to the exploration, exploitation and associated offshore processing of seabed mineral resources.

(b) The requirements of rule18shall not apply to the use of hydrocarbons which are produced and subsequently used on site as fuel, when approved by the Certifying Authority.

4. Equivalents of materials, etc.-

(1) The Certifying Authority 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 these rules if such fitting, material, appliance or apparatus or other procedures, alternative fuel oils, or compliance methods are at least as effective in terms of emissions reductions as that required by these rules, including any of the standards set forth in rules13and 14.

(2) The Certifying Authority which allows a fitting, material, appliance or apparatus or other procedures, alternative fuel oils, or compliance methods used as an alternative to that required by these rules shall communicate to the Organisation for circulation to the party's particulars thereof, for their information and appropriate action, if any.

(3) The Certifying Authority may take into account any relevant guidelines developed by the Organisation pertaining to the equivalents provided for in this rule.

(4) The Certifying Authority which allows the use of an equivalent as set forth in sub-rule 1 shall endeavor 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

International Air Pollution Prevention Certificate

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 of these rules, be subject to the surveys specified below:-

(a) An initial survey before the ship is put into service or before the certificate required under rule 6 is issued for the first time and 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. On transfer of Flag of an existing ship to Indian flag, the certificates cease to be valid and the certifying authority should not issue new certificates until it is fully satisfied that the ship is being properly maintained and that there have been no unauthorized changes made to the structure, machinery and equipment. When so requested, the Government of the State/Recognized Organization whose flag the ship was formerly entitled to fly is obliged to forward, as soon as possible, to the certifying authority copies of certificates carried by the ship before the transfer and, if available may be taken into account by certifying authority for issuance of new certificate. When fully satisfied by an inspection that the ship is being properly maintained and that there have been no unauthorized changes, in order to maintain the harmonization of the surveys the certifying authority may give due recognition to initial and subsequent surveys carried out by, or on behalf of, the former Administration and issue new certificates having the same expiry date as the certificates that ceased to be valid because of the change of flag.

(b) A renewal survey at intervals specified by the Certifying Authority, but not exceeding five years, except where sub-rules(2), (5), (6) or (7) of rule9are applicable and 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.

(c) 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 clause (d) of sub-rule (1) and the intermediate survey shall be such as to ensure that the equipment and arrangements fully comply with the applicable requirements of Chapter III of these rules and are in good working order;

(d) The intermediate surveys shall be endorsed on the International Air Pollution Prevention (IAPP) certificate issued under rules6or7;

(e) 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 clause (a) of sub-rule (1)to ensure that they have been maintained in accordance with sub-rule (5) and that they remain satisfactory for the service for which the ship is intended and the annual surveys shall be endorsed on the International Air Pollution Prevention (IAPP) certificate issued under rule 6 or 7; and

(f) An additional survey either general or partial, according to the circumstances, shall be made after a repair resulting from investigations prescribed in sub-rule(5), or whenever any important repairs or renewals are made and 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.

(2) In the case of ships of less than 400 gross tonnage, provisions of rules in chapter III and Twelfth Schedule are applicable.

(3) In every case.-

(a) Surveys of ships as regards the enforcement of the provision of these rules shall be carried out by the surveyors appointed or authorised by the Central Government or by the recognised organisation.

(b) The survey of marine diesel engines and equipment for compliance with rule 15 shall be conducted in accordance with the revised NO_x Technical Code.

(c) When the surveyor or the authorised person determines that the condition of the equipment does not correspond substantially with the particulars of the certificate or each such that, the ship is not fit to proceed to sea without presenting and an unreasonable threat of harm to the marine environment, such surveyor or authorized person they shall immediately ensure that corrective action is taken and shall also, in due course notify the Central Government:

Provided that if such corrective action is not taking, the certificate shall be withdrawn and the Central Government shall be notified immediately:

Provided further that is ship is in a port of another party, the appropriate authorities of that port state shall also be notified immediately:

Provided also that in case of a foreign flag ships, when in a port or place in India and when any officer of the Central Government or surveyor or the authorized person has notified the appropriate authorities of the port state or Surveyor of the Flag State or surveyor of the Recognized Organization of that ship has notified the Central Government that the condition of the equipment does not correspond substantially with the particulars of the certificate or each such that, the ship is not fit to proceed to sea without presenting and an unreasonable threat of harm to the marine environment, the Central Government shall give such officer, surveyor or authorized person necessary assistance to carry out their obligation under these rules and shall take such steps as to ensure that such ship shall not sail until it can proceed to sea or leave the port for the purpose of proceeding to the nearest appropriate repair yard available, without presenting any unreasonable threat of harm to the marine environment. However, in any case the Flag Administration of the said vessel shall fully guarantee the completeness and efficiency of the surveys.

(d) The Central Government shall fully guarantee the completeness and efficiency of each survey and shall take necessary steps to satisfy such obligation.

(4) Ships to which Chapter IV applies shall also be subject to the surveys specified below:-

(a) An initial survey before a new ship is put in service and before the International Energy Efficiency Certificate is issued and the survey shall verify that the ship's attained Energy Efficiency Design Index (EEDI) is in accordance with the requirements in Chapter IV, and that the Ship Energy Efficiency Management Plan (SEEMP) required by rule 22 is on board;

(b) A general or partial survey, according to the circumstances, after a major conversion of a ship to which this rule applies and the survey shall ensure that the attained EEDI is recalculated as necessary and meets the requirement of rule21, with the reduction factor applicable to the ship type and size of the converted ship in the phase corresponding to the date of contractor keel laying or delivery determined for the original ship in accordance with clause (Z) of sub rule (1) of rule 2.

(c) In cases where the major conversion of a new or existing ship is so extensive that the ship is regarded by the Central Government as a newly constructed ship, the Central Government shall determine the necessity of an initial survey on attained EEDI and such a survey taking into account guidelines developed by organization, if determined necessary, shall ensure that the attained EEDI is calculated and meets the requirement of rule21, 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 rule22 is on board and for a ship, to which regulation 22A applies, has been revised appropriately to reflect a major conversion in those cases where the major conversion affects data collection methodology and/or reporting processes.

(d) For existing ships, the verification of the requirement to have a SEEMP on board according to rule 22 shall take place at the first intermediate or renewal survey identified in sub-rule (1) of rule 5, whichever is the first, on or after the 1st January 2013; and

(e) Central Government shall ensure that for each ship to which rule 22A applies, the SEEMP complies with sub-rule (2) of rule 22.This shall be done prior to collecting data under rule 22A in order to ensure the methodology and processes are in place prior to the beginning of the ship's first reporting period. Confirmation of Compliance shall be provided to and retained on board the ship.

(5) The equipment shall be maintained to conform with the provisions of these rules and no changes shall be made in the equipment, systems, fittings, arrangements, or material covered by the survey, without the express approval of the Central Government.

(6) The direct replacement of the equipment and fittings that conform with the provisions of these rules is permitted.

(7)(a) Whenever—
(aa) an accident occurs on a ship; or
(ab) a defect is discovered in a ship, which substantially affects the integrity of the ship or the efficiency or completeness of the equipment of the ship required under Part III, the company and the master of the ship shall ensure that the requirements of paragraph 5(7)(b) are complied with.

(b): The requirements are that—
(ba): the accident or defect, as the case may be, is reported at the earliest opportunity, to the Certifying Authority that issued the appropriate certificate in respect of the ship and the Central Government; and
(bb): in the case of a ship in a port outside of India, the accident or the defect, as the case may be, is also immediately reported to the appropriate maritime authorities in the country in which the port is situated.

(c) Whenever an accident or defect is reported to a Certifying Authority in accordance with paragraph (4)(a), the Certifying Authority—
(ca) shall cause an investigation to be initiated to determine whether or not an additional survey is necessary; and
(cb) if it considers that an additional survey is necessary, shall cause that survey to be carried out.
(cc) inform the Central Government about the investigation and details of additional surveys carried out.

(d) whenever an accident or defect is reported to a Certifying Authority in accordance with paragraph (5)(7)(ba) and the ship in question is in a port outside of India, the Certifying Authority shall take all appropriate steps to ascertain that the requirement in paragraph (5)(7)(bb) has been complied with.

6. Issue or endorsement of a certificate and Statements of Compliance related to fuel oil consumption reporting–(1) On satisfactory completion of the initial or renewal survey, the Certifying Authority duly recognized shall issue

an International Air Pollution Prevention Certificate, after an initial or renewal survey in accordance with the provisions of rule 5, to:-

(a) any ship of 400 gross tonnage and above engaged in coastal voyages or international voyages to ports or offshore terminals under the jurisdiction of other parties; and

(b) platforms and drilling rigs engaged in voyages to waters under the sovereignty or jurisdiction of India or other parties.

(2) For a ship constructed before the date of commencement of these rules, the Central Government shall issue an International Air Pollution Prevention Certificate in accordance with sub-rule (1)

(3) The certificate shall be issued or endorsed in accordance with the sub-rule (1).

(4) An International Energy Efficiency Certificate for the ship shall be issued after a survey in accordance with the provisions of sub-rule (4) of rule (5) 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 in accordance with the sub-rule (1).

(6) An Indian Air pollution prevention certificate shall be issued to. -

(a) an Indian ship below 400 gross tonnage and fishing vessels

Statement of Compliance – Fuel Oil Consumption Reporting
(7) Upon receipt of reported data pursuant to sub-rule(3) of rule 22A, the Certifying Authority shall determine whether the data has been reported in accordance with rule 22A and, if so, issue a Statement of Compliance related to fuel oil consumption to the ship no later than five months from the beginning of the calendar year. In every case, the Central Government assumes full responsibility for this Statement of Compliance.

(8) Upon receipt of reported data pursuant to sub-rules (4), (5) or (6) of rule 22A, the Certifying Authority shall promptly determine whether the data has been reported in accordance with regulation 22A and, if so, issue a Statement of Compliance related to fuel oil consumption to the ship at that time. In every case, the Central Government assumes full responsibility for this Statement of Compliance.

7. Issue of a certificate by another party - (1)The Central Government may, at the request of the Government of a Convention country, survey a ship registered in that State and if satisfied that the provisions of the Convention are complied with, issue an International Air Pollution Prevention Certificate or an International Energy Efficiency Certificate to that ship; and where appropriate, endorse or authorise the endorsement of that certificate on the ship, in accordance with these rules and such certificate shall

contain a statement that it has been so issued and shall have the same effect as if it was issued by that Government.

(2) The Central Government may request through an Indian Consular officer, or otherwise, the Government of a Convention Country to survey an Indian ship, and if satisfied that the provisions of the Convention are complied with, to issue or authorise the issuances of an International Air Pollution Prevention Certificate to that ship; and such certificate shall contain a statement that it has been so issued, in accordance with such request and shall have the same effect as a Certificate issued in accordance with rule 8.

(3) No International Air Pollution Prevention Certificate or an 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.

8. Form of certificates - (1) The International Air Pollution Prevention Certificate shall be issued by the Central Government as prescribed in the (Form I) given under First Schedule to these rules and the Indian Air Pollution Prevention Certificate shall be issued by the Central Government as prescribed in Form II thereof.

(2) The International Energy Efficiency Certificate shall be issued by the Central Government as prescribed in Form I given under Eighth Schedule.

(3) The Statement of Compliance pursuant to rules 6.6 and 6.7 of this Annex shall be drawn up in a form corresponding to the model given in Tenth Schedule

9. Duration and validity of certificate-(1) An International Air Pollution Prevention Certificate issued by the Central Government shall be valid for such period as may be specified, but not more than five years and shall be subject to such conditions as may be specified by the Central Government from time to time.

(2) (a) Notwithstanding the requirements of sub-rule (1) when the renewal survey is completed within three months before the expiry 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 or as;

(b) 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

(c) 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 Central Government may extend the validity of the certificate beyond the expiry date to the maximum period specified in sub-rule (1) provided that the surveys referred to in clause (c) and (d) of sub-rule (1) of rule (5) when a certificate is issued for a period of five years are carried out as appropriate.

(4) If a renewal survey has been completed as per the provisions of these rules and a new certificate could not be issued or placed on board the ship before the expiry date of the existing certificate, certifying authority may endorse the existing certificate and such a certificate shall be accepted as valid for a further period which shall not exceed five months from the expiry date.

(5) If a ship, at the time when a certificate expires, is not in a port in which it is to be surveyed, the Central Government 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 in cases where it appears proper and reasonable to do so.

(6) Notwithstanding what is stated hereinbefore, 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.

(7) 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.

(8) A certificate issued to a ship engaged on short voyages which has not been extended under the foregoing provisions of these rules may be extended by the Central Government for a period of grace of up to one month from the date of expiry stated on it.

(9) 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.

In special circumstances, as determined by the Central Government, a new certificate need not be dated from the date of expiry of the existing certificate as required by clause (a) of sub-rule (2), sub-rule (5), (6) or (7) and the new certificate shall be valid to a date not exceeding five years from the date of completion of the renewal survey. The special circumstances as decided by Central Government when this could be permitted are where the ship has been laid up or out of service for a considerable period because of a major repair or modification.

(10) If an annual or intermediate survey is completed before the period specified in rule 5, then:-

(a) the anniversary date shown on the certificate shall be amended by endorsement to a date which shall not be more than three months later than the date on which the survey was completed;

(b) the subsequent annual or intermediate survey required by rule 5shall be completed at the intervals prescribed by that rule using the new anniversary date; and

(c) 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 rule 5are not exceeded.

(11) A certificate issued under rule 6 or7shall cease to be valid in any of the following cases:-

(a) if the relevant surveys are not completed within the periods specified under sub-rule (1) of rule 5;

(b) if the certificate is not endorsed in accordance with clause (c) or (d) of sub-rule (1) of rule 5; and

(c) upon transfer of the ship to the flag of another party:

[Provided that no new certificate shall be issued by any Government required to do so unless it is fully satisfied that the ship is in compliance with the requirements of clause (d) of sub-rule (1)of rule 5:]

[Provided further that in the case of a transfer between parties, if a request is made within three months after such transfer has taken place, the Government of the State party whose flag the ship was formerly entitled to fly shall, as soon as possible, transmit to the Central Government copies of the certificate carried by the ship before the transfer and, and also copies of the relevant survey reports, if available.]

(12) An International Energy Efficiency Certificate issued by the Central Government shall be valid throughout the life of the ship subject to the provisions of sub-rule 13.

(13) An International Energy Efficiency Certificate shall cease to be valid in any of the following cases:

(a) if the ship is withdrawn from service or if a new certificate is issued following major conversion of the ship; or
(b) upon transfer of the ship to the flag of another State.

(14) A new International Energy Efficiency Certificate shall only be issued when the Certifying Authority is fully satisfied that the ship is in compliance with the requirements of chapter IV.

(15) 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

(16) The Statement of Compliance pursuant to sub rule (7) of rule 6 shall be valid for the calendar year in which it is issued and for the first five months of the following calendar year.

(17) The Statement of Compliance pursuant to sub rule (8) of rule 6 shall be valid for the calendar year in which it is issued, for the following calendar year, and for the first five months of the subsequent calendar year.

(18) All Statements of Compliance shall be kept on board for at least the period of their validity.

10. Port State control on operational requirements—

(a) During inspection of a foreign ship in a port or an offshore terminal in accordance with the provisions of these rules and section 356G of the Act, the surveyor, or as the case may be, any other person authorised there under, has clear grounds to believe that the master or crew of that ship is not familiar with essential shipboard procedures relating to the prevention of air pollution from ships, shall, on the recommendation of the surveyor or the authorised person, take such steps as provided in section 356H.

(b) Nothing in this rule shall be construed to limit the rights and obligations of the Central Government carrying out control over operational requirements specifically provided for in the Convention.

(c) Procedures relating to the port State control prescribed in article 5 of the Convention shall apply to these rules.

(d) Nothing in this rule shall be construed to limit the rights and obligations of Central Government carrying out control over operational requirements specifically provided for in the present Convention.

(e) In relation to Chapter-IV, any port State inspection shall be limited to verifying, when appropriate, that there is a valid Statement of Compliance related to fuel oil consumption reporting and International Energy Efficiency Certificate on board, in accordance with article 5 of the Convention.

11. Detection of violations and enforcement—

(1) The Central Government shall administer and implement systems for detection of violations and the enforcement of the provisions of these rules, by using all appropriate and practicable measures of detection and environmental monitoring and shall also follow adequate procedures for reporting and accumulation of evidence.

(2) A ship to which these rules applies may, in any port or offshore terminal be subject to inspection by a Certifying Authority for the purpose of verifying whether the ship has emitted any of the substances covered by these rules in violation of the provision of these rules.

(3) If an inspection indicates a violation of these rules, a report shall be forwarded to the Central Government for any appropriate action.

(4) Any evidence advanced to the Central Government about any Indian Flag Ship having emitted any of the substances which are in direct violation of the provision of these rules or any other non- Indian Flag Ship emitted any of the substances which are in direct violation of the provision of these rules, the Central Government shall take immediate preventive action as per these rules against the Indian Flag Ship and with reference to the violating non-Indian Flag Ship, immediately put the master of the vessel on notice and inform their competent authority as well as the Organisation, of the action taken.

(5) Upon receiving the evidence, the Central Government shall investigate the matter, and may request the other party to furnish further or better evidence of the alleged contravention.

(6) If the Central Government 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.

(7) The Central Government shall promptly inform the party which has reported the alleged violation, as well as the Organization, of the action taken.

(8) The Central Government may also inspect a ship to which these rules apply 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 these rules in any place violating the provisions of these rules.

(9) The report of such investigation shall be sent to the party requesting it and to the Central Government so that the appropriate action may be taken under the present Convention.

(10) 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 these rules, applies, mutatis, to the rules and standards set forth in these rules.

CHAPTER III

REQUIREMENTS FOR CONTROL OF EMISSIONS FROM SHIPS

12. Ozone depleting substances - (1) This rule 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 sub-rule (1) of rule 3, any deliberate emissions of ozone-depleting substances shall be prohibited. Explanation,- For the purpose of this sub rule, deliberate emissions including 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 and emissions arising from leaks of an ozone-depleting substance whether or not the leaks are deliberate, may be regulated by the Central Government.

(3) (a) Installations which contain ozone depleting substances, other than hydro-chlorofluorocarbons, shall be prohibited:-

(i) on ships constructed on or after the 19th May 2005; or

(ii) in the case of ships constructed before the 19th May 2005, which have a contractual delivery date of the equipment to the ship on or after the 19th May 2005 or, in the absence of a contractual delivery date, the actual delivery of the equipment to the ship on or after the 19th May 2005.

(b) Installations which contain hydro-chlorofluorocarbons shall be prohibited:-

(i) on ships constructed on or after the 1st January 2020; or

(ii) in the case of ships constructed before the 1st January 2020, which have a contractual delivery date of the equipment to the ship on or after the 1st January 2020 or, in the absence of a contractual delivery date, the actual delivery of the equipment to the ship on or after the 1st January 2020.

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

(5) Each ship subject to sub-rule (1) of rule 6, shall maintain a list of equipment containing ozone-depleting substances.

(6) Each ship subject to sub-rule (1) of rule 6, which has rechargeable systems that contain ozone-depleting substances shall maintain an Ozone-Depleting Substances Record Book and the same may form part of an existing log-book or electronic recording system as approved by the Central Government.

(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:-

(a) recharge, full or partial, of equipment containing ozone depleting substances;

(b) repair or maintenance of equipment containing ozone depleting substances;

(c) discharge of ozone depleting substances to the atmosphere:-

(i) deliberate; and

(ii) non-deliberate;

(d) discharge of ozone depleting substances to land-based reception facilities; and

(e) supply of ozone depleting substances to the ship.

13. Nitrogen Oxides (NO_x) – Application. – (1) (a) These rules shall apply to:-

(i) each marine diesel engine with a power output of more than 130 kW installed on a ship; and

(ii) each marine diesel engine with a power output of more than 130 kW which undergoes a major conversion except when demonstrated to the satisfaction of the Central Government that such engine is an identical replacement** to the engine which it is replacing and is otherwise not covered under these rules.
** See Eleventh Schedule for explanation of identical replacement

(b) These rules do not apply to:-

(i) a marine diesel engine intended to be used solely for emergencies, or solely to power any device or equipment intended to be used solely for emergencies on the ship on which it is installed, or a marine diesel engine installed in lifeboats intended to be used solely for emergencies; and

(ii) 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 NOx control measure established by the Central Government.

(c) Notwithstanding the provisions of sub-rule 1(a), the Central Government 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 the 19th May 2005, provided that the ship on which the engine is installed is solely engaged in coasting trade of India.

(2) For the purpose of this rule,(a) "major conversion" *in relation to a modification of a marine diesel engine that has not already been certified to the standards set forth in sub-rule (3) (4), or sub-clause (i) of clause (a) of sub-rule (5) shall include, where -

(i) the engine is replaced by a marine diesel engine or an additional marine diesel engine is installed, or

(ii) any substantial modification, as defined in the revised NO_x Technical Code, is made to the engine, or

(iii) the maximum continuous rating of the engine is increased by more than 10% compared to the maximum continuous rating of the original certification of the engine.

(b) For a major conversion involving the replacement of a marine diesel engine with a non-identical marine diesel engine, or the installation of an additional marine diesel engine, the standards in this regulation at the time of the replacement or addition of the engine shall apply. In the case of replacement engines only, if it is not possible for such are placement engine to meet the standards set forth in sub-rule (5). a. i (Tier III, as applicable), then that replacement engine shall meet the standards set forth in sub-rule (4) (Tier II), taking into account guidelines developed by the Organization.
* See interpretation 3 in Eleventh Schedule

(c) For a marine diesel engine referred to in sub-clause (a) or (b) of sub-rule (2), then the engine shall meet the following standards:-

(i) for ships constructed prior to the 1st January 2000, the standards set forth in sub-rule (3) shall apply; and

(ii) for ships constructed on or after the 1st January 2000, the standards in force at the time the ship is constructed shall apply.

(3) Tier I : Subject to rule 3, the operation of a marine diesel engine which is installed on a ship constructed on or after the 1stJanuary 2000 and prior to 1stJanuary 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):

(a) 17.0g/kWh when n is less than 130 rpm

(b) 45. $n^{(-0.2)}$ g/kWh when n is 130 or more but less than 2,000 rpm

(c) 9.8 g/kWh when n is 2000 rpm or more.

(4) Tier II: Subject to sub-rule(3), the operation of a marine diesel engine which is installed on a ship constructed on or after the 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):

(a) 14.4 g/kWh when n is less than 130 rpm

(b) 44 .$n^{(-0.23)}$ g/kWh when n is 130 or more but less than 2,000 rpm

(c) 7.7 g/kWh when n is 2000 rpm or more.

(5) Tier III

(a) Subject to rule 3, in an emission control area designated for Tier III NOX control under sub-rule (6) (NOX Tier III emission control area), the operation of a marine diesel engine*which is installed on a ship:

(i) is prohibited except when the emission of nitrogen oxides (calculated as the total weighted emission of NO2) from the engine is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):

(a) 3.4 g/kWh when n is less than 130 rpm

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

(c) 2.0 g/kWh when n is 2,000 rpm or more.

when:

(ii) that ship is constructed on or after:

(a) 1 January 2016 and is operating in the North American Emission Control Area or the United States Caribbean Sea Emission Control Area;

(b) 1 January 2021 and is operating in the Baltic Sea Emission Control Area or the North Sea Emission Control Area;

(iii) that ship is operating in a NOX Tier III emission control area, other than an emission control area described in sub-clause (ii)of clause (a) of sub-rule 5, and is constructed on or after the date of adoption of such an emission control area, or a later date as may be specified in the amendment designating the NOX Tier III emission control area, whichever is later.

*: Application of Tier III requirements to dual fuel and gas-fueled engines is to be in accordance with applicable guidelines developed by the Organization.

(b) the standards set forth in sub clause (i) of sub-rule (5)(a) shall not apply to:

(i) a marine diesel engine installed on a ship with a length (L) as defined in sub-rule (26) of rule 1 Merchant Shipping (Prevention of Pollution By Oil from Ships),less than 24 metres when it has been specifically designed, and is used solely, for recreational purposes; or

(ii) 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 Central Government, that the ship cannot comply with the standards set forth in sub clause (i) of clause (a) of sub-rule (5) because of design or construction limitations of the ship.

(iii) a marine diesel engine installed on a ship constructed prior to 1 January2021 of less than 500 gross tonnage, with a length (L), as defined in sub-rule (26) of rule 1 Merchant Shipping (Prevention of Pollution By Oil from Ships), of 24 meters or over when it has been specifically designed, and is used solely, for recreational purposes

(c) The tier and on/off status of marine diesel engines installed on board a ship to which clause (a) of sub-rule (5) applies which are certified to both Tier II and Tier III or which are certified to Tier II only shall be recorded at entry into and exit from a NOx Tier III emission control area, or when the on/off status changes within such an area, together with the date, time and position of the ship.

(d) Emissions of nitrogen oxides from a marine diesel engine subject to clause (a) of sub-rule (5) that occur immediately following building and sea trials of a newly constructed ship, or before and following converting, repairing, and/or maintaining the ship, or maintenance or repair of a Tier II engine or a dual fuel engine when the ship is required to not have gas fuel or gas cargo on board due to safety requirements, for which activities take place in a shipyard or other repair facility located in a NOX Tier III emission control area are temporarily exempted provided the following conditions are met:

(i) the engine meets the Tier II NOX limits; and

(ii) the ship sails directly to or from the shipyard or other repair facility, does not load or unload cargo during the duration of the exemption, and follows any additional specific routing requirements indicated by the port State in which the shipyard or other repair facility is located, if applicable.

(e) The exemption described in clause (d) applies only for the following period:

(i) for a newly constructed ship, the period beginning at the time the ship is delivered from the shipyard, including sea trials, and ending at the time the ship directly exits the NOX Tier III emission control area(s) or, with regard to a ship fitted with a dual fuel engine, the ship directly exits the NOX Tier III emission control area(s) or proceeds directly to the nearest gas fuel bunkering facility appropriate to the ship located in the NOX Tier III emission control area(s);

(ii) for a ship with a Tier II engine undergoing conversion, maintenance or repair, the period beginning at the time the ship enters the NOX Tier III emission control area(s) and proceeds directly to the shipyard or other repair facility, and ending at the time the ship is released from the shipyard or other repair facility and directly exits the NOX Tier III emission control area (s) after performing sea trials, if applicable; or

(iii) for a ship with a dual fuel engine undergoing conversion, maintenance or repair, when the ship is required to not have gas fuel or gas cargo on board due to safety requirements, the period beginning at the time the ship enters the NOX Tier III emission control area(s) or when it is degassed in the NOX Tier III emission control area(s) and proceeds directly to the shipyard or other repair facility, and ending at the time when the ship is released from the shipyard or other repair facility and directly exits the NOX Tier III emission control area(s) or proceeds directly to the nearest gas fuel bunkering facility appropriate to the ship located in the NOX Tier III emission control area(s).

(6) For the purpose of rule 13, a NOX Tier III emission control area shall be:-

(i) the North America area, which means the area described by the coordinates provided in Seventh Schedule to these rules;

(ii) the United States Caribbean sea area, which means the area described by the coordinates provided in Seventh Schedule to these rules; and

(iii) the Baltic Sea Emission Control Area as defined in;

(iv) the North Sea Emission Control Area as defined in and;

(v) any sea area, any port area, designated by the Central Government or the Organization in accordance with the criteria and procedures set forth in Third Schedule to these rules.

(7) (a) Notwithstanding sub-clause (i) of sub-rule (1) (a), 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 the 1st January 1990 but prior to the 1st January 2000 shall comply with the emission limits set forth in clause (d) of sub-rule(7), provided that an Approved Method for that engine has been certified by the Central Government through the Certifying Authority and notification of such certification has been submitted to the Organisation by the Central Government. Compliance of a marine diesel engine

for which an Approved Method has been certified and notification submitted to the Organisation shall be demonstrated through one of the following;

(i) 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

(ii) certification of the engine confirming that it operates within the limits set forth in sub-rules(3) ,(4) or sub-clause (i) of clause (a) of sub-rule (5) and an appropriate notation of the engine certification on the Ship's International Air Pollution Prevention Certificate .

(b) Clause (a) of sub-rule (7) shall apply no later than the first renewal survey that occurs 12 months or more after deposit of the notification as stated in clause (a) of sub-rule (7). If a shipowner of a ship on which an Approved Method is to be installed can demonstrate to the satisfaction of the Central Government that the Approved Method was not commercially available despite best efforts to obtain it, then that Approved Method shall be installed on the ship no later than the next annual survey of that ship which falls after the Approved Method is commercially available;

(c) With regard to a ship with a marine diesel engine with a power output of more than 5,000 kW and a per cylinder displacement at or above 90 litres installed on a ship constructed on or after 1st January 1990 but prior to the 1st January 2000, IAPP Certificate shall for a marine diesel engine to which clause (a) of sub-rule (7) applies, indicate one of the following:

(i) that either an approved method has been applied pursuant to sub-clause (i) of sub-rule (7)(a)
(ii) the engine has been certified pursuant to sub-clause (ii) of sub-rule (7)(a)
(iii) an approved method is not yet commercially available as described in sub-clause (b)
(iv) an approved method is not applicable.

(d) Subject to rule 3, the operation of a marine diesel engine described in sub-rule(7) (a) is prohibited, except when the emission of nitrogen oxides (calculated as the total weighted emission of NO_2) from the engine is within or does not exceed the following limits, where n = rated engine speed (crankshaft revolutions per minute):

(i) 17.0 g/kW when n is less than 130 rpm

(ii) $45.n^{(-0.2)}$ g/kWh when n is 130 or more but less than 2000rpm

(iii) 9.8 g/kWh when n is 2000 rpm or more

(e) Certification of an approved method shall be in accordance with chapter 7 of the revised NO_x Technical Code and shall include verification:

(i) 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

(ii) 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 clause (d)sub-rule(7) and the cost of purchasing and installing such approved method.

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

$$Ce = \frac{\text{Cost of Approved Method} \cdot 10^6}{P(kW) \cdot 0.768 \cdot 6000(\text{hours/year}) \cdot 5\ (\text{years}) \cdot \Delta\ NO_x(g/kWh)}$$

(8) The revised NO_x Technical Code* shall be applied in the certification, testing, and measurement procedures for the standards set forth in these rules. Certification of marine diesel engines fitted with selective catalytic reduction (SCR) systems or Exhaust Gas Recirculation (EGR) method for NOx reduction are to comply with the guidelines developed by the Organization.
*: See Eleventh Schedule for interpretations

(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. These rules shall not prevent the use of auxiliary control devices that are used to protect the engine and its ancillary equipment against operating conditions that could result in damage or failure or that are used to facilitate the starting of the engine.

14. Sulphur Oxides (SO_x) and Particulate Matter(PM)–

(1) General requirements - The sulphur content of any fuel oil used or carried for use on board ships shall not exceed 0.5% m/m

(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 Organisation.

(3) Requirements within Emission Control Areas–
For the purpose of rule 14, emission control areas shall include:-

(a) the Baltic Sea area as defined in rule1.11.2 of MARPOL Annex I, the North Sea as defined in rule1.14.6 5(1)(f) of Annex V; and

(b) the North Sea area as defined in 1.14.6 of Annex V .

(c) the North American area as described by the coordinates provided in the Seventh Schedule to these rules;

(c) the North American Emission Control Area, which means the area described by the coordinates provided in Seventh Schedule to these rules

(d) the United States Caribbean Sea area as described by the coordinates provided in Seventh Schedule to these rules; and

(e) any other sea area, including port areas, designated by the Organisation in accordance with criteria and procedures set forth in Third Schedule to these rules.

(4) While ships are operating within an emission control area, the sulphur content of fuel oil used on board ships shall not exceed0.1 % m/m

(5) The sulphur content of fuel oil referred to in sub-rule (1) of rule 14and sub-rule (4) of rule 14shall be documented by the supplier as required by rule 18.

(6) Those ships using separate fuel oils to comply with the abovementioned sub-rule (4) and entering or leaving an emission control area set forth in the abovementioned sub-rule (3) shall carry a written procedure showing how the fuel oil change-over is to be done, allowing sufficient time for the fuel oil service system to be fully flushed of all fuel oils exceeding the applicable sulphur content specified in abovementioned sub-rule (4) prior to entry into an emission control area. The volume of low sulphur fuel oils in each tank as well as the date, time, and position of the ship when any fuel-oil-change-over operation is completed prior to the entry into an emission control area or commenced after exit from such an area, shall be recorded in such logbook as specified by the Central Government.

(7) During the first twelve months immediately following commencement of any amendment by the Organisation designating a specific emission control area under sub-rule (3), ships operating in that an emission control area are exempt from the requirements in sub-rule (4) and (6) and from the requirements of sub-rule (5) insofar as they relate to sub-rule (4).

15. Volatile Organic Compounds - (1) The emissions of Volatile Organic Compounds from a tanker in a port or ports or a terminal or terminals are to be regulated in accordance with the provisions of these rules.

(2) The Central Government regulating tankers for Volatile Organic Compounds emissions shall submit a notification to the Organisation. 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 which shall be submitted at least six months before the effective date.

(3) The Central Government which designates ports or terminals at which Volatile Organic Compounds emissions from tankers are to be regulated shall ensure that vapour emission control systems, approved by the Central Government taking into account the safety standards for such systems developed by the 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 Central Government shall forward the list to the Organization for the information of the member states.

(5) A tanker to which sub-rule (1) applies shall be provided with a vapour emission collection system approved by the Central Government taking into account the safety standards for such systems developed by the Organization, and shall use this system during the loading of relevant cargoes.

(6) A port or terminal which has installed vapour emission control systems in accordance with these rules may accept tankers which are not fitted with vapour collection systems for a period of three years after the effective date identified in sub-rule (2).

(7) A tanker carrying crude oil shall have onboard and implement a Volatile Organic Compounds management plan approved by the Central Government. 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:

(a) provide written procedures for minimizing Volatile Organic Compounds emissions during the loading, sea passage, and discharge of cargo;

(b) give consideration to the extra Volatile Organic Compounds generated by crude oil washing;

(c) Entrust the Certifying Authority for implementing the plan; and

(d) for ships on international voyages, be written in the working language of the master and officers.

(8) These rules shall also apply to gas carriers only if the type of loading and containment systems allows safe retention of non-methane Volatile Organic Compounds on board or their safe return ashore

16. Shipboard Incineration- (1) Except as provided in sub-rule (4), shipboard incineration shall be allowed only in a shipboard incinerator.

(2) Shipboard incineration of the following substances shall be prohibited:

(a) residues of cargoes subject to Annexes I, II and III of the Convention or related contaminated packing materials;

(b) polychlorinated biphenyls ;

(c) garbage, as defined by Annex V of the Convention, containing more than traces of heavy metals;

(d) refined petroleum products containing halogen compounds;

(e) sewage sludge and sludge oil either of which are not generated on board the ship; and

(f) exhaust gas cleaning system residues.

(3) Shipboard incineration of polyvinyl chlorides shall be prohibited, except in shipboard incinerators for which Type Approval Certificates by the organization 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 these rules neither:-

(a) 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, or

(b) precludes the development, installation and operation of alternative design shipboard thermal waste treatment devices that meet or exceed the requirements of these rules.

(6) Except as provided in of sub-rule(7), each incinerator on a ship constructed on or after the 1stJanuary, 2000, or incinerator which is installed onboard a ship on or after the 1stJanuary 2000, shall meet the requirements contained in Fourth Schedule to these rules. Each incinerator subject to this shall be approved by the Central Government taking into account the standard specifications for shipboard incinerators developed by the Organization; or

(7) The Central Government may allow exclusion from the application of sub-rule(6) to any incinerator which is installed on board a ship before the 19th 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.

(8) Incinerators installed in accordance with the requirements of sub-rule (6) 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 sub-rule (2) of Fourth Schedule.

(9) Personnel responsible for the operation of an incinerator installed in accordance with the requirements of sub-rule (6)shall be trained to implement the guidance provided in the manufacturer's operating manual as required by of sub-rule (8).

(10) For incinerators installed in accordance with the requirements of sub-rule (6) the combustion chamber gas outlet temperature shall be monitored at all times the unit is in operation.

(11) Where the incinerator is of the continuous-feed type waste shall not be fed into the unit when the combustion chamber gas outlet temperature is below 850°C.

(12) Where the incinerator is of the batch-loaded type, the unit shall be designed so that the combustion chamber gas outlet temperature shall reach 600°C within five minutes after start-up and will thereafter stabilize at a temperature not less than 850°C.

17. Reception Facilities - (1) The Central Government shall ensure that the provision of facilities adequate to meet the:-

(a) needs of ships using its repair ports for the reception of ozone depleting substances and equipment containing such substances when removed from ships;

(b) needs of ships using its ports, terminals or repair ports for the reception of exhaust gas cleaning residues from an approved exhaust gas cleaning system, causing undue delay to ships, and

(c) needs in ship breaking facilities for the reception of ozone depleting substances and equipment containing such substances when removed from ships.

(2) If a particular port or terminal is remotely located from, or lacking in, the industrial infrastructure necessary to manage and process those substances referred to in sub-rule (1)and therefore cannot accept such substances, then, the Central Government shall inform the Organization of any such port or terminal so that this information may be circulated to all member states for their information and any appropriate action.

(3) The Central Government shall also notify the Organisation of its ports and terminals where reception facilities are available to manage and process such substances in accordance with guidelines developed by the Organization.

(4) The Central Government shall notify the Organization for circulation to the member states of all cases where the facilities provided under this rule are unavailable or alleged to be inadequate.

18. Fuel oil availability and Quality - (1)The Central Government shall take all reasonable steps to promote the availability of fuel oils to comply with these rules and inform the Organisation of the availability of compliant fuel oils in its ports and terminals in accordance with guidelines developed by the Organization.

(2) (a) Notwithstanding the flag of the ship, if the ship is found not to be in compliance with the standards for compliant fuel oils set forth in these rule and the Convention, the Central Government is entitled to require the ship to:-

(i) present a record of the actions taken to attempt to achieve compliance; and

(ii) provide evidence that it attempted to purchase compliant fuel oil in accordance with its voyage plan and, if it was not made available where planned, that attempts were made to locate alternative sources for such fuel oil and that despite best efforts to obtain compliant fuel oil, no such fuel oil was made available for purchase.

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

(c) If a ship provides the information set forth in clause (a) of sub-rule(2), the Central Government shall take into account all relevant circumstances and the evidence presented to determine the appropriate action to take, including not taking control measures.

(d) A ship shall notify the Central Government when it cannot purchase compliant fuel oil in accordance with guidelines developed by the Organization.

(e) The Central Government shall notify the Organization when a ship has presented evidence of the non-availability of compliant fuel oil.

(3). **Fuel oil quality**–(i) Fuel oil for combustion purposes delivered to and used on board ships to which these Rules applies shall meet the following requirements:

(a) except as provided in sub-clause(b)

(i) the fuel oil shall be blends of hydrocarbons derived from petroleum refining which shall not preclude the incorporation of small amounts of additives intended to improve some aspects of performance;

(ii) the fuel oil shall be free from inorganic acid;

(iii) the fuel oil shall not include any added substance or chemical waste which -

(1) jeopardises the safety of ships or adversely affects the performance of the machinery, or

(2) is harmful to personnel, or

(3) contributes overall to additional air pollution; and

(b) fuel oil for combustion purposes derived by methods other than petroleum refining shall not -

(i) exceed the applicable sulphur content set forth in rule 14;

(ii) cause an engine to exceed the applicable NO_x emission limits set forth in sub-rule (3), (4), sub clause (i) of clause (a) of sub rule (5), and clause(d) of sub-rule (7)of rule 13;

(iii) contain inorganic acid; and

(iv) (1) jeopardise the safety of ships or adversely affects the performance of the machinery; or

(2) be harmful to personnel, or

(3) contribute overall to additional air pollution.

(4) Rule 18 does not apply to coal in its solid form or nuclear fuels. Sub-rule(6), Sub-rule(7), Sub rule (8), Sub-rule(9), Sub-rule(10), Sub rule (11), Sub-rule(12), Sub-rule(13), clause (b), (c) and (d) of sub-rule (14) of rule 18do not apply to gas fuels such as Liquified Natural Gas, Compressed Natural Gas or Liquified Petroleum Gas.

(5) The sulphur content of gas fuels delivered to a ship specifically for combustion purposes on board that ship shall be documented by the supplier.

(6) For each ship subject to rules5and 6, details of fuel oil for combustion purposes delivered to and used on board shall be recorded by means of a bunker delivery note which shall contain at least the information specified in Fifth Schedule to these rules.

(7) 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.

(8) The Certifying Authority may inspect the bunker delivery notes on board any ship to which either these rules or the Convention 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.

(9) Certifying Authority may also verify the contents of each note consultations with the port where the note was issued;

(10) The inspection of the bunker delivery notes and the taking of certified copies by the Certifying Authority under this sub-rule shall be performed as expeditiously as possible without causing the ship to be unduly delayed.

(11) The bunker delivery note shall be accompanied by a representative sample of the fuel oil delivered taking into account guidelines developed by the Organisation.

(12) 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 twelve months from the time of delivery.

(13) If the Central Government requires the representative sample to be analysed, it shall be done in accordance with the verification procedure set forth in Sixth Schedule of these rules to determine whether the fuel oil meets the requirements of these rules.

(14) The Central Government shall ensure that appropriate authorities designated by them.

(a) maintain a register of all approved local suppliers of fuel oil;

(b) require local suppliers to register with the Directorate General of Shipping provide the bunker delivery note and sample as required by this rule, certified by the fuel oil supplier that the fuel oil meets the requirements of rule 14and rule 18. See detailed requirements stated in Thirteenth Schedule.

(c) 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;

(d) 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;

(e) inform the flag State of any ship receiving fuel oil found to be non-compliant with the requirements of rules14or 18; and

(f) inform the Organisation of all cases where fuel oil suppliers have failed to meet the requirements specified in rule 14 or rule 18.

(15) In connection with port State inspections carried out by the Central Government, the Central Government shall,

(a) inform the all concerned under whose jurisdiction a bunker delivery note was issued of cases of delivery of noncompliant fuel oil, giving all relevant information; and

(b) ensure that remedial action as appropriate is taken to bring noncompliant fuel oil discovered into compliance, taking into account guidelines developed by the Organization.

(16) For every ship of 400 gross tonnage and above on scheduled services with frequent and regular port calls, the Central Government may decide after application and consultation with affected States that compliance with sub-rule (7) may be documented in an alternative manner which gives similar certainty of compliance with rule 14and 18.

CHAPTER - IV

ENERGY EFFICIENCY FOR SHIPS

19. Application– (1) This chapter shall apply to all ships of 400 gross tonnage and above and shall enter into force on the 1st January 2013.

(2) The provisions of this chapter shall not apply to:

(a) ships less than 400 gross tonnage and solely engaged in coasting trade of India.
(b) ships not propelled by mechanical means, and platforms including FPSOs and FSUs and drilling rigs, regardless of their propulsion.

(3) Rules 20 and 21 shall not apply to ships which have nonconventional propulsion, except that rules 20 and 21 shall apply to cruise passenger ships having non-conventional propulsion and LNG carriers having conventional or nonconventional propulsion, delivered on or after 1 September 2019, as defined in clause (zu) of sub-rule (1) of rule 2. Rules 20 and 21 shall not apply to cargo ships having icebreaking capability

(4) Notwithstanding the provisions of sub-rule (1), the Central Government may waive the requirement for a ship of 400 gross tonnage and above from complying with rule20 and rule21, taking into account guidelines developed by the Organization.

(5) The provision of sub-rule (4) shall not apply to ships of 400 gross tonnage and above:-

(a) for which the building contract is placed on or after the 1st January 2017;or

(b) 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 the 1st July 2017;or

(c) the delivery of which is on or after the 1st July 2019; or

(d) in cases of a major conversion of a new or existing ship, as defined in clause (x) of sub rule (1) of rule 2, on or after the 1st January 2017, and in which clause (b) and (c) of sub rule (4) of rule 5 of Chapter – II applies.

(6) If the Central Government allows application of sub-rule (4), or suspends, withdraws or declines the application of sub rule (4), shall forthwith communicate to the Organization for circulation to the Parties to the present MARPOL Convention particulars thereof, for their information.

20. ***Attained Energy Efficiency Design Index (attained EEDI)***– *(1)* The attained EEDI shall be calculated for -

(a) each new ship;

(b) each new ship which has undergone a major conversion; and

(c) each new or existing ship which has undergone a major conversion, that is so extensive that the ship is regarded by the Central Government as a newly constructed ship which falls into one or more of the categories in clause(g)(i) (j) (zg)(zn), (p), (zzd), (zc), (zzc), (ze), (zf), (zp), (zq) of sub rule (1) of rule 2.

(2) 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 attained EEDI technical file that contains the information necessary for the calculation of the attained EEDI and that shows the process of calculation.

(3) The attained EEDI shall be verified, based on the attained EEDI technical file, either by the Central Government or by any organization duly authorised by it.

(4) The attained EEDI shall be calculated taking into account guidelines developed by the Organization.

21. Required Energy Efficiency Design Index - (1) For each:

(a) new ship;

(b) new ship which has undergone a major conversion; and

(c) new or existing ship which has undergone a major conversion that is so extensive that the ship is regarded by the Central Government as a newly constructed ship which falls into one of the categories defined in clauses (g)(i) (j) (zg)(zn), (p), (zzd), (zc), (ze), (zf), (zp), (zq) of sub rule (1) of rule 2 and to which this chapter is applicable, the attained EEDI shall be as follows:

Attained EEDI ≤Required EEDI = (1-X/100) × Reference line value

where X is the reduction factor specified in Table 1 below for the required EEDI compared to the Energy Efficiency Design Index reference line.

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

Ship Type	**Size**	**Phase 0 1 Jan 2013 – 31 Dec 2014**	**Phase 1 1 Jan 2015 – 31 Dec 2019**	**Phase 2 1 Jan 2020 – 31 Dec 2024**	**Phase 3 1 Jan 2025 and onwards**
Bulk carrier	20,000 DWT and above	0	10	20	30
	10,000 –20,000 DWT	n/a	0-10*	0-20*	0-30*
Gas carrier	10,000 DWT and above	0	10	20	30
	2,000 –10,000 DWT	n/a	0-10*	0-20*	0-30*
Tanker	20,000 DWT and above	0	10	20	30
	4,000 –20,000 DWT	n/a	0-10*	0-20*	0-30*
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*
LNG carrier* **	10,000 DWT and above	n/a	10**	20	30
Ro-ro cargo ship (vehicle carrier)* **	10,000 DWT and above	n/a	5**	15	30
Ro-ro cargo ship* **	2,000 DWT and above	n/a	5**	20	30
	1,000 – 2,000 DWT	n/a	0-5***	0-20*	0-30*
Ro-ro passenger ship* **	1,000 DWT and above	n/a	5**	20	30
	250 – 1,000 DWT	n/a	0-5***	0-20*	0-30*
Cruise passenger ship* ** **having non-conventional propulsion**	85000GT and above	n/a	5**	20	30
	25000 – 85000GT	n/a	0-5***	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.
**Phase 1 commences for those ships on 1 September 2015.
*** Reduction factor applies to those ships delivered on or after 1 September 2019, as defined in clause (zu) of sub-rule (1) of rule 2

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

(2) The Reference line values shall be calculated as follows:

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 Sub-rule (1) of rule 2	**a**	**b**	**c**
Bulk carrier	961.79	DWT of the ship	0.477
Gas carrier	1120.00	DWT of the ship	0.456
Tanker	1218.80	DWT of the ship	0.488
Container ship	174.22	DWT of the ship	0.201
General cargo ship	107.48	DWT of the ship	0.216
Refrigerated cargo carrier	227.01	DWT of the ship	0.244
Combination carrier	1219.00	DWT of the ship	0.488
Ro-ro cargo ship (vehicle carrier)	$(DWT/GT)^{0.7}$ · 780.36 Where DWT/GT<0.3 1812.63 where DWT/GT≥0.3	DWT of the ship	0.471
Ro-ro cargo ship	1405.15	DWT of the ship	0.498
	1686.17*	DWT of the ship where DWT≤17,000*	
Ro-ro passenger ship	752.16	DWT of the ship	0.381
	902.59*	DWT of the ship where DWT≤10,000* 10,000 where DWT>10,000*	
LNG carrier	2253.7	DWT of the ship	0.474
Cruise passenger ship having non-conventional propulsion	170.84	GT of the ship	0.214

*to be used from phase 2 and thereafter

(3) For each new and existing ship that has undergone a major conversion which is so extensive that the ship is regarded by the Central Government as a newly constructed ship, the attained EEDI shall be calculated and meet the requirement of sub rule (1) of rule 23 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.

(4) If the design of a ship allows it to fall into more than one of the above ship type definitions, the required Energy Efficiency Design Index for the ship shall be the most stringent (the lowest) required Energy Efficiency Design Index.

(5) For each ship to which this rule applies, the installed propulsion power shall not be less than the propulsion power needed to maintain the maneuverability of the ship under adverse conditions as defined in the guidelines 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 Energy Efficiency Design Index reference line parameters for relevant ship types and reduction rates set out in this rule.

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

(2) On or before 31 December 2018, in the case of a ship of 5,000 gross tonnage and above, the SEEMP shall include a description of the methodology that will be used to collect the data required by rule 22A.1 and the processes that will be used to report the data to the certifying authority.

(3) The Ship Energy Efficiency Management Plan shall be developed taking into account guidelines adopted by the Organisation.

22A. Collection and reporting of ship fuel oil consumption data

(1) From calendar year 2019, each ship of 5,000 gross tonnage and above* shall collect the data specified in Ninth Schedule to these rules, for that and each subsequent calendar year or portion thereof, as appropriate, according to the methodology included in the SEEMP.
*See Twelfth Schedule

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

(3) Except as provided for in sub-rule (4), (5) and (6) of this rule, within three months after the end of each calendar year, the ship shall report to the certifying authority, the aggregated value for each datum specified in Ninth Schedule to these rules, via electronic communication and using a standardized format developed by the Organization.

(4) In the event of the transfer of a ship from one Administration to another, the ship shall on the day of completion of the transfer or as close as practical thereto report to the certifying authority, the aggregated data for the period of the calendar year corresponding to that Administration, as specified in Ninth Schedule to these rules, upon prior request of that certifying authority, the disaggregated data

(5) In the event of a change from one Company to another, the ship shall on the day of completion of the change or as close as practical thereto report to certifying authority, the aggregated data for the portion of the calendar year corresponding to the Company, as specified in Ninth Schedule to these rules and, upon request of certifying authority, the disaggregated data.

(6) In the event of change from one Administration to another and from one Company to another concurrently, sub-rule (4) of shall apply.

(7) The data shall be verified according to procedures established by the Central Government, taking into account guidelines adopted by the Organization.

(8) Except as provided for in sub-rules (4), (5) and (6) of this regulation, the disaggregated data that underlies the reported data noted in Ninth Schedule to these rules for the previous calendar year shall be

readily accessible for a period of not less than 12months from the end of that calendar year and be made available to the certifying authority upon request.

(9) Certifying Authority will ensure that the reported data noted in Ninth Schedule to these rules by its registered ships of 5,000 gross tonnage and above are transferred to the IMO Ship Fuel Oil Consumption Database via electronic communication and using a standardized format developed by the Organization not later than one month after issuing the Statements of Compliance of these ships.

23. ***Promotion of technical co-operation and transfer of technology relating to the improvement of energy efficiency of ships***- (1) The Central Government may co-operate actively with other Parties, subject to its national laws, rule and policies, to promote the development and transfer of technology and exchange of information to States which request technical assistance, in respect of the implementation of measures to fulfill the requirements of chapter IV of these rule, in particular sub-rules (4) (5) (6) of rule 19.

Chapter V - Verification of compliance with the provisions of this annex

24. Application

Central Government shall use the provisions of the Code for Implementation in the execution of its obligations and responsibilities contained in these rules.

25. Verification of compliance.- (1) Central Government shall be subject to periodic audits by the Organization in accordance with the audit standard to verify compliance with and implementation of these rules.

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

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

(4) Audit of Central Government shall be:
(i) based on an overall schedule developed by the Secretary-General of the Organization, taking into account the guidelines developed by the Organization; and
(ii) conducted at periodic intervals, taking into account the guidelines developed by the Organization

26. Fee— The Fee for surveys and issue of International Air Pollution Prevention Certificate or the Indian Air Pollution Prevention certificates shall be as specified in the Fourteenth Schedule.

27. Penalty− Whoever contravenes any of the provisions of these rules shall be punishable with fine in accordance with the provisions clause (b) of sub-rule 2 of section 458 of the Act.

First Schedule

(Form I)

Form of International Air Pollution Prevention (IAPP) Certificate
(See rule8)

INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE

Issued under the provisions of the Protocol of 1997, as amended by resolution MEPC 176(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 India**

By:
……..……..……

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.

This Certificate is valid until (dd/mm/yyyy)‡.....subject to surveys in accordance with regulation 5 of Annex VI of the Convention.

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

Issued at …… on ……..……....(dd/mm/yyyy).
(place of issue of Certificate)

(seal or stamp of the authority, as appropriate)

……..……
(signature of authorized official issuing the certificate)

---

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

ENDORSEMENT FOR ANNUAL AND INTERMEDIATE SURVEYS

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

Annual survey: Signed: .....
(signature of duly authorized official)

Place: .....

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

(seal or stamp of the authority, as appropriate)

Annual/Intermediate* survey: Signed: .....
(signature of duly authorized official)

Place: .....

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

(seal or stamp of the authority, as appropriate)

Annual/Intermediate* survey: Signed: .....
(signature of duly authorized official)

Place: .....

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

(seal or stamp of the authority, as appropriate)

Annual/Intermediate* survey: Signed: .....
(signature of duly authorized official)

Place: .....

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

(seal or stamp of the authority, as appropriate)

ANNUAL/INTERMEDIATE SURVEY IN ACCORDANCE WITH REGULATION 9.8.3

THIS IS TO CERTIFY that, at an annual/intermediate* survey in accordance withregulation9.8.3 of Annex VI of the Convention, the ship was found to comply with the relevant provisions of that Annex:

Signed: .....
(signature of duly authorized official)

Place: .....

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

(seal or stamp of the authority, as appropriate)

* Delete 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 Convention, and this certificate shall, in accordance with regulation9.3 of Annex VI of the Convention, be accepted as valid until (dd/mm/yyyy) ……..

Signed: .....
(signature of duly authorized official)

Place: .....

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

(Seal or stamp of the authority, as appropriate)

ENDORSEMENT WHERE THE RENEWAL SURVEY HAS BEEN COMPLETED AND REGULATION 9.4 APPLIES

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

Signed: .....
(signature of duly 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 REGULATION9.5 or 9.6* of Annex VI of the Convention, be accepted as valid until (dd/mm/yyyy):…….

Signed: .....
(Signature of duly authorized official)

Place: .....

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

(seal or stamp of the authority, as appropriate)

ENDORSEMENT FOR ADVANCEMENT OF ANNIVERSARY DATE WHERE REGULATION 9.8 APPLIES

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

Signed: .....
(signature of duly 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 duly authorized official)

Place: .....

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

(Seal or stamp of the authority, as appropriate)

* Delete as appropriate.

SUPPLEMENT TO
INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE
(IAPP CERTIFICATE)

RECORD OF CONSTRUCTION AND EQUIPMENT

Notes:

(1) This Record shall be permanently attached to the IAPP Certificate. The IAPP Certificate shall be available onboard 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 rule 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 (dd/mm/yyyy) ….....

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 hydro-chlorofluorocarbons, halons or chlorofluorocarbons (CFCs) installed before 19 May 2005 may continue in service:

System or equipment	Location onboard	Substance

2.1.2 The following systems containing hydro-chlorofluorocarbons (HCFCs) installed before 1 January 2020 may continue in service:

System or equipment	Location onboard	Substance

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

2.2 Nitrogen oxides (NO_x) (regulation 13)

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

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

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

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

.1 fuel oil with a sulphur content as document by bunker delivery notes that does not exceed the limit value of 0.5 % m/m and/ or ☐

.2 an equivalent arrangement approved in accordance with regulation 4.1 as listed in paragraph 2.6 that is at least as effective in terms of SOx emission reductions as compared to using a fuel oil with a sulphur content limit value of 0.5% m/m:

- ☐

2.3.2 When the ship operates inside an emission control area specified in regulation 14.3, the ship uses:

.1 fuel oil with a sulphur content as documented by bunker delivery notes that does not exceed the limit value of 0.10% m/m, and/or ☐

.2 an equivalent arrangement approved in accordance with regulation 4.1 as listed in paragraph 2.6 that is at least as effective in terms of SOX emission reductions as compared to using a fuel oil with a sulphur content limit value of 0.10% m/m ☐

2.3.3 For a ship without an equivalent arrangement approved in accordance with regulation 4.1 as listed in paragraph 2.6, the sulphur content of fuel oil carried for use on board the ship shall not exceed 0.50% m/m as documented by bunker delivery notes ☐

2.4 Volatile organic compounds (VOCs) (regulation 15)

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

…… ☐

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

…… ☐

2.4.2.2 VOC management Plan approval reference:

…… ☐

2.5 Shipboard incineration (regulation 16)

The ship has an incinerator:

.1 installed on or after 1 January 2000 which complies with:
.1 Resolution MEPC.76(40) as amended*…… ☐
.2 Resolution 244 (66)
…… ☐

.2 installed before 1 January 2000 which complies with:

.2.1 resolution MEPC.59(33)†

…… ☐ .2.2

resolution MEPC.76(40)*

…… ☐

2.6 Equivalents (regulation4)

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)

Date (dd/mm/yyyy): …….

..……

(date of issue) (signature of duly authorized official issuing the Record)

(Seal or stamp of the authority, as appropriate)

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

† As amended by resolution MEPC.92(45).

(Form II)

Form of Indian Air Pollution Prevention (IAPP) Certificate
(See rule 8)

FORM OF INDIAN AIR POLLUTION PREVENTION CERTIFICATE

Issued under the provisions of the Protocol of 1997 as amended by resolution MEPC.176(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 India

by …….....
Particulars of ship*

Name of ship
…….....

Distinctive number or letters ……
.....

IMO Number†.....

Gross tonnage .....

Port of registry
…….....

THIS IS TO CERTIFY:

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

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

This certificate is valid until……..(dd/mm/yyyy) subject to surveys in accordance with regulation 5 of Annex VI of the Convention.

Issued at …… on ……...(dd/mm/yyyy).

(seal or stamp of the authority, as appropriate)

……..……
(signature of authorized official
issuing the certificate)

---

* 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).

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

ENDORSEMENT FOR ANNUAL AND INTERMEDIATE SURVEYS

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

Annual survey: Signed: .....
(signature of duly authorized official)

Place: .....

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

(seal or stamp of the authority, as appropriate)

Annual/Intermediate* survey: Signed: .....
(signature of duly authorized official)

Place: .....

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

(seal or stamp of the authority, as appropriate)

Annual/Intermediate* survey: Signed: .....
(signature of duly authorized official)

Place: .....

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

(seal or stamp of the authority, as appropriate)

Annual/Intermediate* survey: Signed: .....
(signature of duly authorized official)

Place: .....

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

(seal or stamp of the authority, as appropriate)

ANNUAL/INTERMEDIATE SURVEY IN ACCORDANCE WITH REGULATION 9.8.3

THIS IS TO CERTIFY that, at an annual/intermediate* survey in accordance with regulation9.8.3 of Annex VI of the Convention, the ship was found to comply with the relevant provisions of that Annex:

Signed: .....
(signature of duly authorized official)

Place: .....

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

(seal or stamp of the authority, as appropriate)

* Delete 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 Convention, and this certificate shall, in accordance with regulation9.3 of Annex VI of the Convention, be accepted as valid until (dd/mm/yyyy) ……..

Signed: .....
(signature of duly authorized official)

Place: .....

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

(Seal or stamp of the authority, as appropriate)

ENDORSEMENT WHERE THE RENEWAL SURVEY HAS BEEN COMPLETED AND REGULATION 9.4 APPLIES

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

Signed: .....
(signature of duly 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 OF THE CONVENTION APPLIES

This certificate shall, in accordance with REGULATION9.5 or 9.6* of Annex VI of the Convention, be accepted as valid until (dd/mm/yyyy): …….

Signed: .....
(Signature of duly authorized official)

Place: .....

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

(seal or stamp of the authority, as appropriate)

ENDORSEMENT FOR ADVANCEMENT OF ANNIVERSARY DATE WHERE REGULATION 9.8 APPLIES

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

Signed: .....
(signature of duly 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 duly authorized official)

Place: .....

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

(Seal or stamp of the authority, as appropriate)

* Delete as appropriate.

SUPPLEMENT TO
INDIAN 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 onboard 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 rule 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 (dd/mm/yyyy) ….....

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 hydro-chlorofluorocarbons, halons or chlorofluorocarbons (CFCs) installed before 19 May 2005 may continue in service:

System or equipment	Location on board	Substance

2.1.2 The following systems containing hydro-chlorofluorocarbons (HCFCs) installed before 1 January 2020 may continue in service:

System or equipment	Location on board	Substance

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

2.2 Nitrogen oxides (NO_x) (regulation 13)

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

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

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

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

.1 fuel oil with a sulphur content as document by bunker delivery notes that does not exceed the limit value of 0.5 % m/m and/ or ☐

.2 an equivalent arrangement approved in accordance with regulation 4.1 as listed in paragraph 2.6 that is at least as effective in terms of SOx emission reductions as compared to using a fuel oil with a sulphur content limit value of 0.5% m/m:

- ☐

2.3.2 When the ship operates inside an emission control area specified in regulation 14.3, the ship uses:

.1 fuel oil with a sulphur content as documented by bunker delivery notes that does not exceed the limit value of 0.10% m/m, and/or ☐

.2 an equivalent arrangement approved in accordance with regulation 4.1 as listed in paragraph 2.6 that is at least as effective in terms of SOX emission reductions as compared to using a fuel oil with a sulphur content limit value of 0.10% m/m ☐

2.3.3 For a ship without an equivalent arrangement approved in accordance with regulation 4.1 as listed in paragraph 2.6, the sulphur content of fuel oil carried for use on board the ship shall not exceed 0.50% m/m as documented by bunker delivery notes ☐

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.

…… ☐

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

…… ☐

2.4.2.4 VOC management Plan approval reference:

…… ☐

2.5 Shipboard incineration (regulation 16)

The ship has an incinerator:

.1 installed on or after 1 January 2000 which complies with:
.1 Resolution MEPC.76(40) as amended*…… ☐
.2 Resolution 244 (66)
…… ☐

.2 installed before 1 January 2000 which 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)

Date (dd/mm/yyyy): …….
..……

(date of issue) (signature of duly authorized official issuing the Record)

(Seal or stamp of the authority, as appropriate)

* As amended by resolution MEPC.93(45).
† As amended by resolution MEPC.92(45).

Second Schedule

TEST CYCLES AND WEIGHTING FACTORS OF THE CONVENTION

(*Regulation* 13)

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

.1 For constant-speed marine engines for ship main propulsion, including diesel-electric drive, test cycle E2 shall be applied;

.2 For controllable-pitch propeller sets test cycle E2 shall be applied;

.3 For propeller-law-operated main and propeller-law-operated auxiliary engines the test cycle E3 shall be applied;

.4 For constant-speed auxiliary engines test cycle D2 shall be applied; and

.5 For variable-speed, variable-load auxiliary engines, not included above, test cycle C1 shall be applied.

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

Test cycle type E2	Speed	100%	100%	100%	100%
	Power	100%	75%	50%	25%
	Weighting factor	0.2	0.5	0.15	0.15

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

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

Test cycle for *constant-speed auxiliary engine* application

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

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

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

In the case of an engine to be certified in accordance with subparagraph 5.1.1 of rule 13, the specific emission at each individual mode point shall not exceed the applicable NOx 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.

Third Schedule

CRITERIA AND PROCEDURES FOR DESIGNATION OF EMISSION CONTROL AREAS

(*Regulation* 13.6 and *Regulation* 14.3 of the convention)

(1) OBJECTIVES

1.1 The purpose of this schedule 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 CONTROLAREAS

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 NOx, SOx and particulate matter emissions affecting the human populations and environmental areas at risk that are in place and operating concurrent with the consideration of measures to be adopted in relation to provisions of regulation 13 and 14 of Annex VI; and

.8 the relative costs of reducing emissions from ships when compared with land-based controls, and the economic impacts on shipping engaged in international trade.

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

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

4.1 The Organization shall consider each proposal submitted to it by a Party or Parties.

4.2 In assessing the proposal, the Organization shall take into account the criteria which are to be included in each proposal for adoption as set forth in section 3 above.

4.3 An Emission Control Area shall be designated by means of an amendment to this Annex, considered, adopted and brought into force in accordance with article 16 of the present Convention.

(5) OPERATION OF EMISSION CONTROL AREAS

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

Fourth Schedule

TYPE APPROVAL AND OPERATING LIMITSFOR SHIPBOARD INCINERATORS

(*Regulation*16 of the convention)

(1) Ships incinerators described in regulation16.6.1 onboard 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 Central Government, using the following standard fuel/waste specification for the type approval test for determining whether the incinerator operates within the limits specified in paragraph 2 of this schedule:

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

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

O_2 in combustion chamber:	6-12%
CO in flue gas maximum average:	200 mg/MJ
Soot number maximum average:	Bacharach 3 or Ringelman 1 (20% opacity) (a higher soot number is acceptable only during very short periods such as starting up)
Unburned components in ash residues:	Maximum 10% by weight
Combustion chamber flue gas outlet temperature range:	850-1,200°C

Fifth Schedule

INFORMATION TO BE INCLUDED IN THE BUNKER DELIVERY NOTE
(Regulation 18.5 of the convention)

Name and IMO Number of receiving ship

Port

Date of commencement of delivery

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

Product name(s)

Quantity in metric tons

Density at 15°C, kg/m3*

Sulphur content (%m/m)†

A declaration signed and certified by the fuel oil supplier's representative that the fuel oil supplied is in conformity with rule 18.3 of this Annex and that the sulphur content of the fuel oil supplied does not exceed:.
□the limit value given by rule 14.1 of this Annex;
□ the limit value given by rule 14.4 of this Annex; or
□ the purchaser's specified limit value of _____ (% m/m), as completed by the fuel oil supplier's representative and on the basis of the purchaser's notification that the fuel oil is intended to be used:

.1 in combination with an equivalent means of compliance in accordance with regulation 4 of this Annex; or

.2 is subject to a relevant exemption for a ship to conduct trials for Sulphur oxides emission reduction and control technology research in accordance with regulation 3.2 of this Annex.

The declaration shall be completed by the fuel oil supplier's representative by marking the applicable box(es) with a cross (x).

---

* 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.

Sixth Schedule

FUEL VERIFICATION PROCEDURE FOR MARPOL ANNEX VI
FUEL OIL SAMPLES
(Regulation 18.8.2 of the convention)

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

(1) General Requirements

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

1.2 Central Government, through its competent authority, shall manage the verification procedure.

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

(2) Verification Procedure Stage 1

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

2.2 The laboratory shall:

.1 record the details of the seal number and the sample label on the test record;

.2 confirm that the condition of the seal on the MARPOL sample has not been broken; and

.3 reject any MARPOL sample where the seal has been broken.

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

.1 ensure that the MARPOL sample is thoroughly homogenized;

.2 draw two sub-samples from the MARPOL sample; and

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

2.4 The two sub-samples shall be tested in succession, in accordance with the specified test method referred to in Fifth Schedule(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 sub-samples should be taken by the laboratory and analyzed. The sample bottle should be resealed in accordance with paragraph 2.3.3 above after the new sub-samples have been taken.

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

.1 If the result of "X" is equal to or falls below the applicable limit required by Annex VI, the fuel oil shall be deemed to meet the requirements.

.2 If the result of "X" is greater than the applicable limit required by MARPOL Annex VI, Verification Procedure Stage 2 should be conducted; however, if the result of .X. is greater than the specification limit by 0.59R (where R is the reproducibility of the test method), the fuel oil shall be considered non-compliant and no further testing is necessary.

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

3. Verification Procedure Stage 2

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

3.2 Upon receiving the MARPOL sample, the laboratory shall:

.1 record the details of the reseal number applied in accordance with 2.3.3 above and the sample label on the test record;

.2 draw two sub-samples from the MARPOL sample; and

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

3.3 The two sub-samples shall be tested in succession, in accordance with the test method specified in Fifth Schedule(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 sub-samples shall be taken by the laboratory and analyzed. The sample bottle should be resealed in accordance with paragraph 3.2.3 above after the new sub-samples have been taken.

3.4 If the test results of "C" and "D" are valid, and the results of "A", "B", "C" and "D" are within the reproducibility (*R*) of the test method then the laboratory shall average the results, which is referred to as "Y":

.1 If the result of "Y" is equal to or falls below the applicable limit required by Annex VI, the fuel oil shall be deemed to meet the requirements.

.2 If the result of "Y" is greater than the applicable limit required by Annex VI, then the fuel oil fails to meet the standards required by Annex VI.

3.5 If the result of "A", "B", "C" and "D" are not within the reproducibility (*R*) of the test method then the Central Government 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.

Seventh Schedule

Emission Control Areas

(Regulation 13.6 and Regulation 14.3 of the convention)

(1) The boundaries of emission control areas designated under regulation 13.6 and 14.3, other than the Baltic Sea and the North Sea areas, are set forth in this schedule.

(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:

Point	Latitude	Longitude
1	32° 32′ 10″ N.	117° 06′ 11″ W.
2	32° 32′ 04″ N.	117° 07′ 29″ W.
3	32° 31′ 39″ N.	117° 14′ 20″ W.
4	32° 33′ 13″ N.	117° 15′ 50″ W.
5	32° 34′ 21″ N.	117° 22′ 01″ W.
6	32° 35′ 23″ N.	117° 27′ 53″ W.
7	32° 37′ 38″ N.	117° 49′ 34″ W.
8	31° 07′ 59″ N.	118° 36′ 21″ W.
9	30° 33′ 25″ N.	121° 47′ 29″ W.
10	31° 46′ 11″ N.	123° 17′ 22″ W.
11	32° 21′ 58″ N.	123° 50′ 44″ W.
12	32° 56′ 39″ N.	124° 11′ 47″ W.
13	33° 40′ 12″ N.	124° 27′ 15″ W.
14	34° 31′ 28″ N.	125° 16′ 52″ W.
15	35° 14′ 38″ N.	125° 43′ 23″ W.
16	35° 43′ 60″ N.	126° 18′ 53″ W.
17	36° 16′ 25″ N.	126° 45′ 30″ W.
18	37° 01′ 35″ N.	127° 07′ 18″ W.
19	37° 45′ 39″ N.	127° 38′ 02″ W.
20	38° 25′ 08″ N.	127° 52′ 60″ W.
21	39° 25′ 05″ N.	128° 31′ 23″ W.
22	40° 18′ 47″ N.	128° 45′ 46″ W.
23	41° 13′ 39″ N.	128° 40′ 22″ W.
24	42° 12′ 49″ N.	129° 00′ 38″ W.
25	42° 47′ 34″ N.	129° 05′ 42″ W.
26	43° 26′ 22″ N.	129° 01′ 26″ W.
27	44° 24′ 43″ N.	128° 41′ 23″ W.
28	45° 30′ 43″ N.	128° 40′ 02″ W.
29	46° 11′ 01″ N.	128° 49′ 01″ W.
30	46° 33′ 55″ N.	129° 04′ 29″ W.
31	47° 39′ 55″ N.	131° 15′ 41″ W.
32	48° 32′ 32″ N.	132° 41′ 00″ W.
33	48° 57′ 47″ N.	133° 14′ 47″ W.
34	49° 22′ 39″ N.	134° 15′ 51″ W.
35	50° 01′ 52″ N.	135° 19′ 01″ W.
36	51° 03′ 18″ N.	136° 45′ 45″ W.
37	51° 54′ 04″ N.	137° 41′ 54″ W.
38	52° 45′ 12″ N.	138° 20′ 14″ W.
39	53° 29′ 20″ N.	138° 40′ 36″ W.
40	53° 40′ 39″ N.	138° 48′ 53″ W.
41	54° 13′ 45″ N.	139° 32′ 38″ W.
42	54° 39′ 25″ N.	139° 56′ 19″ W.

Point	Latitude	Longitude
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.
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.
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.

Point	Latitude	Longitude
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.
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.
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.

Point	Latitude	Longitude
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.
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.
152	24º 18′ 35″ N.	80º 46′ 54″ W.
153	24º 09′ 51″ N.	80º 59′ 47″ W.

Point	Latitude	Longitude
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.
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.

.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.
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.

(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
	17º 18′ 37″ N.	67º 32′ 14″ W.
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 38′ 23″ W.
29	18º 21′ 57″ N.	64º 40′ 60″ W.
30	18º 21′ 51″ N.	64º 40′ 15″ 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.

Point	Latitude	Longitude
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.

Eighth schedule
(Form I)

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 India

……..... .....

(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 ……
.....

IMO Number† .....

Port of registry
…….....

Gross tonnage .....

THIS IS TO CERTIFY:

(1) That the ship has been surveyed in accordance with regulation 5.4 of Annex VI of the Convention; and

(2) That the survey shows that the ship complies with the applicable requirements in regulation 20, regulation 21 and regulation 22.

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

Issued at .....

(place of issue of Certificate)

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

(date of issue) (Signature of duly authorized official issuing the certificate)

(Seal or stamp of the authority, as appropriate)

---

* 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).

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, regulation mentioned in this Record refers to rule in Annex VI of the Convention, and resolutions or circulars refer to those adopted by the International Maritime Organization.

(1) Particulars of ship

1.1 Name of ship .....

1.2 IMO number .....

1.3 Date of building contract .....

1.4 Gross tonnage .....

1.5 Deadweight .....

1.6 Type of ship* .....

(2) Propulsion system

2.1 Diesel propulsion…… ☐

2.2 Diesel-electric propulsion …… ☐

2.3 Turbine propulsion …… ☐

2.4 Hybrid propulsion …… ☐

2.5 Propulsion system other than any of the above …… ☐

(3) Attained Energy Efficiency Design Index (EEDI)

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

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

3.2 The Attained EEDI is not calculated as:

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

3.2.1 the ship is exempt under regulation 20.1 as it is not a new ship as defined in regulation 2……..……..…… ……☐

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

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

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

(4) Required EEDI

4.1 Required EEDI is: ..... grams-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 Central Government 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…….. ……..……☐

(6) EEDI technical file

6.1 The IEE Certificate is accompanied by the EEDI technical file in compliance with regulation20.1……..…… ……..……..……..☐

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)

Date (dd/mm/yyyy): ....
(date of issue) (signature of duly authorized official issuing the Record)

(Seal or stamp of the authority, as appropriate)

Ninth Schedule

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

Identity of the ship

IMO number

Period of calendar year for which the data is submitted

Start date (dd/mm/yyyy)

End date (dd/mm/yyyy)

Technical characteristics of the ship

Ship type, as defined in regulation 2 of this Annex or other (to be stated)

Gross tonnage (GT)[1]

Net tonnage (NT)[2]

Deadweight tonnage (DWT)[3]

Power output (rated power[4]) of main and auxiliary reciprocating internal combustion engines over 130 kW (to be stated in kW)

EEDI (if applicable)

Ice class[5]

Fuel oil consumption, by fuel oil type[6] in metric tonnes and methods used for collecting fuel oil consumption data

Distance travelled

Hours underway

1. Gross tonnage should be calculated in accordance with the International Convention on Tonnage Measurement of Ships, 1969.
2. Net tonnage should be calculated in accordance with the International Convention on Tonnage Measurement of Ships, 1969. If not applicable, note "N/A".
3. DWT means the difference in tonnes between the displacement of a ship in water of relative density of 1025 kg/m3 at the summer load draught and the lightweight of the ship. The summer load draught should be taken as the maximum summer draught as certified in the stability booklet approved by the Central Government or an organization recognized by it.
4. Rated power means the maximum continuous rated power as specified on the nameplate of the engine.
5. Ice class should be consistent with the definition set out in the International Code for ships operating in polar waters (Polar Code), (resolutions MEPC.264 (68) and MSC.385(94)). If not applicable, note "N/A".
6. As defined in the 2014 Guidelines on the method of calculation of the Attained Energy Efficiency Design Index (EEDI) for new ships (resolution MEPC.245(66), as amended) or other (to be stated).

Tenth Schedule

Form of Statement of Compliance – Fuel Oil Consumption Reporting

STATEMENT OF COMPLIANCE – FUEL OIL CONSUMPTION REPORTING

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

Particulars of ship[1]
Name of ship . . . . . .
Distinctive number or letters. . . . . .
IMO Number[2] . . . . . .
Port of registry . . . . . .
Gross tonnage. . . . . .

THIS IS TO DECLARE:

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

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

Issued at: . . . . . .
(place of issue of Statement)

Date (dd/mm/yyyy) . . . . . .
(date of issue) (signature of duly authorized official issuing the Statement)
(seal or stamp of the authority, as appropriate)

***

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

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

Eleventh Schedule

Interpretations

1. Sub-rule (z) of rule 2

Definition of "new ships"

1.1 For the application of the definition "new ship" specified in sub-rule (z) of rule 2 to each phase specified in table 1 of rule 21, it should be interpreted as follows:

.1 the date specified in sub-rule (zi) of rule 2 should be replaced with the start date of each phase;

.2 the date specified in sub-rule (z.iii) of rule 2should be replaced with the date six months after the start date of each phase; and

.3 the date specified in sub-rule (z.iii) of rule 2 should for Phase 1, 2 and 3 be replaced with the date 48 months after the start date of each phase.

1.2 With the above interpretations, the required EEDI of each phase is applied to the following new ship which falls into one of the categories defined in sub rules g, p, zn, I, zzd, zc, j of Rule 2 and to which chapter 4 is applicable.

.1 the required EEDI of Phase 0 is applied to the following new ship:

.1 for which the building contract is placed in phase 0, and the delivery is before 1 January 2019; or

.2 the building contract of which is placed before phase 0, and the delivery is on or after 1 July 2015 and before 1 January 2019; or in the absence of a building contract,

.3 the keel of which is laid or which is at a similar stage of construction on or after 1 July 2013 and before 1 July 2015, and the delivery is before 1 January 2019; or

.4 the keel of which is laid or which is at a similar stage of construction before 1 July 2013, and the delivery is on or after 1 July 2015 and before 1 January 2019.

.2 The required EEDI of Phase 1 is applied to the following new ship:

.1 for which the building contract is placed in phase 1, and the delivery is before 1 January 2024; or

.2 the building contract of which is placed before Phase 1, and the delivery is on or after 1 January 2019 and before 1 January 2024; or in the absence of a building contract,

.3 the keel of which is laid or which is at a similar stage of construction on or after 1 July 2015 and before 1 July 2020, and the delivery is before 1 January 2024; or

.4 the keel of which is laid or which is at a similar stage of construction before 1 July 2015, and the delivery is on or after 1 January 2019 and before 1 January 2024.

.3 The required EEDI of Phase 2 is applied to the following new ship:

.1 for which the building contract is placed in phase 2, and the delivery is before 1 January 2029; or

.2 the building contract of which is placed before Phase 2, and the delivery is on or after 1 January 2024 and before 1 January 2029; or in the absence of a building contract,

.3 the keel of which is laid or which is at a similar stage of construction on or after 1 July 2020 and before 1 July 2025, and the delivery is before 1 January 2029; or

.4 the keel of which is laid or which is at a similar stage of construction before 1 July 2020, and the delivery is on or after 1 January 2024 and before 1 January 2029.

.4 The required EEDI of Phase 3 is applied to the following new ship:

.1 for which the building contract is placed in phase 3; 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 2025; or,

.3 the delivery of which is on or after 1 January 2029.

2. Sub-rule x of Rule 2

Major conversion

2.1 For sub-rule xi of Rule 2, any substantial change in hull dimensions and/or capacity (e.g. change of length between perpendiculars (LPP) or change of assigned freeboard) should be considered a major conversion. Any substantial increase of total engine power for propulsion (e.g. 5% or more) should be considered a major conversion. In any case, it is the Central Government's authority to evaluate and decide whether an alteration should be considered as major conversion, consistent with chapter 4 of MARPOL Annex VI.

Note: Notwithstanding paragraph 2.1, assuming no alteration to the ships structure, both decrease of assigned freeboard and temporary increase of assigned freeboard due to the limitation of deadweight or draft at calling port should not be construed as a major conversion. However, an increase of assigned freeboard, except a temporary increase, should be construed as a major conversion.

2.2 Notwithstanding paragraph 2.1, for sub-rule xi of Rule 2, the effect on attained EEDI as a result of any change of ships' parameters, particularly any increase in total engine power for propulsion, should be investigated. In any case, it is the Central Government's authority to evaluate and decide whether an alteration should be considered as major conversion, consistent with chapter 4.

2.3 A company may, at any time, voluntarily request re-certification of the EEDI, with IEE Certificate reissuance, on the basis of any new improvements to the ships' efficiency that are not considered to be major conversions.

2.4 In sub-rule x. iv of Rule 2, the terms "new ship" and "existing ship" should be understood as they are used in MARPOL Annex I, regulation 1.9.1.4, rather than as the defined terms in sub-rules (e) and (z) of Rule 2.

2.5 The term "a ship" referred to in rule 5.4.b is interpreted as "new ship".

3. Sub-rule 2.a and 2.b of Rule 13

Major Conversion

Application

Sub-rule 2.a of Rule 13 reads as follows:

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 sub-rule (3) (4), or sub-clause (i) of clause (a) of sub-rule (5) where:

.1 the engine is replaced by a marine diesel engine or an additional marine diesel engine is installed, or ….

Sub-rule 2.b of Rule 13 reads as follows:

For a major conversion involving the replacement of a marine diesel engine with a non-identical marine diesel engine, or the installation of an additional marine diesel engine, the standards in this regulation at the time of the replacement or addition of the engine shall apply. In the case of replacement engines only, if it is not possible for such a replacement engine to meet the standards set forth in sub-rule (5).ai (Tier III, as applicable), then that replacement engine shall meet the standards set forth in sub-rule (4) (Tier II), taking into account guidelines developed by the Organization vide resolution MEPC 230(65)

Interpretation:

This section shall be interpreted, in respect of engines installed on or after 1 January 2000but before 1 July 2010*, on the basis of regulation 13(2)(a)(i) which applied at that time in which it was given that "For the purpose of this regulation, major conversion, means a modification of an engine where the engine is replaced by a new engine built on or after 1January 2000." as follows:

(a) For application of rule13(2)(a)(i) the term "replaced" shall be interpreted as being applicable to an engine installed either as a direct replacement for an existing engine or one installed as an

addition to the original engine complement as at1 January 2000 to meet revised ship requirements; and,

(b) For application of regulation 13(2)(a)(i) the term "new" shall be interpreted as applying to engines that left the manufacturer's works for the first time on or after1 January 2000.

4. Sub rule (zc) of rule 2

Ships dedicated to the carriage of fruit juice in refrigerated cargo tank

Ships dedicated to the carriage of fruit juice in refrigerated cargo tanks should be categorized as refrigerated cargo carrier.

5. Rules 5.4.d, 6.4 and 22.1

Timing for existing ships to have on board a SEEMP

4.1 The International Energy Efficiency Certificate (IEEC) shall be issued for both new and existing ships to which chapter 4 applies.

4.2 The SEEMP required by rule 22.1 is not required to be placed on board an existing ship to which this regulation applies until such time as the verification survey specified in 5.4.d of MARPOL Annex VI is carried out.

4.3 For existing ships, a Ship Energy Efficiency Management Plan (SEEMP) required in accordance with rule 22 shall be verified on board according to regulation 5.4.d, and an IEEC shall be issued, not later than the first intermediate or renewal survey, whichever is the sooner, on or after 1 January 2013, i.e. a survey connected to an intermediate/renewal survey of the IAPP Certificate.

4.4 The intermediate or renewal survey referenced in 3 relates solely to the timing for the verification of the SEEMP on board, i.e. these IAPP Certificate survey windows will also become the IEEC initial survey date for existing ships. The SEEMP is however, a survey item solely under the new MARPOL Annex VI, chapter 4 and is not a survey item relating to IAPP Certificate surveys.

4.5 In the event that the SEEMP is not found on board during the first intermediate/renewal survey of the IAPP Certificate on or after 1 January 2013, then the certifying authority should seek the advice of the central government concerning the issuance of an IEEC and be guided accordingly. However, the validity of the IAPP Certificate is not impacted by the lack of a SEEMP as the SEEMP is a survey item solely under the new MARPOL Annex VI, chapter 4, and not under the IAPP Certificate surveys.

4.6 With respect to ships required to keep on board a SEEMP, such ships exclude platforms (including FPSOs and FSUs) and drilling rigs, regardless of their propulsion and any other ship without means of propulsion.

4.7 SEEMP should be established in a working language or languages understood by the ships' personnel.

6. Rule 8.1 and Schedule 1

Section 2.3 of the supplement to the IAPP Certificate

Section 2.3 of the supplement ("as documented by bunker delivery notes") allows for an "x" to be entered in advance of the dates indicated in all of the relevant check boxes recognizing that the bunker delivery notes, required to be retained on board for a minimum period of three years, provide the subsequent means to check that a ship is actually operating in a manner consistent with the intent as given in section 2.3.

7. Rules 13.1.a.2 and 13.2.2

Identical replacement engines

6.1 In regulation 13.1.a.2, the term "identical" (and hence, application of the converse, in regulation 13.2.2 the term " non-identical") as applied to engines under regulation 13 should be taken as:

6.2 An " identical engine" is , as compared to the engine being replaced*, an engine which is of the same :

.1 design and model;

.2 rated power;

.3 rated speed;

.4 use;
.5 number of cylinders; and
.6 fuel system type(including, if applicable, injection control software):

* In those instances where the replaced engine will not be available to be directly compared with the replacing engine at the time of updating the Supplement to the IAPP Certificate reflecting that engine change it is to be ensured that the necessary records in respect of the replaced engine are available in order that it can be confirmed that the replacing engine represents" an identical engine".

. 1 for engines without EIAPP certification, have the same NOx critical components and settings;** or
**: For engines without EIAPP Certification there will not be the defining NOx critical components markings or setting values as usually given in the approved Technical File. Consequently, in these instances, the assessment of "…. Same NOx critical components and settings…" shall be established on the basis that the following components and the settings are the same:
Fuel System:
.1 fuel pump model and injection timing; and
.2 injection nozzle model;
Charge air:
.1 configuration and, if applicable, turbocharger model and auxiliary blower specifications; and
.2 cooling medium (seawater or freshwater)
.2 for engines with EIAPP certification, belonging to the same Engine Group/Engine Family

8. Rule 13.2.2

Time of replacement of an engine

7.1 The term "time of the replacement or addition" of the engine in rule 13.2.2 should be taken as the date of:

.1 the contractual delivery date of the engine to the ship;** or
.2 in the absence of contractual delivery date , the actual delivery of the engine to the ship,** provided that the date is confirmed by a delivery receipt; or
** The engine is to be fitted on board and tested for its intended purpose before 1 July 2016
.3 .3 in the event the engine is fitted on board and tested for its intended purpose on or after 1 July 2016, the actual date that the engine is tested on board for its intended purpose applies in determining the standards in this regulation in force at the time of the replacement or addition of the engine

7.2 The date in paragraph 7.1 above, provided the conditions associated with those dates apply, is the "Date of major conversion – According to rule 13.2.2 "to be entered in the Supplement of IAPP Certificate. In this case, the "Date of Installation ", which applies only for identical replacement engines, should be filled in with " N.A".
7.3 If the engine is delivered in accordance with either paragraphs 7.1.1 or7.1.2 above before 1 January 2016, but not tested before 1 July 2016 due to unforeseen circumstances beyond the control of the shipowner, then the provisions of "unforeseen delay in delivery" may be considered by the certifying authority in a manner similar to UI4 of MARPOL Annex I .

9. Rules 15.6 and 15.7

VOC management plan

The requirement of a VOC management plan applies only to a tanker carrying crude oil

10. **Rule 16.9**

Continuous-feed type shipboard incinerators

For the application of this rule, the term "waste shall not be fed into the unit" should be interpreted as follows:

The introduction of sludge oil, generated during normal operation of a ship, into a continuous-feed type incinerator during the warm-up process at combustion chamber temperatures above 500°C* in order to achieve the normal operation combustion chamber temperature of 850°C is allowed. The combustion chamber flue gas outlet temperature should reach 850°C within the period of time specified in the manufacturer's operations manual but should not be more than five minutes.

* For the introduction of sludge oil into the incinerator, two conditions need to be fulfilled to secure smokeless and complete combustion:

.1 the combustion chamber flue gas outlet temperature has to be above 850˚C as required by regulation 16.9 of MARPOL Annex VI to ensure smokeless combustion; and

.2 the combustion chamber temperature (material temperature of the fire brickwork) has to be above 500˚C to ensure a sufficient evaporation of the burnable components of the sludge oil.

11. **Substantial Modification** - NOx Technical Chapter 1.3.2.2 reads as

For engines installed on ships constructed before 1 January 2000, **substantial modification** means any modification made to an engine which increases its existing emission characteristics established by the simplified measurement method as described in 6.3 in excess of the allowances set out in 6.3.11. These changes include, but are not limited to, changes in its operations or in its technical parameters (e.g., changing camshafts, fuel injection systems, air systems, combustion chamber configuration, or timing calibration of the engine).

Interpretation:

For application of this section it shall be interpreted that an increase in “emission characteristics” relates to an increase in the application average cycle weighted NOx emission value.

Furthermore it shall also be interpreted that any modification made on or after 1 January 2000to such an engine involving alternative duty cycle, rating, components or settings that were available, but not necessarily utilised, prior to 1 January 2000 shall not be considered as representing a “substantial modification” to that engine.

12. Chapter 2.2.4 of NOx Technical Code reads as follows:

There are engines which, due to their size, construction and delivery schedule, cannot be pre-certified on a test-bed. In such cases, the engine manufacturer, shipowner or ship builder shall make application to the Administration requesting an on-board test (see 2.1.2.2). The applicant must demonstrate to the Administration that the on-board test fully meets all of the requirements of a test-bed procedure as specified in chapter 5 of this Code. Such a survey may be accepted for one engine or for an engine group represented by the parent engine only, but it shall not be accepted for an engine family certification. In no case shall an allowance be granted for possible deviations of measurements if an initial survey is carried on board a ship without any valid pre-certification test.

Interpretation:

For engines undergoing an on-board certification test, to be issued with an EIAPP Certificate, the same procedure apply as if the engine had been pre-certified on a test-bed:

(a) the survey on-board meets the pre-certification survey requirements; and

(b) the on-board test fully meets all of the requirements of a test-bed procedure as specified in chapter 5 of the NOx Technical Code; and

(c) the application average weighted NOx emission value meets the requirements of Regulation 13 of Annex VI; and

(d) the engine has an approved Technical File.

13. Chapter 2.3.11 of NOx Technical Code reads as follows:
If any adjustment or modification is made which is outside the approved limits documented in the technical file, the IAPP Certificate may be issued only if the overall NOx emission performance is verified to be within the required limits by: a direct on-board NOx monitoring, as approved by the Administration; a simplified on-board NOx measurement; or, reference to the test-bed testing for the relevant engine group approval showing that the adjustments or modifications do not exceed the NOx emission limits.

Interpretation:
This section shall be interpreted as follows:
(a) Verification by the direct on-board NOx monitoring method is only applicable to the reissue of IAPP Certificates at periodical surveys or their endorsement at intermediate / annual surveys.
(b) The demonstration of compliance in accordance with either direct on-board NOx monitoring or simplified on-board NOx measurement does not establish a new Engine Group but does define the on-board verification procedure to be used thereafter to verify continuing compliance for that particular engine.
In these instances it shall be understood that the Parent Engine emission value, as given in the EIAPP Certificate, thereafter only relates to the condition of that engine at the Precertification Survey stage.

14. Paragraphs 4.3 and 4.4 of the NOx Technical Code are as follows:
4.3 Application of the engine family concept
4.3.7. Before granting an engine family approval, the Administration shall take the necessary measures to verify that adequate arrangements have been made to ensure effective control of the conformity of production.
4.4 Application of the engine group concept
4.4.5. Before granting an initial engine group approval for serially produced engines, the Administration shall take the necessary measures to verify that adequate arrangements have been made to ensure effective control of the conformity of production.

Interpretation
An Engine Family / Group approval, as applicable, is granted to the entity requesting to apply the Engine Family or Engine Group concept to serially produced marine diesel engines.
The conformity of production arrangements as required by 4.3.7 as proposed by the entity seeking Engine Family / Group approval and as accepted by the Administration are to cover those marine diesel engines within that particular Engine Family / Group as manufactured by that entity.
Additionally, where that entity has in place arrangements which extend, under their oversight and control, the accepted conformity of production arrangements to other engine manufacturers (i.e. licensees), then candidate marine diesel engines produced by those other parties may be included in the Engine Family / Group as established. In this circumstance the marine diesel engine selected, and accepted by the Administration as the Parent Engine, may be manufactured either by the entity which requested the Engine Family / Group certification or by one of the other parties as covered by the agreed conformity of production arrangements.
In those instances where serially produced marine diesel engines are manufactured outside an accepted conformity of production arrangement then it is the responsibility of the manufacturer of those marine diesel engines themselves to request certification in accordance with the requirements of the NOx Technical Code 2008 from the relevant
Administration including the establishment of the relevant Engine Family / Group, selection and testing of the Parent Engine and the development of the particular conformity of production arrangements which are to cover those marine diesel engines.

15. Paragraph 4.4.6.1 of NOx Technical Code reads
The engine group may be defined by basic characteristics and specifications in addition to the parameters defined in 4.3.8 for an engine family.

Interpretation

Paragraph 4.4.6.1 cross references 4.3.8 which provides guidance for selection of an engine family. For engines fitted with SCR system to reduce NOx emissions it is recognised that some of the parameters provided may not be common to all engines within a group, in particular 4.3.8.2.3 and 4.3.8.2.4 state that:

.3 individual cylinder displacement:

- to be within a total spread of 15%

.4 number of cylinders and cylinder configuration:

- applicable in certain cases only, e.g., in combination with exhaust gas cleaning devices

For engines fitted with SCR system to reduce NOx emissions the number and arrangement of cylinders may not be common to all members of the engine group. These parameters may be replaced with new parameters derived from the SCR chamber and catalyst blocks, such as the SCR space velocity (SV), catalyst block geometry and catalyst material.

Twelfth Schedule

Fuel Consumption Data Collection Requirements for ships of 5000GT and above

1) This schedule are applicable to all Indian vessels registered under the Merchant Shipping Act, 1958 (except FPSO, FSU, Drilling Rigs and Ships not propelled by mechanical means)

.1. There is no requirement for review of SEEMP by Recognized Organizations. However, SEEMP to be revised to include the data collection and submission methodology in accordance with Rule 22A which shall be verified at first IAPP Annual/Intermediate/Renewal Survey after 1st January 2019. For new ships/second hand ships coming to Indian Flag revised SEEMP to be available at the time of issuance of first interim/full term IAPP Certificate on behalf of Indian Flag.

.2. The Company shall submit requisite fuel consumption (for each Indian ship managed by the Company) and other relevant data in the standardized format as prescribed by the Organization to Central Government or Recognised Organisation nominated by Central Government by 30th April 2020 for the calendar year 2019 and thereafter on 30th April of each calendar year for the previous calendar year.

.3. The Central Government or Recognised Organisation nominated by Central Government shall verify the accuracy of the submitted data in accordance with the guidelines developed by the Organization.

2) Requirements for Fuel Oil consumption data collection and verification from Vessels of less than 5000GT

.1. There is no requirement for availability or approval of a revised Ship Energy Efficiency Management Plan.

.2. Company to submit following data to Central Government or Recognised Organisation nominated by Central Government by 30th April 2020 and 30th April of every Calendar Year thereafter:

- Name of the Ship
- IMO No./Official No.
- Type of Ship
- GT, Deadweight, NT
- Total Fuel Consumption (All types of Fuel)
- Rated Power of Main and Auxiliary Engine in KW.
- Whether the particular is supplied with Shore Electric Power during port stay.

3) Change of Flag and / or Company: This part is applicable to all Indian ships registered under the Merchant Shipping Act, 1958 (except FPSO, FSU, Drilling Rigs and Ships not propelled by mechanical means) as explained below.

.1. Change of Flag/Demolition (from India to a Foreign Flag for ships of 5000GT and above):

a) Company to submit fuel consumption data and other relevant data till the date of completion of transfer/demolition to the Central Government or Recognized Organization which has reviewed the revised SEEMP.

b) The Central Government or Recognised Organisation nominated by Central Government shall verify the data for compliance to this schedule and issue Statement of Compliance – Fuel Oil Consumption Reporting.

c) Company to submit this Statement of Compliance – Fuel Oil Consumption reporting received from Central Government or Recognised Organisation nominated by Central Government along with data in requisite format. The Central Government or Recognised Organisation nominated by Central Government shall endorse a copy of Statement of Compliance – Fuel Oil Consumption Reporting after receiving the data.

d) Registrar of the vessel to ensure that above Statement of Compliance – Fuel Oil Consumption reporting endorsed by Central Government or Recognised Organisation nominated by Central Government is available prior issuing Registry deletion certificate.

.2. Change of Company without Change of Registered Owner and Flag (Ships of 5000GT and above):

a) The previous Company to submit the requisite data (till the date of completion of transfer) to the Central Government or Recognized Organization nominated by the Central Government which has reviewed the revised SEEMP.

b) Upon satisfactory completion of verification of the data Central Government or Recognized Organization nominated by the Central Government to issue Statement of Compliance- Fuel Oil Consumption Reporting valid till 31st May of next calendar year.

c) The previous Company to submit a copy of Statement of Compliance – Fuel Oil Consumption Reporting along with data in the requisite format (within 15 days of date of completion of transfer to Central Government or Recognised Organisation nominated by Central Government) for onward submission of the data to IMO.

Thirteenth Schedule

1) Requirements of this schedule applies to any person or organization which supplies marine grade fuel oil to any ship, drilling rings or platforms in the coast of India

2) **Requirements of Bunker Supplier:**

.1. The 'Bunker Supplier (BS)' is a company registered in India and undertakes the responsibility for delivering the bunkers to the ship or installation by barge, OSV, road tanker or direct from shore and is in possession of a valid 'Bunker Supplier Registration Certificate (BSRC)' issued by the Directorate General of Shipping. The Bunker Supplier is responsible for providing the Bunker Delivery Note (BDN) and sample to the ship and to retain a copy of the BDN for at least three years from the date of delivery to the ship, for inspection and verification by any competent authorities.

.2. The 'Product Supplier (PS)' is the Company registered in India and supplies bunker / product to a Bunker Supplier. The Company is responsible for the final blend of the fuel delivered to the Bunker supplier and shall provide the 'Bunker Supplier' with a declaration conforming the quality of the fuel, which as minimum shall contain the specification required by the latest ISO 8217 quality standard in force. In some cases, the 'Product Supplier' may take on the additional responsibilities and obligations of the 'Bunker Supplier' for delivering the fuel oil to ships and in such cases, the Product Supplier shall meet all the requirements of this schedule and shall be in possession of a valid 'Bunker Supplier Registration Certificate (BSRC)' issued by the Directorate General of Shipping.

.3. In order to consider for the issuance of the Bunker Supplier Registration Certificate (BSRC) by the Directorate General of Shipping, the Company as a minimum shall comply with the following:-

2.3.1 The bunker suppliers are to adhere toMEPC.1/Circ.875/Add.1 {Guidance on best practices for fuel oil suppliers for assuring the quality of fuel oil delivered to ships) which provide for the best practices intended to assist bunker suppliers to ensure the quality of bunkers delivered to ships meet the agreed purchase specifications and applicable global and local regulations.

2.3.2 Shall establish, document, implement and maintain a Quality Management System (QMS) and continually improve its effectiveness in line with most current version of ISO 9001 as amended. The QMS certification may be obtained from any of the certification bodies accredited by the National Accreditation Board for Certification Bodies (NABCB).

2.3.3 Shall establish and maintain documented systems, including but not limited to, the selection of product suppliers and periodic evaluation of products supplied, to ensure that the purchased products meet the relevant requirements of IMO Regulations- Annex VI of MARPOL 73/78 as amended and the standards set by the ISO 8217, whichever common quality parameter is more stringent.

2.3.4 Shall ensure effective systems for the 'custody control' of the bunker from reception, storage to deliver end, including for the transportation systems. In case of any outsourced processes, viz. terminal operations; barge/lorry operation that affects the product conformity, such outsourced processes shall be identified in the QMS and the Supplier should ensure complete control over such processes.

2.3.5 Should establish procedure for the identification, storage, retrieval, retention period and disposition of records and other evidence generated in relation to delivery of bunkers.

.4. No fuel oil with sulphur content exceeding 0.50% m/m to be supplied to any ship (lndian or Foreign) without keeping a copy of supplement to IAPP Certificate indicating equivalent compliance for records.

.5. No fuel oil with sulphur content exceeding 0.50% m/m is to be supplied to any ship{Indian or Foreign and claiming to have a relevant exemption for a ship to conduct trials for sulphur oxides emission reduction and control technology research in accordance with regulation 3.2 of MARPOL Annex VI) without concurrence of the competent authority in Directorate General of Shipping. Each case of supply of fuel oil with sulphur content exceeding 0.50% m/m is to be specially audited by Directorate General of Shipping or Recognised Organisation nominated by Central Government during Annual/Renewal audits for compliance to above requirements.

3) Bunker Delivery Note (BDN):

3.1 The Bunker Supplier shall be responsible for providing the Bunker Delivery Note (BDN) for each individual consignment of bunker to a ship. i.e. if two barges deliver same bunker under one order, two BDN's have to be provided, one BDN for each barge.

3.2 All registered Bunker suppliers are required to indicate the validity and certificate number of their bunker supplier registration certificate in the BDN and shall retain a copy of every BDN for 3 years and make it available for inspection and verification by any competent authority.

3.3 The BDN should certify that the bunker delivered meets the requirements of Regulations 14 & 18 of Annex VI, MARPOL 73/78 and should as a minimum include the details as prescribed in guidelines developed by the Organization mentioned in MEPC 286 (71).

3.4 In special circumstances such as the Offshore Support Vessels (OSVs) supplying bunker to multiple installations or vessels exclusively in the Indian offshore fields from a single consignment, the Bunker supplying barge/vessel may issue a photocopy of the original BDN in lieu of the original Bunker Delivery Note for the supplied fuel, provided the authorized representative / Master of the supplying barge/vessel issues a delivery receipt under its letter head which should essentially confirm the following :

3.4.1 BDN number and date of issue.

3.4.2 Details of the bunker supplier as mentioned in BDN.

3.4.3 Date of the bunkering & quantity of fuel delivered.

3.4.4 Name and IMO No. of the supplying barge/vessel.

3.4.5 Signature & stamp of authorised representative/Master of the barge/vessel.

3.5 In all such cases, the Masters of the OSVs or Bunker Barges shall maintain the original BDN along with the copy of the individual delivery receipt for a period of atleast two years and shall be made available to any competent authority for verification, on demand.

3.6 In addition to the BDN, the bunker supplier has to provide the vessel, appropriate Material Safety Data Sheet (MSDS) required as per SOLAS 74, detailing the physico-chemical characteristics of the products and the other data in accordance with IMO ResolutionMSC.286 (86) as amended.

4) Sampling:

4.1 Regulation 18(6) on fuel oil quality within Annex VI of MARPOL 73/78 requires that the bunker delivery note shall be accompanied by a representative sample of the fuel oil delivered taking into account guidelines to be developed by the Organization.

4.2 The Bunker Supplier shall be responsible for taking the sample in accordance with the IMO guidelines on sampling, Resolution MEPC.182(59)as amended, particularly with regard to sampling equipment, container, seal, label etc.

4.3 Bunker Supplier's representative [as defined in the Resolution MEPC.182(59)] is required to seal and sign the sample on completion of the bunkering and give it to the ship along with the bunker delivery note. In the case of a bunker barge or OSV this person will normally be the Master or Chief Officer of the barge or OSV and in the case of a road tanker it will normally be the driver but the 'Bunker Supplier' is free to nominate any person they feel fit to carry out these tasks.

4.4 The sample referred above must be 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.

4.5 A standardized method of drawing in-use fuel oil sample and handling it for the verification of the sulphur content of fuel oil is to be carried out in accordance with MEPC.1/Circ.864/Rev.1 (Guidelines for on-board sampling for verification of the sulphur content of the fuel oil used on-board ships)

5. Fuel Oil Quality:

5.1 The Bunker Supplier shall ensure that the delivered bunker meet the relevant requirements of IMO Regulations- Annex VI of MARPOL 73/78 as amended and the latest quality standards set by the ISO 8217, whichever common quality parameter is more stringent.

5.2 In order to confirm that the delivered products meet the prescribed standards, the Bunker Supplier shall ensure that the details furnished in the BDN is substantiated by appropriate Fuel oil analysis report from any test facility accredited to the National Accreditation Board for Testing and Calibration Laboratories (NABL). In the event of any deviation, in the fuel quality supplied, the Bunker supplier and not the product supplier, shall be responsible and liable for the violation.

5.3 The Bunker Suppliers are required to ensure that all testing laboratories should use sulphur content verification procedure (for MARPOL delivered fuel oil sample) detailed in MEPC.1/Circ. 882 while

testing and reporting the same. Directorate General of Shipping or Recognised Organisation nominated by Central Government shall ensure compliance with the same during Annual/Renewal Bunker supplier audits.

6. Safety and Environment Protection:

6.1 Bunkering is a critical operation with high potential of safety and environment hazards and hence the movement, transfer, storage and handling of bunker need to be undertaken with utmost professional care and caution. The construction, operations, equipment, procedures, personnel and practices of all bunker barges, marine terminals and facilities relied by the Bunker Supplier, must be in full compliance and carried out in strict accordance with all the requirements laid down in the Relevant Instruments, inter-alia, the Merchant Shipping Act 1958, the Inland Vessel Act 1917, the Indian Port Act 1908 and the Petroleum Act 1934, as amended.

6.2 The Bunker Supplier shall ensure that all ship-to-ship equipment, operations, procedures and practices are in full compliance with all the requirements laid down in the Relevant Instruments with especial consideration being given to the requirements contained in the Oil Companies International Marine Forum (OCIMF) "Ship to Ship Transfer Guide" and to such provisions as the Authority may prescribe from time to time.

6.3 Hoses and other cargo transfer appliances shall have their maximum permissible pressure rating and date of last pressure test clearly and indelibly indicated on them by a testing facility recognised by the competent authority. Tests shall be done according to their manufacturer's specifications at intervals which are in accordance with their manufacturer's recommendations, but in any case, not exceeding one year.

6.4 The relevant checklists and procedures shall be fully and properly completed by the Masters of the bunker receiving ship and the bunker barge prior to the commencement and also at each integral stage of every bunkering operation and shall be available for verification by any competent authority.

6.5 The Bunker Supplier shall ensure that the bunker barges or other means engaged for transport of bunker shall be in possession of a valid insurance cover in respect of third-party damage, marine environment pollution damage and clearance of pollution liabilities, for an amount acceptable to the concerned Port Authorities.

6.6 The Bunker Barges, if engaged by the Bunker Supplier, shall be duly certified for 'fitness for purpose' by the competent authority designated under the statute in which the vessel is registered and shall be in class with a Classification Society recognised by the Govt. of India In case of barges registered under any act other than Merchant Shipping Act 1958, as amended, the vessel shall be in possession of a valid 'Petroleum Licence' issued by the Competent authority under the Petroleum Act 1934 and the Rules framed there-under, in addition to other statutory certificates as applicable. In case of road transport, equivalent certification has to be in place issued by the competent authority in accordance with the relevant instruments, inter-alia, the Motor Vehicle Act 1988, as amended.

6.7 During every bunkering operation, the bunker barge shall have aboard adequate means for the mitigation of any potential pollution, including supplies of approved absorbent materials and oil dispersants; but oil dispersants shall only be deployed with the permission of the local authorities, taking into account the circumstances of each case.

6.8 Bunker Supplier shall ensure that a Bunker barge engaged by him has onboard adequate number of personnel fully trained in the effective handling, usage and application of all pollution prevention/ control equipment and media, and has onboard effective pollution prevention/control contingency plans covering the most environmentally hazardous incidents that can occur during bunker supply operations to other ships.

6.9 It shall be the responsibility of every Bunker Supplier to ensure that any oil-spill or accidental equipment failure which may increase the normal pollution hazards of any operation shall be immediately reported to the respective Port Authorities and the Directorate General of Shipping / Mercantile Marine Departments of the region.

7. Verification & Certification:

7.1 Every new applicant desirous of obtaining the Registration as Bunker Supplier in India is required to make an application in the prescribed form to the Directorate General of Shipping, accompanied by all the documentation and certification prescribed therein Appendix-1.

7.2 A 'Bunker Supplier Registration Certificate (BSRC)' shall be issued to an applicant complying with the requirements of this schedule and any amendments incorporated thereof, following successful completion of a verification survey by the Directorate General of Shipping or Recognised Organisation nominated by Central Government.

7.3 For every new applicant desirous of obtaining the Registration as Bunker Supplier, an Interim certificate may be issued for a period of not more than six months, on completion of a satisfactory interim audit by the Directorate General of Shipping or Recognised Organisation nominated by Central Government. During this term, the Supplier has to undertake Bunkering operations and demonstrate its capability during subsequent verification of the supply chain by Directorate General of Shipping or Recognised Organisation nominated by Central Government. The full term certificate valid for a term of maximum five years would be considered by the Directorate General of Shipping, only on receipt of a clear recommendation to this effect from surveyor nominated by the Directorate General of Shipping or Recognised Organisation nominated by Central Government.

7.4 A certificate issued as above shall cease to be valid, if the Bunker Supplier fails to carry out an annual surveillance audit within three months, before or after each anniversary date. The verification report has to be forwarded to the Directorate General of Shipping, on completion of the audit for records.

7.5 A Bunker Supplier desirous of renewing the existing Bunker Supplier Registration shall apply in the attached format (Appendix-1), three months before the expiry of the certificate, so that the certificate can be renewed based on the recommendation by the surveyor nominated by the Directorate General of Shipping or Recognised Organisation nominated by Central Government after completion of the verification audit and continuity is maintained.

7.6 Every registered bunker supplier shall inform the Directorate General of Shipping of any change in name, or authorised representative of the Company, in not more than 30 days from the date of such changes for the issuance of a fresh Registration Certificate incorporating the changes.

7.7 A given address of a company or a storage location cannot be awarded more than one Registration, unless the applicant and/or existing supplier can provide clarification as sought by the Directorate General of Shipping, substantiated by documentary evidence. The decision of the Directorate General of Shipping will be based on the degree of compliance demonstrated by the stake holders involved in preserving the product specification and adhering to other terms of reference sought by the Directorate General of Shipping, in relation to terminal handling and other related issues.

7.8 Every Bunker Supplier is required to provide an annual declaration of every calendar year as detailed in Appendix-2 of this schedule by 31st January of the next year. If the local supplier of fuel oil does not provide the annual declaration it will be assumed that they no longer deliver marine fuel oil and will be removed from the register.

7.9 The scope of Initial/Annual Surveillance/Renewal audit by Directorate General of Shipping or Recognised Organisation nominated by Central Government shall include all the requirements of this schedule, as the case may be and any major non-compliance of the same shall cause the Registration of the supplier to be suspended with immediate effect.

8. Monitoring and Control:

8.1 The updated details of 'Bunker Suppliers' registered with the Directorate General of Shipping will be published on the official website of the Directorate General of Shipping "www.dgshipping.gov.in". No person / company shall act as a bunker supplier unless in possession of a valid Bunker Supplier Registration Certificate (BSRC) issued by the Directorate General of Shipping and in case any ship is found to have received bunker from an unregistered bunker supplier, it may warrant suitable intervention from the Flag State or Port State, including the detention of the concerned ship.

8.2 Bunker Suppliers shall ensure that all requirements of this Circular are effectively accomplished and relevant records and equipment maintained readily available for inspection by any officer / agency authorized by the Directorate General of Shipping.

8.3 The Principal Officer of the Mercantile Marine Departments (MMD), under whose jurisdiction such registered Bunker Supplier function shall be responsible for effectively monitoring the Recognised Organisation nominated by Central Government for having enforced the applicable statutory provisions and quality standards and may undertake surprise inspection of such facilities and forward report to the Directorate General of Shipping, which shall be atleast once in five years.

8.4 On receipt of a report or a complaint against any registered suppliers for having delivered fuel oil to any ship, non-compliant with the respective BDN, the Principal Officer under whose jurisdiction the Supplier operates may undertake suitable investigation into the matter and report to the Directorate General of Shipping with clear recommendation on the action required, including for the suspension / withdrawal of the Registration.

Appendix 1 to Thirteenth Schedule

APPLICATION FOR REGISTRATION AS BUNKER SUPPLIER

1	Name and address of the Registered office of the Organisation with full contact details:	
2	Type of Organisation: [Public/Pvt. Ltd/Partnership/Cooperative/ Proprietary, etc.]	
3	Name and address of the Operation office of the Organisation with full contact details:	
4	Name & designation of the Authorized Representative of the Bunker Supplier with contact details:	
5	Whether product supplier (Yes/No):	
6	Mode of supplying bunker fuel: [barge/road/direct from terminal]	
7	Details of Storage facilities: [Owned/hired].	
8	Grade of fuel intended to supply/supplied : [HFO/MDO/MGO/HSD etc]	
9	Brief history of experience as Bunker supplier:	
10	Operational aspects of the Bunkering, that are outsourced :	

11	DECLARATION BY BUNKER SUPPLIER I,……., on behalf of M/s…… hereby undertake that: I. the Company shall strictly abide by all the procedures and guidelines mandated by the applicable Directorate General of Shipping circulars/notices and as amended; II. in case of wrong supply of bunker fuel to ships, i.e. bunker supplies not conforming to the specifications as mentioned in the Bunker Delivery Note (BDN), the Company shall bear all the losses incurred by the ship-owner/company, and shall abide by the final decision of the Directorate General of Shipping, in this regard with respect to cancellation/suspension of registration as Bunker Supplier; III. for supplies made under our registration, the Company shall be fully responsible for any query/clarification/dispute, arising out of the entire supply chain, with respect to quality, quantity and possible hazards like spillage; IV. the Company shall be responsible for drawing and retention of the MARPOL samples in accordance with the relevant guidelines; V. the Company undertakes to provide the Directorate General of Shipping or its Recognised Organizations (ROs) with all the documents, information and facilities to carry out the applicable audit activities from time to time.	
12	Name, Designation & Signature of the Authorised Representative of the Bunker Supplier:	
13	Date: Place	
14	Document Checklist:	
.1	Quality Management System (QMS) Certificate	
.2	Copies of Surveillance audit reports. (Only for Renewal)	
.3	Approval from the State Govt. & other relevant authorities.	
.4	Certificate of Incorporation of the Company or equivalent.	
.5	Licenses associated with the mode of Bunker delivery. [barge/road/direct from shore]	
.6	Details of Fees	
.7	Proof of office premises, such as registered lease/ownership documents.	
.8	Any other relevant documents:	

Appendix 2 to thirteenth Schedule

Specimen of Annual Declaration from Bunker Supplier

A	Name of the Bunker Supplier:
B	Bunker Supplier Registration Certificate (BSRC) No:
C	Date of Validity of BSRC
D	STATEMENT OF BUNKER SUPPLIED FOR THE YEAR_____

Sr. No.	**Name of Ship**	**Date**	**Product supplier**	**Quantity of each Grade of Fuel supplied [M T]**					
				HFO	**MDO**	**MGO**	**LSHFHSD**	**Others**	**Total**
Total									

E	Whether any customer complaint received in the year? If yes, details of the same with action taken report.
F	Whether any Letter of Protest (LOP) received in the year? If yes, details of the same with action taken report.
G	Whether Surveillance audit for the year has been timely completed? Details of the same with Non Conformity closure report.
H	Whether there was any oil spill or any other hazardous occurrence during Bunkering operations? If yes, details of the same with Investigation report.

……

.

Signature and stamp of authorized representative of the Bunker Supplier

Dated:

Fourteenth Schedule

(See rule 26)

SCHEDULE OF SURVEY FEES

A. Fees payable for surveys conducted for the purposes of issue of an International Air Pollution Prevention Certificate / Indian Air Pollution Prevention Certificate, Annual Survey, Intermediate, Renewal Survey and Additional Survey for Ships.		
1. Gross Tonnage of Ship upto 500 tons		
Initial Survey		
Annual Survey		
Intermediate/Additional Survey		
Renewal Survey		
2. Gross Tonnage of Ship 500 to 19,999 tons		
Initial Survey		
Annual Survey		
Intermediate/Additional Survey		
Renewal Survey		
3. Gross Tonnage of Ship 20000 to 29,999 tons		
Initial Survey		
Annual Survey		
Intermediate/Additional Survey		
Renewal Survey		
4. Gross Tonnage of Ship 30000 to 49,999 tons		
Initial Survey		
Annual Survey		
Intermediate/Additional Survey		
Renewal Survey		
5. Gross Tonnage of Ship 50000 to 99,999 tons		
Initial Survey		
Annual Survey		
Intermediate/Additional Survey		
Renewal Survey		
6. Gross Tonnage of Ship – Above 1,00,000 tons		
Initial Survey		
Annual Survey		
Intermediate/Additional Survey		
Renewal Survey		
B. Fees payable for surveys conducted for the purpose of issue of an International Energy Efficiency Certificate /, Initial Survey, General or Partial survey and Verification Survey for Ships.		
1. Gross Tonnage of Ship upto 500 tons		
Initial Survey		
General or Partial Survey		
Verification Survey		
2. Gross Tonnage of Ship 500 to 19,999 tons		
Initial Survey		
General or Partial Survey		
Verification Survey		

3. Gross Tonnage of Ship 20000 to 29,999 tons		
Initial Survey		
General or Partial Survey		
Verification Survey		
4. Gross Tonnage of Ship 30000 to 49,999 tons		
Initial Survey		
General or Partial Survey		
Verification Survey		
5. Gross Tonnage of Ship 50000 to 99,999 tons		
Initial Survey		
General or Partial Survey		
Verification Survey		
6. Gross Tonnage of Ship – Above 1,00,000 tons		
Initial Survey		
General or Partial Survey		
Verification Survey		