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MINISTRY OF PORTS, SHIPPING AND WATERWAYS

NOTIFICATION

New Delhi, the_____ 2026

GSR_____(E) In exercise of the powers conferred by Sections 133(2), 133(4), 133(5), 134(1), 134(2), 135(2), 136, 142(1) and section 143(1) under Part VII of the Merchant Shipping Act, 2025 (24 of 2025), and in supersession of the Merchant Shipping (Prevention of Pollution by Oil from Ships) Rules, 2010, except as respects things done or omitted to be done before such supersession, the Central Government hereby makes the following rules, namely

PART – 1
GENERAL

1. Short title and commencement. − (1) These rules may be called "**Merchant Shipping (Prevention of Pollution by Oil from Ships) Rules, 2026"**

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

2. Definitions. – (1) In these rules, unless the context otherwise requires, −

   (a) "Act" means the Merchant Shipping Act, 2025 (No.24 of 2025);

   (b) "Administration" means the Central Government. Where specific powers/functions are to be exercised by specific officers, appropriate orders can be issued under Section 7 (2) and / or Section 7 (3) delegating the powers of the Central Government to the Director General, and those of the Director General to any other authorized officer, respectively;

   (c) "amidships" means at the middle of the length of the vessel;

   (d) "Annex" means Annex I to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 (MARPOL), as amended from time to time;

   (e) "anniversary date" means the day and the month of each year, which corresponds to the date of expiry of the International Oil Pollution Prevention Certificate or the Indian Oil Pollution Prevention Certificate;

(f) “areas”, in relation to a vessel, means the area calculated in all cases to moulded lines;

(g) “breadth” means the maximum breadth of the vessel, measured amidships to the moulded line of the frame in a vessel with a metal shell and to the outer surface of the hull in a vessel with a shell of any other material, measured in meters;

(h) “centre tank” means any tank inboard of a longitudinal bulkhead;

(i) “certificate” means the International Oil Pollution Prevention Certificate or, as the case may be, the Indian Oil Pollution Prevention Certificate, issued under rule 9{regulation 7} ;

(j) “chemical tanker” means a vessel constructed or adapted primarily to carry a cargo of noxious liquid substances in bulk listed in chapter 17 of the International Bulk Chemical Code;

(k) “clean ballast” means the ballast in a tank which, since oil was last carried therein, has been so cleaned that the effluent therein, if it were discharged from a vessel which is stationary into clean calm water on a clear day would not produce visible traces of oil on the surface of the water or on adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines and if the ballast is discharged through a specified oil discharge monitoring and control system, evidence based on such system to the effect that the oil content of the effluent did not exceed fifteen parts per million shall be determinative that the ballast was clean, notwithstanding the presence of visible traces referred to above;

(l) “Combination carrier” means a vessel designed to carry either oil or solid cargoes in bulk;

(m) “Convention” shall have the same meaning as assigned to it in section 3 (27);

(n) “crude oil” means any liquid hydrocarbon mixture occurring naturally in the earth, whether or not treated to render it suitable for transportation, and includes crude oil-

  (i) from which certain distillate fractions may have been removed; and

  (ii) to which certain distillate fractions may have been added;

(o) “crude oil tanker” means an oil tanker engaged in the trade of carrying crude oil;

(p) “deadweight” means the difference in metric tons between the displacement of a vessel in water of a specific gravity of 1.025 at the load waterline corresponding to the assigned summer freeboard and the lightweight of the vessel;

(q) “discharge”, in relation to harmful substances or effluents containing such substances, means any release, howsoever caused, from a vessel and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying aforesaid substances, dumping’ defined under section 132 (b) of the Act but does not include. —

(i) release of harmful substances directly arising from the exploration, exploitation and associated off-shore processing of sea-bed mineral resources; or

(ii) release of harmful substances for the purpose of legitimate scientific research into pollution abatement or control, and the term "to discharge" shall be constructed accordingly;

(r) “electronic record book” means a device or system, approved by the Administration, used to electronically record the required entries for discharges, transfers and other operations as required under this rule in lieu of a hard copy record book;

(s) “filtering equipment” means filters or any combination of separators and filters which are designed to produce effluent containing not more than fifteen parts per million of oil;

(t) “forward and after perpendiculars” means to be taken at the forward and after ends of the length and the forward perpendicular shall coincide with the foreside of the stem on the waterline on which the length is measured;

(u) “incident” means an event involving the actual or probable discharge into sea of oil or oily mixture;

(v) “instantaneous rate of discharge of oil content” means the rate of discharge of oil in litres per hour at any instant divided by the speed of the vessel in knots at the same instant;

(w) “International Bulk Chemical Code” means the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk adopted by the International Maritime Organization as amended, provided that

such amendments are adopted and brought into force in accordance with the provisions of article 16 of the Convention;

(x) “length” means 96% of the total length on a waterline at 85% of the least moulded depth measured from the top of the keel, or the length from the foreside of the stem to the axis of the rudder stock on that waterline, whichever is greater, but in vessels designed with a rake of keel, the waterline on which this length is measured shall be parallel to the designed waterline; and length shall be measured in meters;

(y) “lightweight” means the displacement of a vessel in metric tons without cargo, fuel, lubricating oil, ballast water, fresh water and feed water in tanks, consumable stores, passengers, crew and their effects;

(z) “major conversion” means a conversion of a vessel. —

(i) which substantially alters the dimensions or carrying capacity of the vessel; or

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

(iii) the intent of which, in the opinion of the Director General, is substantially to prolong its life; or

(iv) which otherwise so alters the vessel that, if it were a new vessel, it would have been subjected to the provisions of these rules applicable to vessels delivered after the 31st December, 1979, as defined in (ddd){regulation 1.28.2} and not to existing vessels delivered on or before 31st December 1979, as defined in (eee){regulation 1.28.1};

But does not include-

(i) Conversion of an oil tanker of twenty thousand tons deadweight and above delivered on or before the 1st June, 1982, as defined in (mm){regulation 1.28.3}, to meet the requirements of paragraph 7 of the schedule; and

(ii) Conversion of an oil tanker delivered before the 6th July 1996, as defined in (ii){regulation 1.28.5}, to meet the requirements of paragraph 8 or 9 of the schedule {regulation 19 or 20};

(aa) “Maritime Environment and Protection Committee” means the Marine Environment Protection Committee of the International Maritime Organization;

(bb) "Merchant Shipping Notice" means any notice, circular, order or guidelines issued by the Director-General under section 301 of the Act;

(cc) "nearest land", has the meaning assigned in the Annex, including the special baseline off the north-eastern coast of Australia;

(dd) "notice" means any notice, circular, order or guidelines issued by the Director-General under section 301 of the Act;

(ee) "oil" means petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products (other than those petrochemicals which are subject to the provisions of Annex II of the Convention) and, without limiting the generality of the foregoing, includes the substances listed in Appendix-I;

(ff) "oil fuel" means any oil used as fuel in connection with the propulsion and auxiliary machinery of the vessel in which such oil is carried;

(gg) "oil tanker" means a vessel constructed or adapted primarily to carry oil in bulk in its cargo spaces and includes combination carriers, any "NLS tanker" as defined in Annex II of the MARPOL Convention and any gas carrier as defined in regulation 3.20 of chapter II-1 of SOLAS 74 (as amended), when carrying a cargo or part cargo of oil in bulk;

(hh) "oil tanker delivered after 1st June, 1982" means an oil tanker. —

(i) for which the building contract is placed after 1st June, 1979; or

(ii) in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction after the 1st January, 1980; or

(iii) the delivery of which is after the 1st June, 1982; or

(iv) which has undergone a major conversion, for which the contract is placed after the 1st June, 1979; or in the absence of a contract, the construction work of which begun after the 1st January, 1980; or which is completed after 1st June, 1982;

(ii) "oil tanker delivered before 6thln July, 1996" means an oil tanker. —

(i) for which the building contract is placed before the 6th July, 1993; or

(ii) in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction before 6th January, 1994; or

(iii) the delivery of which is before 6th July, 1996; or

(iv) which has undergone a major conversion for which the contract is placed before 6th July, 1993; or in the absence of a contract, the

construction work of which is begun before 6th January, 1994; or which is completed before 6th July, 1996;

(jj) "oil tanker delivered on or after the 1st February, 2002" means an oil tanker. —

(i) for which the building contract is placed on or after the 1st February, 1999; 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 August, 1999; or

(iii) the delivery of which is on or after the 1st February, 2002; or

(iv) which has undergone a major conversion, for which the contract is placed on or after the 1st February, 1999; or in the absence of a contract, the construction work of which is begun on or after the 1st August, 1999; or which is completed on or after the 1st February, 2002;

(kk) "oil tanker delivered on or after the 1st January, 2010" means an oil tanker. —

(i) for which the building contract is placed on or after the 1st January, 2007; 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, 2007; or

(iii) the delivery of which is on or after the 1st January, 2010; or

(iv) which has undergone a major conversion, for which the contract is placed on or after the 1st January, 2007; or in the absence of a contract, the construction work of which is begun on or after the 1st July, 2007; or which is completed on or after the 1st January, 2010;

(ll) "oil tanker delivered on or after the 6th July, 1996" means an oil tanker. —

(i) for which the building contract is placed on or after 6th July, 1993; 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 6th January, 1994; or

(iii) the delivery of which is on or after the 6th July, 1996; or

(iv) which has undergone a major conversion, for which the contract is placed on or after the 6th July, 1993; or in the absence of a contract, the construction work of which is begun on or after the 6th January, 1994; or Which is completed on or after the 6th July, 1996;

(mm) "Oil tanker delivered on or before 1st June, 1982" means an oil tanker, —

(i) for which the building contract is placed on or before 1st June, 1979; 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 before the 1st January, 1980; or

(iii) the delivery of which is on or before 1st June, 1982; or

(iv) which has undergone a major conversion, for which the contract is placed on or before the 1st June, 1979; or in the absence of a contract, the construction work of which is begun on or before the 1st January, 1980; or which is completed on or before the 1st June, 1982;

(nn) "Organisation" means the International Maritime Organisation;

(oo) "parts per million" means parts of oil per million parts of water by volume;

(pp) "permeability of a space" means the ratio of the volume within that space, which is assumed to be occupied by water to the total volume of that space;

(qq) "Polar Code" means the International Code for Ships Operating in Polar Waters, consisting of an introduction, parts I-A and II-A and parts I-B and II-B, adopted by resolutions MSC.385(94) and MEPC.264(68), as may be amended, provided that:

(i) Amendments to the environment-related provisions of the introduction and chapter 1 of part II-A of the Polar Code are adopted, brought into force and take effect in accordance with the provisions of Article 16 of the present Convention concerning the amendment procedures applicable to an appendix to an annex; and

(ii) Amendments to part II-B of the Polar Code are adopted by the Marine Environment Protection Committee in accordance with its Rules of Procedure;

(rr) "product carrier" means an oil tanker engaged in the trade of carrying oil other than crude oil;

(ss) "sea" includes any estuary or arm of the sea;

(tt) “Segregated ballast” means the ballast water introduced into a tank which is completely separated from the cargo oil and oil fuel system and which is permanently allocated to the carriage of ballast or to the carriage of ballast or cargoes other than oil or noxious liquid substances;

(uu) “Sensitive Area for Pollution Garbage Control (SAPGC)” means an area declared under Rule 9{regulation 7}

(vv) “ships” means for all purpose in these rules to be considered as vessels defined in section 132(d) of the MS Act, 2025

(ww) “slop tank” means a tank specifically designed for the collection of tank draining, tank washings and other oily mixtures;

(xx) “special area” means any sea area designated as such under the Annex

(yy) “Schedule” means the Schedule annexed to these rules;

(zz) “specifications” means Specifications passed by resolutions of the Organisation which are specified and listed in the third Schedule;

(aaa) “tank” means an enclosed space which is formed by the permanent structure of a vessel and designed for the carriage of liquid in bulk;

(bbb) “unmanned non-self-propelled barge” or “UNSP barge” means a barge without crew, not fitted with means of self-propulsion, and as defined in Annex;

(ccc) “vessel” means a vessel of any type, whatsoever, operating in the marine or aquatic environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft, floating platforms, floating storage units and floating production storage and off-loading units but does not include fixed platforms or other fixed man-made structures at sea for the purposes of dumping and as defined in section 132(d) of the MS Act, 2025;

(ddd) “vessel delivered after the 31st December, 1979” means a vessel. —

(i) for which the building contract is placed after the 31st December, 1975; or

(ii) in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction after the 30th June, 1976; or

(iii) the delivery of which is after the 31st December, 1979; or

(iv) which has undergone a major conversion,for which the contract is placed after the 31st December, 1975; or in the absence of a contract,

the construction work of which is begun after the 30th June, 1976; or which is completed on or before the 31st December, 1979;

(eee) "vessel delivered on or before the 31st December, 1979" means a vessel. —

(i) for which the building contract is placed on or before 31st December, 1975; 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 before the 30th June ,1976; or

(iii) the delivery of which is on or before the 31st December, 1979; or

(iv) which has undergone a major conversion, for which the contract is placed on or before the 31st December, 1975; or in the absence of a contract, the construction work of which is begun on or before the 30th June, 1976; or which is completed on or before the 31st December, 1979;

(fff)"vessel delivered on or after the 1st August, 2010" means a vessel. —

(i) for which the building contract is placed on or after the 1st August, 2007; or

(ii) in the absence of a building contract, the keel of which are laid or which are at a similar stage of construction on or after the 1st February, 2008; or

(iii) the delivery of which is on or after the 1st August, 2010; or

(iv) which have undergone a major conversion, for which the contract is placed after the 1st August, 2007; or in the absence of contract, the construction work of which is begun after the 1st February, 2008; or which is completed after the 1st August, 2010;

(ggg) "volume", in relation to a vessel, means volume calculated in all cases to moulded lines;

(hhh) "wing tank" means any tank adjacent to the side shell plating.

(2) Words and expressions used in these rules and not defined but defined in the Act shall have meanings respectively assigned to them in the Act.

(3) Words and expressions used in these rules or schedules but not defined herein and not defined in the Act shall have the meaning as per the Annex.

3. Obligations of vessels to prevent pollution of sea by oil. —

(1) Every vessel, unless expressly provided otherwise, shall be under an obligation to comply with the provisions of this Rules and in the first schedule relating to prevention of pollution of sea by oil from vessels.

(2) In vessels other than oil tankers fitted with cargo spaces which are constructed and used to carry oil in bulk, of an aggregate capacity of two hundred cubic metres or more, the provisions of paragraph 5{regulation16}, sub-para (4) of paragraph 15{regulation 26} and paragraph 18, 19, 20, 21, 23 and 25 {regulation 29,30,31,34 and 36} of the schedule shall be applicable for the construction and operation of cargo spaces in such vessels:

Provided that where such aggregate capacity is less than one thousand cubic metres, the provisions of sub-paragraph (6) of paragraph 23{regulation 34}, of the schedule may apply instead of paragraph 18, 20 and 21 of the schedule. {regulation 29,31 and 32}

(3) Where noxious liquid substances are carried in bulk in a cargo space of an oil tanker, the provisions of the Merchant Shipping (Control of Pollution by Noxious Liquid Substances in Bulk) Rules, 2026 shall also apply.

(4) The provisions of paragraph 18, 20, and 21 of the schedule{regulation 29,31 and 32} shall not apply to oil tankers carrying asphalt or other products which are subject to the provisions of these rules and which, through their physical properties, inhibit effective product/water separation and monitoring and for which the control of discharge under paragraph 23 of the schedule{ regulation 15} shall be affected by the retention of residues on board with the discharge of all contaminated washings to reception facilities.

(5) Subject to the provisions of sub-paragraph (6), the provisions of sub-paragraph (6) and (8) of paragraph 7 of the schedule{regulation 18} shall not apply to oil tanker delivered on or before the 1st June, 1982, as defined in clause (mm) of rule 2, which is solely engaged in specific trades between-

(a) ports or terminals within India;

(b) ports or terminals of State Parties to the Convention where-

(i) the voyage is entirely within a special area;

(ii) the voyage is entirely within other limits designated by the Organisation.

(6) The provisions of sub-rule (5) shall apply only when the ports or terminals where cargo is loaded on such voyages are provided with reception facilities adequate for the reception and treatment of all the ballast and tank washing water from oil tankers using them and all of the following conditions are complied with-

(a) subject to the exceptions provided for in rule 5, all ballast water, including the clean ballast water, and tank washing residues are retained on board and transmitted to the reception facilities and appropriate entry in the Oil Record Book Part II referred to in paragraph 25 of the schedule is endorsed by the competent Port Sate Authority;

(b) an agreement has been entered between the Central Government and the Government of the Port States referred to in clause (a) and (b) of sub-rule (5) concerning the use of an oil tanker delivered on or before the 1st June, 1982, as defined in clause (mm) of rule 2, for a specific trade;

(c) the adequacy of the reception facilities in accordance with the relevant provisions of these rules at such ports and terminals, for the purposes of these rules, is approved by the Governments of the State Parties to the Convention within which such ports or terminal are situated; and

(d) the International Oil Pollution Prevention Certificate and Indian Oil Pollution Prevention Certificate is endorsed to the effect that the oil tanker is solely engaged in such specific trade.

4. Exemptions and waivers. -

(1) Any vessel such as hydrofoil, air-cushion vehicle, near-surface craft, submarine craft, etc., the constructional features of which are such as to render compliance with of any of the provisions of Chapter III and IV of these First schedule and section 1.2 of part II-A of the Polar Code, relating to construction and equipment, unreasonable or impracticable may be exempted by the Director General from the provisions:

Provided that the construction and equipment of such vessel shall provide equivalent protection against pollution by oil, having regard to the services for which it is intended.

(2) Particulars of exemption granted by the Director General under sub-rule (1) shall be indicated in the Certificate issued under rule 9{regulation 7} .

(3) The Director General allowing exemption under sub-rule (1) shall, as soon as possible, but not later than ninety days thereafter, communicate to the Organization particulars of such exemption and the reasons therefor, which in turn, shall be circulated by the Organization to the State Parties to the Convention for their information and appropriate action, if any.

(4) The Director General may waive the requirements of paragraphs 18, 20 and 21{regulation 29,31 and 32} for an oil tanker which is engaged exclusively on a voyage both of seventy-two hours or less in duration and within fifty nautical miles from the nearest land:

Provided that such oil tanker is engaged exclusively in trades between ports or terminals within a State Party to the Convention:

Provided further that such waiver shall be subject to the condition that oil tanker shall retain on board all oily mixtures for subsequent discharge to reception facilities and the determination by the Director General that facilities available to receive such oily mixtures are adequate.

(5) The Director General may waive the requirements of paragraph 20 and 21{regulation 31 and 32} for oil tankers other than those referred to in sub-rule (4) in cases where-

(a) such oil tanker is delivered on or before the 1st June, 1982, as defined in clause (mm) of rule 2, of forty thousand tonnes deadweight or above, solely engaged in specific trades as referred to in sub-rule (5) of rule 3, and the conditions specified in sub-rule (6) of rule 3 are complied with; or

(b) such tanker is engaged exclusively in one or more of the following categories of voyages, namely: -

(i) voyages within special areas; or

(ii) voyages within Arctic waters or

(iii) voyages within fifty nautical miles from the nearest land outside such special areas, where such tanker is engaged in restricted voyages as determined by the Director General, and of seventy-two hours or less in duration or trades between ports or terminals of a State Party to the Convention;

(iv) all oily mixtures are retained on board for subsequent discharge to reception facilities;

(v) for voyages specified in sub-clause (iii) of clause (b) of sub-rule (5), the Director General has determined that adequate reception facilities are available to receive such oily mixtures in those oil loading ports or terminals such tanker calls at;

(vi) the International Oil Pollution Prevention Certificate, when required, is endorsed to the effect that the vessel is exclusively engaged in one or more of the categories of voyages specified in sub-clause (i) of clause (b), and sub-clause (iii) of clause (b), of sub- rule (5);

(vii) the quantity, time and port of discharge are recorded in the Oil Record Book.

(6) The Central Government may waive the requirements of sub para 6 of paragraph 17 [regulation 28.6] for the following oil tankers if loaded in accordance with the conditions approved by the Administration taking into account the guidelines developed by the Organization.

(i) oil tankers which are on a dedicated service, with a limited number of permutations of loading such that all anticipated conditions have been approved in the stability information provided to the master in accordance with sub para 5 of paragraph 17. {regulation 28}

(ii) oil tankers where stability verification is made remotely by a means approved by the Administration;

(iii) oil tankers which are loaded within an approved range of loading conditions; or

(iv) oil tankers constructed before 1 January 2016 provided with approved limiting KG/GM curves covering all applicable intact and damage stability requirements.

(7) The Administration may exempt a UNSP barge from the requirements of [regulations 6.1 and 7.1], by an International Oil Pollution Prevention Exemption Certificate for Unmanned Non-self-propelled Barges, for period not exceeding five years provided that the UNSP barge has undergone a survey to confirm that the conditions referred to in rule 2 (bbb) regulations1.40.1 to 1.40.5 are met.

5. Exceptions.— The provisions of paragraph 4 and 23 of schedule (regulation 15 and 34) and paragraph 1.1.1 of part II-A of the Polar Code shall not apply to the discharge into the sea –
    a) of oil or oily mixtures necessary for the purpose of securing the safety of a vessel or saving life at sea; or
    b) of oil or oily mixtures resulting from damage to a vessel or its equipment:
    Provided that all reasonable precautions have been after the occurrence of the damage or discovery of the discharge for the purpose of preventing or minimizing the discharge:
    Provided further that if the owner or the master acted either with intent to cause damage, or recklessly and with knowledge that damage would probably result; or
    c) of substances containing oil, approved by the Director General, when being used for the purpose of combating specific pollution incidents in order to minimize the damage from pollution:
    Provided that any such discharge shall be subject to the approval of any Government in whose jurisdiction it is contemplated such discharge shall occur.
6. Equivalents. —
    (1) The Director General may allow any fitting, material, appliance or apparatus to be fitted in a vessel as an alternative to that required by this Rules if such fitting, material, appliance or apparatus is at least as effective as that required by this Rules:
    Provided that such authority of the Director General shall not extend to substitution of operational methods to affect the control of discharge of oil as equivalent to those design and construction features which are prescribed under this Rules.
    (2) Where the Director General allows a fitting, material, appliance or apparatus to be fitted in a vessel as an alternative to that required by this Rules, it shall communicate particulars thereof to the Organization for circulation to the State Parties to the Convention for their information and appropriate action, if any.

7. Sensitive Areas for Pollution Garbage Control: - (1) For the purpose of this Rules, the Director General, on the recommendation of the Ministry of Environment, Forest and Climate Change (MoEFCC) or any of its designated statutory agencies, may, by notification in the Official Gazette, declare any area within India's maritime zones to be a "Sensitive Area for Pollution Control (SAPC)" for the purposes of this Rules.

(2) A notification under sub-rule (1) shall specify—

(a) the geographical limits of the SAPC (by coordinates or chart references), including any seasonal or time-bound applicability;

(b) the prescription for discharge applicable in the SAPC, which may include a zero-discharge standard (including food wastes) or any stricter restriction than those provided in the Schedule; and

(c) any additional operational requirements, including mandatory retention on board, delivery to reception facilities, record-keeping and reporting obligations.

(3) In cases of urgent environmental risk, the Central Government may issue an interim order declaring a temporary SAPC for a period not exceeding ninety days, pending notification under sub-rule (1).

(4) Prescriptions notified for a SAPC shall not be less stringent than those applicable under the Schedule for special areas, and nothing in this rule shall derogate from obligations under the Convention.

CHAPTER- II

Surveys and Certification

8. Surveys .—

(1) Every oil tanker of one hundred and fifty gross tonnage and above, and every other vessel of four hundred gross tonnage and above shall subject it to the surveys specified below, namely:-

a) an initial survey before the vessel is put in service or before the Certificate required under rule 9{regulation 7} is issued for the first time, which shall include a complete survey of its structure, equipment, systems, fittings, arrangements and material so as to ensure that such structure, equipment,

systems, fittings, arrangements and material fully comply with the requirements of this Rules.

b) a renewal survey at an intervals not exceeding five years, except where the provisions of clause (b) of sub-rule (2), sub- rules (5), (6) or (7) of rule 12 {regulation 10} is applicable, and the renewal survey shall be such as to ensure that the structure, equipment, systems, fittings, arrangements and material fully comply with the requirements of these rules.

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) and the intermediate survey shall be such as to ensure that the equipment and the associated pump and piping systems, including oil discharge monitoring and control systems, crude oil washing systems, oily-water separating equipment and oil filtering systems, fully comply with the requirements of these rules and are in good working order:

   Provided that such intermediate survey shall be endorsed on the Certificate issued under rules 9 or 10.

d) an annual survey shall be conducted within three months before or after each anniversary date of the Certificate, including a general inspection of the structure, equipment, fittings, arrangements and materials referred to in clause (a) to ensure that they have been maintained in accordance with the provisions of sub- rules (7) and (8) and that they remain satisfactory for this service for which the vessel is intended:

   Provided that such annual surveys shall be endorsed on the Certificate issued under rules 9 or 10.

e) an additional survey, either general or partial, according to the circumstances, shall be made after a repair resulting from investigations prescribed in sub-rule (9) or whenever important repairs or renewals are made and such survey shall be such as to ensure that 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 vessel complies in all respects with the requirements of these rules.

(2) The Central Government shall establish appropriate measures for vessels which are not subject to the provisions of sub-rule (1) in order to ensure that the provisions of these rules are complied with.

(3) Surveys of vessel for the purposes of enforcement of the provisions of these rules shall be carried out by a surveyor appointed under section 9 or, as the case may be, a person authorised for that purpose under sub-section (1) of section 146 of the Act, by the Central Government, in accordance with the provisions of the said with section 146 together with supporting pollution prevention and inspection provision section 133 to 138, 151 and 296 and the Central Government shall empower such surveyor or authorised person to –

a) require repairs to a vessel;

b) carry out surveys if requested by the appropriate authorities of a port State:

(4) The Central Government shall inform the Organisation of the specific responsibilities and conditions of the authority delegated to such surveyor or authorised person for circulation to the State Parties for the information of their officers.

(5) When the surveyor or the authorised person determines that the condition of the vessel or its equipment does not correspond substantially with the particulars of the Certificate or is such that, the vessel is not fit to proceed to sea without presenting an unreasonable threat of harm to the marine environment, such surveyor or authorised person 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 taken, the Certificate shall be withdrawn and the Central Government shall be notified immediately:

Provided further that if the vessel is in a port of another State Party, the appropriate authorities of that Port State shall also be notified immediately:

Provided also that when any officer of the Central Government or surveyor or the authorised person has notified the appropriate authorities of the port State, the Government of that port State shall give such officer, surveyor or authorised person necessary assistance to carry out their obligations under these rules and shall take such steps as to ensure that such vessel 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.

(6) In every case, the Central Government shall fully guarantee the completeness and efficiency of each such survey and shall take necessary steps to satisfy such obligation.

(7) The condition of the vessel and its equipment shall be maintained to conform to the provisions of the Convention to ensure that the vessel shall remain, in all respects, fit to proceed to sea without presenting any unreasonable threat of harm to the marine environment.

(8) After any survey of the vessel under sub-rule (1) has been completed, no change shall be made in the structure, equipment, systems, fittings, arrangements or material covered by such survey, without the sanction of the Central Government except the direct replacement of such equipment and fittings.

(9) Whenever an accident occurs to a vessel or a defect is discovered which substantially affects the integrity of the vessel or the efficiency or completeness of its equipment as covered by these rules, the master or owner of the vessel shall report at the earliest opportunity to the Central Government responsible for issuing the Certificate, who shall cause investigations to be initiated by the surveyor or the authorised person to determine whether a survey as required by sub-rule (1) is necessary:

Provided that if the vessel is in the port of another State Party, the master or owner shall also report immediately to the appropriate authorities of that Port State and the surveyor or the authorised person shall also ascertain that such report has been made.

9. Issue, or endorsement of certificate. —

(1) On satisfactory completion of the initial or renewal survey under rule 6, the certifying authority shall issue-

a) an International Oil Pollution Prevention Certificate to an oil tanker of one hundred and fifty gross tonnage and above and to any other vessel of four hundred gross tonnage and above, which are engaged in voyages to ports or offshore terminals under jurisdiction of other State Parties to the Convention;

b) an Indian Oil Pollution Prevention Certificate to-

(i) an Indian oil tanker below one hundred and fifty gross tonnage and an Indian vessel below four hundred gross tonnages; and

(ii) an Indian oil tanker and tanker barge of one hundred and fifty gross tonnage and above and an Indian vessel of four hundred gross tonnage and above, operating within the coastal water.

(2) The Certificate under sub-rule (1) shall be issued or endorsed as deemed appropriate by the Central Government and in every case the Central Government shall assume full responsibility for the Certificate.

10. Issue or endorsement of Certificate by another Government. -

(1) The Government of a State Party to the Convention may, at the request of the Central Government, cause a vessel to be surveyed and if satisfied that the provisions of these rules are complied with, shall issue or authorise the issue of an International Oil Pollution Prevention Certificate to the vessel and, where appropriate, endorse or authorise the endorsement of that Certificate on the vessel in accordance with these rules.

(2) A copy of the Certificate and a copy of the survey report shall be transmitted as soon as possible to the Central Government

(3) A Certificate so issued under sub-rule (1) shall contain a statement to the effect that it has been issued at the request of the Central Government and it shall have the same force and receive the same recognition as a Certificate issued under rule 9{regulation 7}.

(4) No International Oil Pollution Prevention Certificate shall be issued to a vessel which is entitled to fly the flag of a State which is not a party.

11. Form of certificate.—

(1) The International Oil Pollution Prevention Certificate issued under rule 9{regulation 7} shall be in accordance with Appendix-II to Annex-I of the Convention, as shown in Form-I and shall be supplemented with Form-A and B.

(2) The Indian Oil Pollution Prevention Certificate issued under rule 9{regulation 7} shall be in Form-II and shall be supplemented with Form-A and B.

(3) The International Oil Pollution Prevention Exemption Certificate for Unmanned Non-self-propelled Barges shall be drawn up in the form corresponding to the model given in appendix IV to this Annex and shall in English. If an official language of the issuing country is also used, this shall prevail in the event of a dispute or discrepancy.

12. Duration and validity of certificate.-

(1) An International Oil Pollution Prevention Certificate and an Indian Oil Pollution Prevention Certificate shall be issued for a period of five years.

(2) Notwithstanding anything contained in sub-rule (1), when the renewal survey is completed –

a) within three months before the expiry date of the existing Certificate, the new Certificate shall be valid from the date of completion of renewal survey for a period of five years from the date of expiry of the existing Certificate;

b) after the expiry date of the existing Certificate, the new Certificate shall be valid from the date of completion of such renewal survey for a period of five years from the date of expiry of the existing Certificate;

c) 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 for a period of five years from the date of completion of such 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 in clause (c) and (d) of sub-rule (1) of rule 8, which are required to be carried out when a Certificate is issued for a period of five years, shall also be carried out as may be appropriate.

(4) If a renewal survey has been completed and a new certificate cannot be issued or placed on board the vessel before the expiry date of the existing certificate, the Central Government may endorse the existing certificate and such certificate shall be accepted as valid for a further period of five months from the expiry date.

(5) If, at a time when the Certificate expires, a vessel is not in the port in which it is to be surveyed, or in such other cases as it deems proper and reasonable so to do, the Central Government may, extend the period of validity of the certificate:

Provided that such extension shall be granted only for the purpose of allowing the vessel to complete its voyage to the port in which it is to be surveyed:

Provided further that such extension shall not be granted for a period longer than three months:

Provided also that a vessel to which an extension is granted shall not, on its arrival in the port in which it is to be surveyed, be entitled to leave that port without having a new Certificate and such new Certificate issued after the renewal survey is completed, shall be valid for a maximum period of five years from the date of expiry of the existing Certificate before the extension was granted.

(6) Where a Certificate issued to a vessel engaged on short voyages has not been extended under sub-rule (4), the Central Government may extend the period of grace up to one month from the date of expiry stated thereon and the new Certificate issued after the renewal survey is completed shall be valid for a period of five years from the date of expiry of the existing Certificate before the extension was granted.

(7) Under such special circumstances as may be determined by the Central Government, the new Certificate shall be issued for a period of five years from the date of completion of the renewal survey and not from the date of expiry of the existing Certificate as provided in clause (b) of sub-rule (2), sub-rule (5) and sub-rule (6).

(8) If an annual or intermediate survey is completed before the period specified in rule 8{regulation 6}, then-

a) the anniversary date shown on the Certificate shall be amended by endorsement to a date which shall not be more than 3 months later than the date on which the survey was completed; rule 8{regulation 6}

b) the subsequent annual or intermediate survey as required by sub-rule (1) of rule 8 {regulation 6}, shall be completed at the intervals specified therein 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 specified under sub-rule (1) of rule 8{regulation 6}, are not exceeded.

(9) A Certificate issued under rule 9{regulation 7} or 10 shall cease to be valid in any of the following cases, namely: -

a) if the surveys specified under sub-rule (1) of rule 8{regulation 6}, are not completed within the period specified thereunder; or

b) if the Certificate is not endorsed in accordance with the provisions of clauses (c) and (d) of sub-rule (1) of rule 8{regulation 6};

c) upon a transfer of the vessel to the flag of another State Party:

Provided that no new Certificate shall be issued by any Government required to do so unless it is fully satisfied that the vessel is in full compliance of the requirements of sub-rules (7) and (8) of rule 8{regulation 6}:

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

13. Port State control on operational requirements. –

(1) During inspection of a foreign vessel in Indian port in accordance with the provisions of these rules and section 135(2) the surveyor, or as the case may be, any other person authorised thereunder, has clear grounds to believe that the master or crew of that vessel are not familiar with operational requirements and procedures relating to the prevention of pollution by oil, the Director-General or any officer authorised by him, shall, on the recommendation of the surveyor or the authorised person, take such steps as provided.

(2) Procedures relating to the port State control prescribed in article 5 of the present Convention shall apply to this rule

(3) 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.

The First Schedule

CHAPTER – I
REQUIREMENTS FOR MACHINERY SPACES OF ALL VESSELS

PART-A

CONSTRUCTION

1. (1) Tanks for oil residues or sludge. —

(a) Unless indicated otherwise, this paragraph applies to every vessel of 400 gross tonnage and above except that paragraph 3.5 of this schedule need only be applied as far as is reasonable and practicable to vessels delivered on or before 31 December 1979, as defined in Rule 2 (eee)

(b) Oil residue (sludge) may be disposed of directly from the oil residue (sludge) tank(s) to reception facilities through the standard discharge connection referred to in Paragraph 3, or to any other approved means of disposal of oil residue (sludge), such as an incinerator, auxiliary boiler suitable for burning oil residues (sludge) or other acceptable means which shall be annotated in item 3.2 of the Supplement to IOPP Certificate Form A or B

(c) Oil residue (sludge) tank(s) shall be provided and:

(i) shall be of adequate capacity, having regard to the type of machinery and length of voyage, to receive the oil residues (sludge) which cannot be dealt with otherwise in accordance with the requirements of this Rules.

(ii) shall be provided with a designated pump that is capable of taking suction from the oil residue (sludge) tank(s) for disposal of oil residue (sludge) by means as described in paragraph 1. (1) (b) of this schedule;

(iii) shall have no discharge connections to the bilge system, oily bilge water holding tank(s), tank top or oily water separators, except that:

I. the tank(s) may be fitted with drains, with manually operated self-closing valves and arrangements for subsequent visual monitoring of the settled water, that lead to an oily bilge water holding tank or bilge well, or an alternative arrangement, provided such arrangement does not connect directly to the bilge discharge piping system; and

II. the sludge tank discharge piping and bilge-water piping may be connected to a common piping leading to the standard discharge connection referred to in paragraph 2 of the schedule; the connection of both systems to the possible common piping leading to the standard discharge connection referred to in paragraph 2 of the schedule shall not allow for the transfer of sludge to the bilge system;

(iv) shall not be arranged with any piping that has direct connection overboard, other than the standard discharge connection referred to in paragraph 2 of the schedule; and

(v) shall be designed and constructed so as to facilitate their cleaning and the discharge of residues to reception facilities.

(d) Ships constructed before 1 January 2017 shall be arranged to comply with (c) of (3) not later than the first renewal survey carried out on or after 1 January 2017.

(2). Oil fuel tank protection. —

(a) This rule shall apply to all vessels with an aggregate oil fuel capacity of 600 m^3 and above which are delivered on or after 1st August, 2010, as defined in sub-rule (fff) of rule 2.

(b) The application of this rule in determining the location of tanks used to carry oil fuel shall not govern over the provisions of paragraph 8.

(c) For the purpose of this rule, the following definitions shall be applicable, namely:

-

i. “Oil fuel” means any oil used as fuel oil in connection with the propulsion and auxiliary machinery of the vessel in which such oil is carried;

ii. “Load line draught (ds)” is the vertical distance, in metres, from the moulded baseline at mid-length to the waterline corresponding to the summer freeboard draught to be assigned to the vessel;

iii. “Light vessel draught” is the moulded draught amidships corresponding to the lightweight;

iv. “Partial load line draught (dp)” is the light vessel draught plus 60% of the difference between the light vessel draught and the load line draught (ds) and the partial load line draught (dp) shall be measured in metres;

v. “Waterline (dB)” is the vertical distance, in metres, from the moulded baseline at mid-length to the waterline corresponding to 30% of the depth DS;

vi. “Breadth (BS)” is the greatest moulded breadth of the vessel, in metres, at or below the deepest load line draught (ds);

vii. “Breadth (BB)” is the greatest moulded breadth of the vessel, in metres, at or below the waterline (dB);

viii. “Depth (DS)” is the moulded depth, in metres, measured at mid-length to the upper deck at side and for the purpose of the application, “upper deck” means the highest deck to which the watertight transverse bulkheads except aft peak bulkheads extend

ix. “Length (L)” means 96% of the total length on a waterline at 85% of the least moulded depth measured from the top of the keel, or the length from the foreside of the stem to the axis of the rudder stock on that waterline, if that be greater and in vessels designed with a rake of keel the waterline on which this length is measured, it shall be parallel to the designed waterline and the length (L) shall be measured in metres;

x. “Breadth (B)” means the maximum breadth of the vessel, in metres, measured amidships to the moulded line of the frame in a vessel with a

metal shell and to the outer surface of the hull in a vessel with a shell of any other material;

xi. “Oil fuel tank” means a tank in which oil fuel is carried, but excludes those tanks which would not contain oil fuel in normal operation, such as overflow tanks;

xii. “Small oil fuel tank” is an oil fuel tank with a maximum individual capacity not greater than 30 m^3;

xiii. “C” is the vessel’s total volume of oil fuel, including that of the small oil fuel tanks, in m^3, at 98% tank filling;

xiv. Oil fuel capacity” means the volume of a tank in m^3, at 98% filling

(d) The provisions of this rule shall apply to all oil fuel tanks except small oil fuel tanks, as defined in clause (i) of sub-para (c), provided that the aggregate capacity of such excluded tanks is not greater than 600 m^3.

(e) Individual oil fuel tanks shall not have a capacity of over 2,500 m^3.

(f) For vessels, other than self-elevating drilling units, having an aggregate oil fuel capacity of 600 m3 and above, oil fuel tanks shall be located above the moulded line of the bottom shell plating no where less than the distance h as specified below:

h = B/20 (m) or,

h = 2.0 m, whichever is the lesser.

The minimum value of h = 0.76 m

In the turn of the bilge area and at locations without a clearly defined turn of the bilge, the oil fuel tank boundary line shall run parallel to the line of the midship flat bottom as shown in Figure 1.

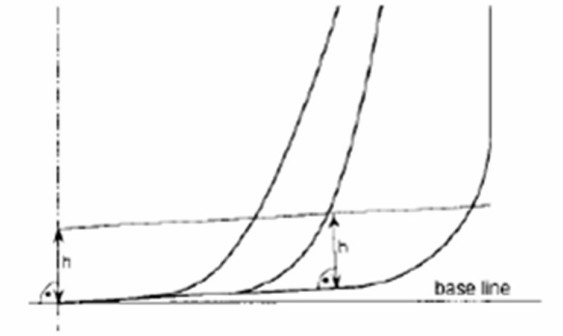


Figure 1 – Oil fuel tank boundary lines for the purpose of sub-rule (6)

(g) For vessels having an aggregate oil fuel capacity of 600 m³ or more, but less than 5,000 m³, oil fuel tanks shall be located inboard of the moulded line of the side shell plating, nowhere less than the distance w which, as shown in Figure 2, is measured at any cross-section at right angles to the side shell, as specified below:

$$w = 0.4 + 2.4\ C/20{,}000 \text{ m}$$

Where the minimum value of w = 1.0 m, but for individual tanks with an oil fuel capacity of less than 500 m³, the minimum value is 0.76 m.

(h) For vessels having an aggregate oil fuel capacity of 5,000 m³ and over, oil fuel tanks shall be located inboard of the moulded line of the side shell plating, nowhere less than the distance w which, as shown in Figure 2, is measured at any cross-section at right angles to the side shell, as specified below:

$w = 0.5 + C/20{,}000$ m or

w = 2.0 m, whichever is the lesser.

The minimum value of w = 1.0 m

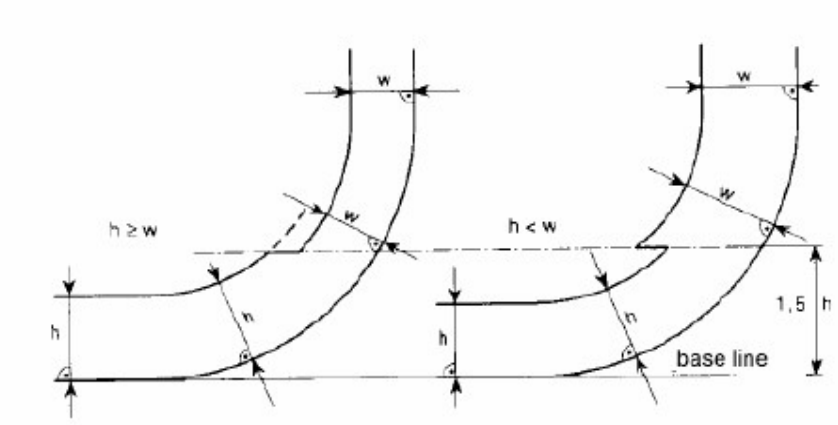


Figure 2 – Oil fuel tank boundary lines for the purpose of sub-para (g) and (h)

(i) Lines of oil fuel piping located at a distance from the vessel's bottom of less than h, as defined in sub-paragraph (f), or from the vessel's side less than w, as defined in sub-paragraphs (g) and (h), shall be fitted with valves or similar closing devices within or immediately adjacent to the oil fuel tank and these valves shall be capable of being brought into operation from a readily accessible enclosed space the location of which is accessible from the navigation bridge or propulsion machinery control position without traversing exposed freeboard or superstructure decks and the valves shall close in case of remote control system failure (fail in a closed position) and shall be kept closed at sea at any time when the tank contains oil fuel, except that they may be opened during oil fuel transfer operations.

(j) Suction wells in oil fuel tanks may protrude into the double bottom below the boundary line defined by the distance h, provided that such wells are as small as practicable and the distance between the well bottom and the bottom shell plating is not less than 0.5 h.

(k) As an alternative to sub-paragraph (f) and either of sub-paragraphs (g) or (h), vessels shall comply with the accidental oil fuel outflow performance standard specified below, namely:-

(i) the level of protection against oil fuel pollution in the event of collision or grounding shall be assessed on the basis of the mean oil outflow parameter as follows:

$OM \leq 0.0157\text{-}1.14E\text{-}6 \cdot C$ for $600\ m^3 \leq C < 5{,}000\ m^3$

$OM \leq 0.010$ for $C \geq 5{,}000\ m^3$

Where OM = mean oil outflow parameter;
C = total oil fuel volume;

(ii) the following general assumption shall apply when calculating the mean oil outflow parameter, namely:-

(I) the vessel shall be assumed loaded to the partial load line draught d_p without trim or heel;

(II) all oil fuel tanks shall be assumed loaded to 98% of their volumetric capacity;

(III) the nominal density of the oil fuel (ρ_n) shall generally be taken as 1,000 kg/m³ and if the density of the oil fuel is specifically restricted to a lesser value, the lesser value may be applied; and

(IV) for the purpose of these outflow calculations, the permeability of each oil fuel tank shall be taken as 0.99, unless proven otherwise;

(iii) the following assumptions shall be used when combining the oil outflow parameters, namely:-

(I) the mean oil outflow shall be calculated independently for side damage and for bottom damage and then combined into a non-dimensional oil outflow parameter OM, as follows:

$$OM = (0.4\ OMS + 0.6\ OMB) / C$$

where:

OMS = mean outflow for side damage, in m^3

OMB = mean outflow for bottom damage, in m^3

C = total oil fuel volume;

(II) for bottom damage, independent calculations for mean outflow shall be done for 0 m and 2.5 m tide conditions, and then combined as follows:

$$OMB = 0.7OMB_{(0)} + 0.3OMB_{(2.5)}$$

where:

$OMB_{(0)}$ = mean outflow for 0 m tide condition, and

$OMB_{(2.5)}$ = mean outflow for minus 2.5 m tide condition, in m^3

(iv) the mean outflow for side damage OMS shall be calculated as follows:

$$OMS = \sum_{i}^{n} P_{s(i)} O_{s(i)} \ [m^3]$$

where:

i = represents each oil fuel tank under consideration;

n = total number of oil fuel tanks;

$P_{s(i)}$ = the probability of penetrating oil fuel tank i from side damage, calculated in accordance with clause (f);

$O_{s(i)}$ = the outflow, in m^3, from side damage to oil fuel tank i, which is assumed equal to the total volume in oil fuel tank i at 98% filling;

(v) the mean outflow for bottom damage shall be calculated for each tidal condition as follows:

$$(I)\quad OMB_{(0)} = \sum_{i}^{n} P_{B(i)}\, O_{B(i)}\, C_{DB(i)}\ [m^3]$$

where:

i = represents each oil fuel tank under consideration;

n = total number of oil fuel tanks;

$P_{B(i)}$ = the probability of penetrating oil fuel tank i from Bottom damage, calculated in accordance with clause (g);

$O_{B(i)}$ = the outflow from oil fuel tank i, in m^3, calculated in accordance with sub-clause (iii); and

$C_{DB(i)}$ = factor to account for oil capture as defined in item (D) of sub-clause (iii);

$$(II)\quad OMB_{(2.5)} = \sum_{i}^{n} P_{B(i)}\, O_{B(i)}\, C_{DB(i)}\ [m^3]$$

where:

i, n, $P_{B(i)}$ and $C_{DB(i)}$ = as defined in subparagraph (i) above

$O_{B(i)}$ = the outflow from oil fuel tank i, in m^3, after tidal change;

(III) the oil outflow $O_{B(i)}$ for each oil fuel tank shall be calculated based on pressure balance principles, in accordance with the following assumptions, namely:-

(A) the vessel shall be assumed stranded with zero trim and heel, with the stranded draught prior to tidal change equal to the partial load line draught d_P;

(B) the oil fuel level after damage shall be calculated as follows:

$h_F = \{(d_P + t_C – Z_I)(P_S)\}/P_n$

where:

h_F = the height of the oil fuel surface above Z_I, in metters;

t_C = the tidal change, in m. Reductions in tide shall be expressed as negative values;

Z_I = the height of the lowest point in the oil fuel tank above the baseline, in m;

P_s = density of seawater, to be taken as 1,025 kg/m^3; and,

P_n = nominal density of the oil fuel, as defined in sub-clause (iii) of clause (b);

(C) the oil outflow $O_{B(i)}$ for any tank bounding the bottom shell plating shall be taken not less than the following formula, but no more than the tank capacity:

$O_{B\,(i)} = H_W \,.A$

where:

H_W = 1.0 m, when $Y_B = 0$

$H_W = B_B/50$ but not greater than 0.4 m, when Y_B is Greater than $B_B/5$ or 11.5 m, whichever is less,

"H_W" is to be measured upwards from the midship flat bottom line and in the turn of the bilge area and at locations without a clearly defined turn of the bilge, H_W is to be measured from a line parallel to the midship flat bottom, as shown for distance "h" in Figure 1.

For Y_B values outboard $B_B/5$ or 11.5 m, whichever is less, H_W is to be linearly interpolated.

Y_B = the minimum value of Y_B over the length of the oil fuel tank, where at any given location, Y_B is the transverse distance between the side shell at waterline d_B and the tank at or below waterline d_B.

A = the maximum horizontal projected area of the oil fuel tank up to the level of H_W from the bottom of the tank.

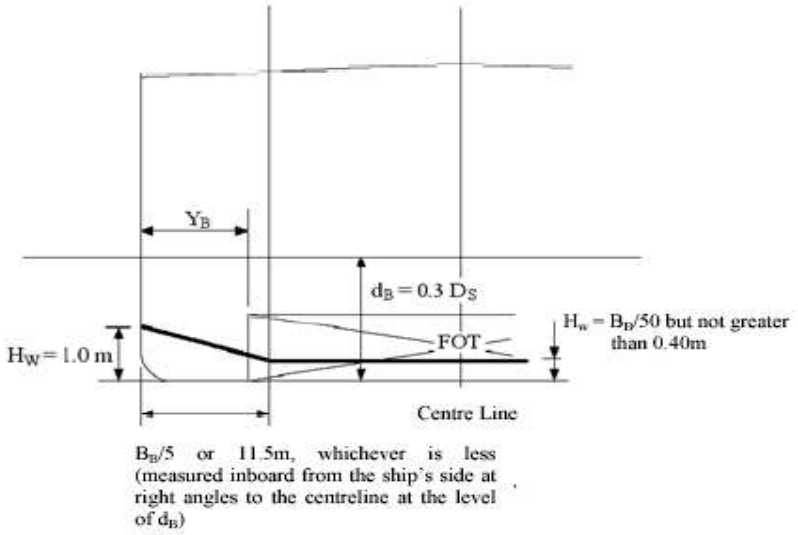


Figure 3 – Dimensions for calculation of the minimum oil outflow for the purpose of paragraph 1 (2)(v)(III)(C)

Hw = B_B/50 but not greater than 0.40m

(D) in the case of bottom damage, a portion from the outflow from an oil fuel tank may be captured by non-oil compartments and this effect is approximated by application of the factor $C_{DB(i)}$ for each tank, which shall be taken as follows:

$C_{DB(i)}$ = 0.6 for oil fuel tanks bounded from below by non-oil compartments;

$C_{DB(i)}$ = 1 otherwise.

(E) the probability P_S of breaching a compartment from side damage shall be calculated as follows:

(i) $P_S = P_{SL} \cdot P_{SV} \cdot P_{ST}$

where:

$P_{SL} = (1 – P_{Sf} – P_{Sa})$ = probability the damage will extend into the longitudinal zone bounded by X_a and X_f;

$P_{SV} = (1 – P_{Su} – P_{Sl})$ = probability the damage will extend into the vertical zone bounded by Z_l and Z_u;

$P_{ST} = (1 – P_{Sy})$ = probability the damage will extend Transversely beyond the boundary defined by y;

(ii) P_{Sa}, P_{Sf}, P_{Su} and P_{Sl} shall be determined by linear interpolation from the table of probabilities for side damage provided in sub-clause (iii), and P_{Sy} shall be calculated from the formulas provided in the said sub-clause (iii), where:

P_{Sa} = the probability the damage will lie entirely aft of location X_a/L;

P_{Sf} = the probability the damage will lie entirely forward of location X_f/L;

P_{Sl} = probability the damage will lie entirely below the tank;

P_{Su} = probability the damage will lie entirely above the tank; and

P_{Sy} = probability the damage will lie entirely outboard the tank.

and compartment boundaries X_a, X_f, Z_l, Z_u and y shall be developed as follows:

X_a = the longitudinal distance from aft terminal of L to the aft most point on the compartment being considered, in m;

X_f = the longitudinal distance from aft terminal of L to the foremost point on the compartment being considered, in m;

Z_l = the vertical distance from the moulded baseline to the lowest point on the compartment b eing considered, in m. Where Z_l is greater than D_S, Z_l shall be taken as D_S;

Z_u = the vertical distance from the moulded baseline to the highest point on the compartment being considered, in m. Where Z_u is greater than D_S, Z_u shall be taken as D_S; and,

y = the minimum horizontal distance measured at right angles to the centreline between the compartment under consideration and the side shell, in m1:

In way of the turn of the bilge, y need not to be considered below a distance h above baseline, where h is lesser of B/10, 3 m or the top of the tank.

(iii) Table of Probabilities for side damage

X_a/L	P_{Sa}		X_f/L	P_{Sf}		Z_1/D_S	P_{Sl}		Z_U/D_S	P_{SU}
0,00	0,000		0,00	0,967		0,00	0,000		0,00 0	0,968
0,05	0,023		0,05	0,917		0,05	0,000		0,05	0,952
0,10	0,068		0,10	0,867		0,10	0,001		0,10	0,931
0,15	0,117		0,15	0,817		0,15	0,003		0,15	0,905
0,20	0,167		0,20	0,767		0,20	0,007		0,20	0,873
0,25	0,217		0,25	0,717		0,25	0,013		0,25	0,836
0,30	0,267		0,30	0,667		0,30	0,021		0,30	0,789
0,35	0,317		0,35	0,617		0,35	0,034		0,35	0,733
0,40	0,367		0,40	0,567		0,40	0,055		0,40	0,670
0,45	0,417		0,45	0,517		0,45	0,085		0,45	0,599
0,50	0,467		0,50	0,467		0,50	0,123		0,50	0,525
0,55	0,517		0,55	0,417		0,55	0,172		0,55	0,452
0,60	0,567		0,60	0,367		0,60	0,226		0,60	0,383
0,65	0,617		0,65	0,317		0,65	0,285		0,65	0,317
0,70	0,667		0,70	0,267		0,70	0,347		0,70	0,255
0,75	0,717		0,75	0,217		0,75	0,413		0,75	0,197

0,80	0,767		0,80	0,167		0,80	0,482		0,80	0,143
0,85	0,817		0,85	0,117		0,85	0,553		0,85	0,092
0,90	0,867		0,90	0,068		0,90	0,626		0,90	0,046
0,95	0,917		0,95	0,023		0,95	0,700		0,95	0,013
1,00	0,967		1,00	0,000		1,00	0,775		1,00	0,000

P_{Sy} shall be calculated as follows:

$P_{Sy} = (24.96 – 199.6\ y/B_S)\ (y/B_S)$ for $y/B_S \leq 0.05$

$P_{Sy} = 0.749 + \{5 – 44.4\ (y/B_S – 0.05)\}\ \{(y/B_S) – 0.05\}$ for $0.05 < y/B_S < 0.1$

$P_{Sy} = 0.888 + 0.56\ (\ y/B_S - 0.1)$ for $y/B_S \geq 0.1$

P_{Sy} is not to be taken greater than 1.

(F) the probability P_B of breaching a compartment from bottom damage shall be calculated as follows:

(i) $P_B = P_{BL} . P_{BT} . P_{BV}$

where:

$P_{BL} = (1 – P_{Bf} – P_{Ba})$ = probability the damage will extend into the longitudinal zone bounded by X_a and X_f;

$P_{BT} = (1 – P_{Bp} – P_{Bs})$ = probability the damage will extend into transverse zone bounded by Y_p and Y_s; and

$P_{BV} = (1 – P_{Bz})$ = probability the damage will extend Vertically above the boundary defined by z;

(ii) P_{Ba}, P_{Bf}, P_{Bp} and P_{Bs} shall be determined by linear interpolation from the table of probabilities for bottom damage provided in sub-clause (iii) of clause (F), and P_{Bz} shall be calculated from the formulas provided in sub-clause (iii) of clause (F):

P_{Ba} = the probability the damage will lie entirely aft of Location X_a/L;

P_{Bf} = the probability the damage will lie entirely forward of location X_f/L;

P_{Bp} = probability the damage will lie entirely to port of the tank;
P_{Bs} = probability the damage will lie entirely to starboard the tank; and
P_{Bz} = probability the damage will lie entirely below the tank:

Provided that for symmetrical tank arrangements, damages are considered for one side of the vessel only, in which case, all "y" dimensions are to be measured from that side and for asymmetrical arrangements, reference is made to the Explanatory Notes on matters related to the accidental oil outflow performance, adopted by the Organization:

Provided further that compartment boundaries X_a, X_f, Y_p, Y_s and z shall be developed as follows:

X_a and X_f as defined in sub-clause (ii) of clause (G);

Y_p = the transverse distance from the port-most point on the compartment located at or below the waterline d_B, to a vertical plane located $B_B/2$ to starboard of the vessel's centreline;

Y_s = the transverse distance from the starboard-most point on the compartment located at or below the waterline d_B, to a vertical plane located $B_B/2$ to starboard of the vessel's centreline; and

z = the minimum value of z over the length of the compartment, where, at any given longitudinal location, z is the vertical distance from the lower point of the bottom shell at that longitudinal location to the lower point of the compartment at that longitudinal location.

(iii) Table of probabilities for bottom damage

X_a/L	P_{Ba}		X_f/L	P_{Bf}		Y_p/B_B	P_{Bp}		Y_s/B_B	P_{Bs}
0,00	0,000		0,00	0,969		0,00	0,844		0,00	0,000

0,05	0,002		0,05	0,953		0,05	0,794		0,05	0,009
0,10	0,008		0,10	0,936		0,10	0,744		0,10	0,032
0,15	0,017		0,15	0,916		0,15	0,694		0,15	0,063
0,20	0,029		0,20	0,894		0,20	0,644		0,20	0,097
0,25	0,042		0,25	0,870		0,25	0,594		0,25	0,133
0,30	0,058		0,30	0,842		0,30	0,544		0,30	0,171
0,35	0,076		0,35	0,810		0,35	0,494		0,35	0,211
0,40	0,096		0,40	0,775		0,40	0,444		0,40	0,253
0,45	0,119		0,45	0,734		0,45	0,394		0,45	0,297
0,50	0,143		0,50	0,687		0,50	0,344		0,50	0,344
0,55	0,171		0,55	0,630		0,55	0,297		0,55	0,394
0,60	0,203		0,60	0,563		0,60	0,253		0,60	0,444
0,65	0,242		0,65	0,489		0,65	0,211		0,65	0,494
0,70	0,289		0,70	0,413		0,70	0,171		0,70	0,544
0,75	0,344		0,75	0,333		0,75	0,133		0,75	0,594
0,80	0,409		0,80	0,252		0,80	0,097		0,80	0,644
0,85	0,482		0,85	0,170		0,85	0,063		0,85	0,694
0,90	0,565		0,90	0,089		0,90	0,032		0,90	0,744
0,95	0,658		0,95	0,026		0,95	0,009		0,95	0,794
1,00	0,761		1,00	0,000		1,00	0,000		1,00	0,844

P_{BZ} shall be calculated as follows:

$P_{Bz} = (14.5 – 67\ z/D_S)\ (z/D_S)$ for $z/D_S \leq 0.1$

$P_{Bz} = 0.78 + 1.1\ \{(z/D_S - 0.1)\}$ for $z/D_S > 0.1$

P_{Bz} is not to be taken greater than 1.

(G) For the purpose of maintenance and inspection, any oil fuel tanks that do not border the outer shell plating shall be located no closer to the bottom shell plating than the minimum value of h in sub paragraph (2) of clause (f) and no closer to the side shell plating than the applicable minimum value of w in clause (g) or (h).

(12) In approving the design and construction of vessels to be built in accordance with this schedule, the Central Government shall have due regard to the general safety aspects, including the need for maintenance and inspection of wing and double bottom tanks or spaces.

2. Standard Discharge Connection. — To enable pipes of reception facilities to be connected with the vessel's discharge pipeline for residues from machinery bilges and from sludge tanks, both lines shall be fitted with a standard discharge connection in accordance with the following table, namely: -

Standard dimensions of flanges for discharge connections

Description	Dimension
Outside diameter	215 mm
Inner diameter	According to pipe outside diameter
Bolt circle diameter	183 mm
Slots in flange	6 holes 22 mm in diameter equidistantly placed on a bolt circle of the above diameter, slotted to the flange periphery. The slot width to be 22 mm
Flange thickness	20 mm
Bolts and nuts: quantity, diameter	6, each of 20 mm in diameter and of suitable length
The flange shall be designed to accept pipes up to a maximum internal diameter of 125 mm and shall be of steel or other equivalent material having a flat face. This flange, together with a gasket of oil-proof material, shall be suitable for a service pressure of 6 kg/cm2. 600 kPa	

PART-B

EQUIPMENT

3. Oil Filtering Equipment. —

(1) Except as specified in sub paragraph (3), any vessel of four hundred gross tonnage and above but less than ten thousand gross tonnages shall be fitted with oil filtering equipment in accordance with sub paragraph (6):

Provided that any such vessel, which may discharge into the sea ballast water retained in oil fuel tanks in accordance with sub-rule (2) of paragraph 5 of the schedule, shall comply with the provisions of sub-rule sub paragraph (2).

(2) Except as specified in sub paragraph (3), any vessel of ten thousand gross tonnages and above shall be fitted with oil filtering equipment in accordance with sub paragraph (7).

(3) Vessels, such as hotel vessels, storage vessels, etc., which are stationary except for non-cargo-carrying relocation voyages, need not be provided with oil filtering equipment:

Provided that such vessels shall be provided with a holding tank of volume adequate, to the satisfaction of the Central Government, for the total retention on Board retention on board of the oily bilge water for subsequent discharge to reception facilities.

(4) The Central Government shall ensure that vessels of less than four hundred gross tonnage are equipped, as far as practicable, to retain on board oil or oily mixture or discharge them in accordance with the requirements of sub-rule (6) of paragraph 4 of the schedule.

(5) The Central Government may waive the provisions of sub-para (1) and (2) for -

(a) any vessel engaged exclusively on voyages within special areas or Arctic waters; or

(b) any vessel certified under the International Code of Safety for High-Speed Craft (or otherwise within the scope of these rules with regard to size and design)

engaged on a scheduled service with a turn-around time not exceeding twenty-four hours and covering also non-passenger/cargo-carrying relocation voyages for these vessels,
if the following conditions are complied with-

(i) the vessel is fitted with a holding tank having a volume adequate, to the satisfaction of the Central Government, for the total retention on board of the oily bilge water;

(ii) all oily bilge water is retained on board for subsequent discharge to reception facilities;

(iii) the Central Government has determined that adequate reception facilities are available to receive such oily bilge water in a sufficient number of ports or terminals the vessel calls at;

(iv) the International Oil Pollution Prevention certificate, when required, is endorsed to the effect that the vessel is exclusively engaged on the voyages within special areas or Arctic waters or has been accepted as a high-speed craft for the purpose of this rule and the service is identified; and

(v) the quantity, time, and port of the discharge are recorded in the Oil Record Book Part I.

(6) Oil filtering equipment referred to in sub paragraph (1) shall be of a design approved by the Central Government and shall be such as shall ensure that any oily mixture discharged into the sea after passing through the system has an oil content not exceeding fifteen parts per million:

Provided that in considering the design of such equipment, the Central Government shall have regard to the specification recommended by the Organisation.

(7) Oil filtering equipment referred to in sub paragraph (2) shall comply with the provisions of sub paragraph (6) and in addition, it shall be provided with alarm arrangements to indicate when the level cannot be maintained and such system shall also be provided with arrangements to ensure that any discharge of oily mixtures is automatically stopped when the oil content of the effluent exceeds fifteen parts per million:

In considering the design of such equipment and arrangement, the Central Government shall have regard to the specification recommended by the Organisation.

PART-C

CONTROL OF OPERATIONAL DISCHARGE OF OIL

4. Control of Discharge of Oil.— (1) Subject to the provisions of rule 5 and sub-rules (2), (3) and (6) hereunder, any discharge into the sea of oil or oily mixtures from vessels shall be prohibited.

A. Discharges outside special areas except in Arctic waters

(2) Any discharge of oil or oily mixtures into the sea, outside special areas, from ships of four hundred gross tonnage and above shall be prohibited except when all the following conditions are satisfied, namely:-

(a) the vessel is proceeding en route;

(b) the oily mixture is processed through an oil filtering equipment in accordance with the requirements of paragraph 3;

(c) the oil content of the effluent without dilution does not exceed fifteen parts per million;

(d) the oily mixture does not originate from cargo pump-room bilges on oil tankers; and

(e) the oily mixture, in case of oil tankers, is not mixed with oil cargo residues.

B. Discharges in special areas

(3) Any discharge of oil or oily mixtures into the sea, in special areas, from vessels of four hundred gross tonnages and above shall be prohibited except when all of the following conditions are satisfied, namely: -

(a) the vessel is proceeding en route;

(b) the oily mixture is processed through an oil filtering equipment in accordance with the requirements of sub-para (7) of paragraph 3;

(c)the oil content of the effluent without dilution does not exceed fifteen parts per million;

(d) the oily mixture does not originate from cargo pump-room bilges on oil tankers, and

(e) the oily mixture, in case of oil tankers, is not mixed with oil cargo residues.

(4) In respect of the Antarctic area, any discharge into the sea of oil or oily mixtures from any vessel shall be prohibited.

(e) Nothing in these rules shall prohibit a vessel on a voyage only part of which is in a special area from discharging outside a special area in accordance with the provisions of sub-para (2).

C. Requirementsfor ships of less than 400 gross tonnage in all areas except the Antarctic area and Arctic waters

(6) In all areas except the Antarctic area, in the case of a vessel of less than four hundred gross tonnage, oil and all oily mixtures shall either be retained on board for subsequent discharge to reception facilities or discharged into the sea in accordance with the following provisions, namely:-

(a) the vessel is proceeding en route;

(b) the vessel has in operation equipment of a design approved by the Central Government that shall ensures that the oil content of the effluent without dilution does not exceed fifteen parts per million;

(c) the oily mixture does not originate from cargo pump-room bilges on oil tankers; and

(d) the oily mixture, in case of oil tankers, is not mixed with oil cargo residues.

(7) Whenever visible traces of oil are observed on or below the surface of the water in the immediate vicinity of a vessel or its wake, the Central Government shall, to the extent possible, promptly investigate the facts bearing on the issue of whether there has been a violation of the provisions of these rules and such investigation shall include, in particular, the wind and sea conditions, the track and speed of the vessel, other possible sources of the visible traces in the vicinity, and any relevant oil discharge records.

(8) No discharge into the sea shall contain chemicals or other substances in quantities or concentrations, which are hazardous to the marine environment or chemicals or other substances introduced for the purpose of circumventing the conditions of discharge specified in these rules.

(9) The oil residues, which cannot be discharged into the sea in compliance with this rule, shall be retained on board for subsequent discharge to reception facilities.

5. Segregation of oil and water ballast and carriage of oil in forepeak tanks.—

(1) Except as provided in sub-rule (2), in vessels delivered after 31st December, 1979, as defined in clause (ddd) in rule 2, of four thousand gross tonnage and

above other than oil tankers, and in oil tankers delivered after 31st December, 1979, as defined in the said clause (ddd) in rule 2, of one hundred and fifty gross tonnage and above, no ballast water shall be carried in any oil fuel tank.

(2) Where the need to carry large quantities of oil fuel render it necessary to carry ballast water which is not a clean ballast in any oil fuel tank, such ballast water shall be discharged to reception facilities or into the sea in accordance with paragraph 4 of the schedule using the equipment specified in sub-para (2) of paragraph 3, and an entry shall be made in the Oil Record Book to this effect.

(3) In a vessel of four hundred gross tonnage and above, for which the building contract is placed after 1st January, 1982 or, in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction after 1st July, 1982, oil shall not be carried in a forepeak tank or a tank forward of the collision bulkhead.

(4) All vessels other than those subjected to the provisions of sub-para (1) and (3) shall comply with the provisions of said sub-para (1) and (3), as far as are reasonable and practicable

6. Oil Record Book, Part I -Machinery Space Operation.—

(1) Every oil tanker of one hundred and fifty gross tonnage and =above and every vessel of four hundred gross tonnage and above other than an oil tanker shall be provided with an Oil Record Book, Part I (Machinery Space Operations):

Provided that the Oil Record Book, whether as a part of the vessel's official log-book as an electronic record book which shall be approved by the Administration taking into account the Guidelines developed by the Organization*, or otherwise, shall be in the form specified in appendix III to this Annex

(2) The Oil Record Book Part I shall be completed on each occasion, on a tank-to-tank basis if appropriate, whenever any of the following machinery space operations take place in the vessel, namely:-

(a) ballasting or cleaning of oil fuel tanks;

(b) discharge of dirty ballast or cleaning water from oil fuel tanks;

(c) collection and disposal of oil residues (sludge);

(d) discharge overboard or disposal otherwise of bilge water which has accumulated in machinery spaces; and

(e) bunkering of fuel or bulk lubricating oil.

(3) In the event of discharge of oil or oily mixture as referred to in rule 5 or in the event of accidental or other exceptional discharge of oil not excepted by that rule, a statement shall be made in the Oil Record Book Part I of the circumstances of, and the reasons for, such discharge.

(4) Each operation described in sub-rule (2) shall be fully recorded without delay in the Oil Record Book Part I so that all entries in the book appropriate to that operation are completed and each completed operation shall be signed by the officer or officers in charge of the operations concerned and each completed page or group of electronic entries shall be signed by the master of the vessel.

(5) Any failure of the oil filtering equipment shall be recorded in the Oil Record Book Part I.

(6) The Oil Record Book shall be kept in such a place as to be readily available for inspection at all reasonable times and, except in the case of unmanned vessels under tow, shall be kept on board the vessel and it shall be preserved for a period of three years after the last entry has been made.

(7) The surveyor or the authorised person may inspect the Oil Record Book Part I on board any vessel to which these rules apply while the vessel is in a Indian port or offshore terminals and the provisions of sub-section (2) of section 135(2) of the Act shall accordingly, apply.

CHAPTER – II

REQUIREMENTS FOR THE CARGO AREA OF OIL TANKERS
PART –A
CONSTRUCTION

7. Segregated ballast tanks. —

(1) Every crude oil tanker of twenty thousand tones deadweight and above and every product carrier of thirty thousand tones deadweight and above delivered after 1st June, 1982, as defined in clause (hh) of rule 2, shall be provided with segregated ballast tanks and shall comply with the provisions of sub-para (2), (3) and (4), or (5) as appropriate.

(2) The capacity of the segregated ballast tanks shall be so determined that the vessel may operate safely on ballast voyages without recourse to the use of cargo tanks for water ballast except as provided for in sub-para (3) or (4):

Provided that in all cases, the capacity of segregated ballast tanks shall be at least such that, in any ballast condition at any part of the voyage, including the conditions consisting of lightweight plus segregated ballast only, the vessel's draughts and trim can meet the following requirements. —

(a) the moulded draught amidships (dm) in metres (without taking into account any vessel's deformation) shall not be less than:

$$dm = 2.0 + 0.02L;$$

(b) the draughts at the forward and after perpendiculars shall correspond to those determined by the draught amidships (dm) as specified in clause (a), in association with the trim by the stern of not greater than 0.015L; and

(c) in any case, the draught at the after perpendicular shall not be less than that which is necessary to obtain full immersion of the propeller(s).

(3) In no case shall ballast water shall be carried in cargo tanks, except. —

(a) on those rare voyages when weather conditions are so severe that, in the opinion of the master, it is necessary to carry additional ballast water in cargo tanks for the safety of the vessel; and

(b) in exceptional cases, where the particular character of the operation of an oil tanker renders it necessary to carry ballast water in excess of the quantity required under sub-para (2):

Provided that such operation of the oil tanker falls under the exceptional cases as established by the Organisation:

Provided further that such additional ballast water shall be processed and discharged in compliance with the requirements of paragraph 23 and an entry shall be made in the Oil Record Book Part II referred to in paragraph 25.

(4) In the case of crude oil tankers, the additional ballast permitted in sub-rule (3) shall be carried only in cargo tanks only if such tanks have been crude oil washed in accordance with paragraph 25 before departure from oil unloading port or terminal.

(5) Notwithstanding the provisions of sub-rule (2), the segregated ballast conditions for oil tankers less than one hundred and fifty metres in length shall be to the satisfaction of the Central Government.

(6) Subject to the provisions of sub-para (7), every crude oil tanker of forty thousand tonnes deadweight and above delivered on or before 1st June, 1982, as defined in clause (mm) of rule 2, shall be provided with segregated ballast tanks and shall comply with the requirements of sub-para (2) and (3).

(7) Crude oil tankers referred to in sub-rule (6) may, in lieu of being provided with segregated tanks, operate with a cargo tank cleaning procedure using crude oil washing in accordance with paragraph 22 and 24 unless the crude oil tanker is intended to carry crude oil which is not suitable for crude oil washing.

(8) Every product carrier of forty thousand tones deadweight and above delivered on or before 1st June 1982, as defined in clause (mm) of rule 2, shall be provided with segregated ballast tanks and shall comply with the requirements of sub-rule (2) and (3), or alternatively, operate with dedicated clean ballast tanks in accordance with the following provisions, namely: -

(a) the product carrier shall have adequate tank capacity, dedicated solely to the carriage of clean ballast as defined in clause (k) of rule 2, to meet the requirements of sub-paragraphs (2) and (3).

(b) the arrangements and operational procedures for dedicated clean ballast tanks shall comply with the requirements specified by the Central Government which shall contain all the provisions of the revised Specifications for Oil Tankers with Dedicated Clean Ballast Tanks adopted by the Organization.

(c) the product carrier shall be equipped with oily water separating equipment and oil content monitoring and control system in accordance with the specifications adopted by the Organization and requirements of the Convention.

(d) every product carrier operating with dedicated clean ballast shall be equipped with an oil content meter, approved by the Central Government on the basis of specifications recommended by the Organisation, to enable supervision of the oil content in ballast water being discharged.

(e) every product carrier operating with dedicated clean ballast tanks shall be provided with a Dedicated Clean Ballast Tank Operation Manual detailing the system and specifying operational procedures and such Manual shall be

approved by the Central Government and shall contain all the information set out in the Specifications referred to in clause (b):

Provided that if an alteration affecting dedicated clean ballast, tank system is made, the Operation Manual shall be revised accordingly.

(9) Any oil tanker which is not required to be provided with segregated ballast tanks in accordance with sub-rule sub paragraph (1), (6) or (8) may be qualified as a segregated ballast tanker if it complies with the requirements of sub-rule sub paragraph (2) and (3) or (5), as may be appropriate.

(10) Oil tankers delivered on or before 1st June, 1982, as defined in clause (mm) of rule 2, having special ballast arrangements-

(a) where such tanker is so constructed or operates in such a manner that it complies at all times with the draught and trim requirements set out in sub-rule sub paragraph (2) without recourse to the use of ballast water, it shall be deemed to comply with the segregated ballast tank requirements referred to in sub-rule sub paragraph (6), provided that all of the following conditions are complied with, namely:-

(i) operational procedures and ballast arrangements are approved by the Central Government;

(ii) agreement is reached between the Central Government concerned when the draught and trim requirements are achieved through an operational procedure; and

(iii) the International Oil Pollution Prevention Certificate or the Indian Oil Pollution Prevention Certificate is endorsed to the effect that the oil tanker is operating with special ballast arrangements.

(b) in no case shall ballast water be carried in oil tanks except on those rare voyages when weather conditions are so severe that, in the opinion of the master, it is necessary to carry additional ballast water in cargo tanks for the safety of the vessel and such additional ballast water shall be processed and discharged in compliance with paragraph 23 of the schedule and in accordance with the requirements of paragraphs 18,20 and 21 of the schedule and an entry shall be made in the Oil Record Book referred to in paragraph 25.

(c) where the Central Government has endorsed a Certificate in accordance with sub-clause (iii) of clause (a), it shall communicate to the Organisation the particulars thereof for circulation to the State Parties.

(11) Oil tankers of seventy thousand tonnes deadweight and above delivered after 31st December, 1979, as defined in clause (ddd) of rule 2, shall be provided with segregated ballast tanks and shall comply with sub-paragraph (2), (3) and (4) or (5), as deemed appropriate.

(12) In every crude oil tanker of twenty thousand tones deadweight and above and every product carrier of thirty thousand tones deadweight and above delivered after 1st June, 1982, as defined in clause (ddd) of rule 2, except those tankers that meet the requirements of paragraph 8, the segregated ballast tanks required to provide the capacity to comply with the requirements of sub paragraph (2), which are located within the cargo tank length, shall be arranged in accordance with the requirements of sub paragraph (13), (14) and (15) to provide a measure of protection against oil outflow in the event of grounding or collision.

(13) Segregated ballast tanks and spaces other than oil tanks within the cargo tanks length (Lt) shall be so arranged as to comply with the following requirements,

$$\Sigma PA_c + \Sigma PA_s \geq J[L_t (B + 2D)]$$

Were,

P	=	the side shell area in square metres for each segregated ballast tank or space other than an oil tank based on projected moulded dimensions,
A_c	=	
P	=	the bottom shell area in square metres for each such tank or space based on projected moulded dimensions,
A_s	=	
L_t	=	length in metres between the forward and after extremities of the cargo tanks,
B	=	maximum breadth of the vessel in metres as defined in clause (5) of rule 1A,
D	=	moulded depth in metres measured vertically from the top of the keel to the top of the freeboard deck beam at side amidships. In vessels having rounded gunwales, the moulded depth shall be measured to the point of intersection of the moulded lines of the deck and side shell plating, the lines extending as though the gunwale were of angular design,
J=		0.45 for oil tankers of twenty thousand tonnes deadweight, 0.30 for oil tankers of two lakh tonnes deadweight and above, subject to the provisions of sub paragraph (14) of 18. For intermediate values of deadweight, the value of J shall be determined by interpolation.

Note. - Whenever symbols given in this sub-rule appear in these rules, they have the meaning as defined in this sub-rule.

(14) For tanker of two lakh tones deadweight and above, the value of J may be reduced as follows, namely: -

J reduced = $[J - \{a - (O_c + O_s) / 4O_A\}]$ or 0.2 whichever is greater

were,

a =		0.25 for oil tankers of two lakh tones deadweight,
a =		0.40 for oil tankers of three lakh tones deadweight,
a =		0.50 for oil tankers of four lakh twenty thousand tones deadweight and above.
		For intermediate values of deadweight, the value of *a* shall be determined by linear interpolation.
O_c =		as defined in clause (a) of sub-para (1) of paragraph 14,
O_s =		as defined in clause (b) of sub-para (1) of paragraph 14,
O_A =		the allowable oil outflow as required by sub-para (2) of paragraph 15.

(15) In the determination of PA_c and PA_s for segregated ballast tanks and spaces other than oil tanks the following shall apply, namely: -

(a) the minimum width of each wing tank or space either of which extends for the full depth of the vessel's side or from the deck to the top of the double bottom shall be not less than 2m and the width shall be measured inboard from the vessel's side at right angles to the centerline and where a lesser width is provided, the wing tank or space shall not be taken into account when calculating the protecting area PA_c; and

(b) the minimum vertical depth of each double bottom tank or space, shall be B/15 or 2m, whichever is the lesser and where a lesser depth is provided, the bottom tank or space shall not be taken into account when calculating the protecting area PA_s:

Provided that the minimum width and depth of wing tanks and double bottom tanks shall be measured clear of the bilge area, and in the case of minimum width, shall be measured clear of any rounded gunwale area.

8. Double Hull and Double Bottom requirements for Oil Tankers delivered on or after 6th July, 1996. —

(1) This rule shall apply to oil tankers of six hundred tones deadweight and above delivered on or after 6th July, 1996, as defined clause (ll) of rule 2.

(2) Every oil tanker of five thousand tones deadweight and above shall-

(a) in lieu of sub paragraph (12) to (15) of paragraph 7 of the schedule, as applicable, comply with the requirements of sub paragraph (3), unless it is subject to the provisions of sub-para (4) and (5); and

(b) comply, if applicable, with the requirements of sub paragraph (6) of paragraph 17.7 of the schedule.

(3) The entire cargo tank length shall be protected by ballast tanks or spaces other than carry oil as follows, namely:-

(a) Wing tanks or spaces shall extend either for the full depth of the vessel's side or from the top of the double bottom to the uppermost deck, disregarding a rounded gunwale where fitted. They shall be arranged in such a way that the cargo tanks are located inboard of the moulded line of the side shell plating, nowhere less than the distance w, which, as shown in figure 1, is measured at any cross-section at right angles to the side shell, as specified below:

$$w = \{ 0.5 + DW / 20,000 \}(m) \text{ or}$$

$$w = 2.0 \text{ m, whichever is the lesser.}$$

The minimum value of w = 1.0 m;

(b) at any cross-section, the depth of each double bottom tank or space shall be such that distance h between the bottom of the cargo tanks and the moulded line

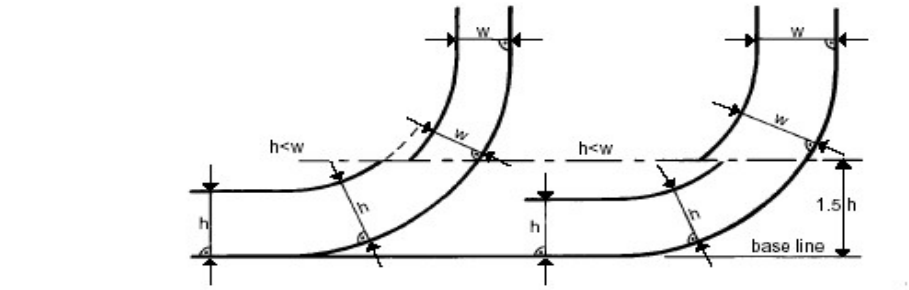
of the bottom shell plating measured at right angles to the bottom shell plating as shown in figure 1 is not less than specified below:

h = B/15 (m) or

h = 2.0 m, whichever is the lesser.

The minimum value of h = 1.0 m;

(c) when the distance h and w are different, the distance w shall have preference at levels exceeding 1.5h above the baseline as shown in figure 1;



Cargo tank boundary lines

Figure 1 – cargo tank boundary lines for the purpose of sub-para (3)

(d) On crude oil tankers of twenty thousand tones deadweight and above and product carriers of thirty thousand tones deadweight and above, the aggregate capacity of wing tanks, double bottom tanks, forepeak tanks and after peak tanks shall not be less than the capacity of segregated ballast tanks necessary to meet the requirements of paragraph 7 and Wing tanks or spaces and double bottom tanks used to meet the requirements of paragraph 7{regulation 18} shall be located as uniformly as practicable along the cargo tank length and Additional segregated ballast capacity provided for reducing longitudinal hull girder bending stress, trim, etc., may be located anywhere within the vessel;

(e) Suction wells in cargo tanks may protrude into the double bottom below the boundary line defined by the distance h provided that such wells are as small as practicable and the distance between the well bottom and bottom shell plating is not less than 0.5h;

(f) Ballast piping and other piping such as sounding and vent piping to ballast tanks shall not pass through cargo tanks and Cargo piping and similar piping to cargo tanks shall not pass through ballast tanks:

Provided that the Central Government exempt the same for short lengths of piping, if they are completely welded or equivalent.

(4) The following applies for double bottom tanks or spaces, namely: -

(a) double bottom tanks or spaces as required by clause (b) of sub paragraph (3) may be dispensed with, provided that the design of the tanker is such that the cargo and vapour pressure exerted on the bottom shell plating forming a single boundary between the cargo and the sea does not exceed the external hydrostatic water pressure, as expressed by the following formula:

$$f \times h_c \times \rho_c \times g + p \leq d_n \times \rho_s \times g$$

where :

h_c = height of cargo in contact with the bottom shell plating in metres

ρ_c = maximum cargo density in tonnes/cubic metre

d_n = minimum operating draught under any expected loading condition in metres

ρ_s = density of seawater in kg / m^3

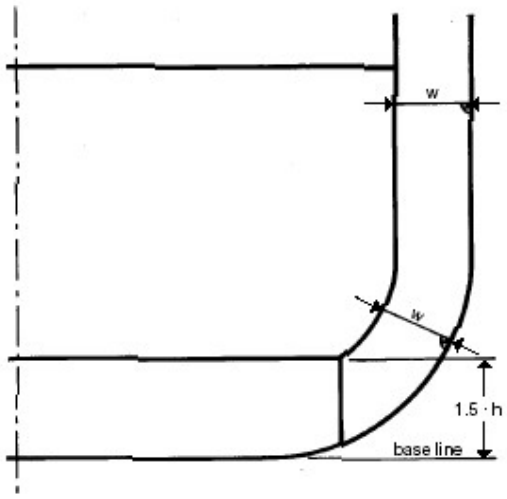
p = maximum set pressure above atmospheric pressure (gauge pressure) of pressure/vacuum / valve provided for the cargo tank in bars

f = safety factor = 1.1

g = standard acceleration of gravity (9.81 metres/sec^2);

(b) any horizontal partition necessary to fulfill the above requirements shall be located at a height not less than B/6 or 6m, whichever is the lesser, but not more than 0.6D, above the baseline where D is the moulded depth amidships;

(c) the location of wing tanks or spaces shall be as defined in clause (a) of sub paragraph (3) except that, below a level 1.5h above the baseline where h is as defined in clause (b) of sub paragraph (3), the cargo tank boundary line may be vertical down to the bottom plating, as shown in figure 2.



Cargo tank boundary lines

Figure 2 – Cargo tank boundary lines for the purpose of sub-para (4)

(5) Other methods of design and construction of oil tankers may also be accepted as alternatives to the requirements prescribed in sub-para (3), provided that such methods ensure at least the same level of protection against oil pollution in the event of collision or stranding and are approved in principle by the Marine Environment Protection Committee based on guidelines developed by the Organization.

(6) Every oil tanker of less than five thousand tonnes deadweight shall comply with sub paragraph (3) and (4), or shall-

(a) at least be fitted with double bottom tanks or spaces having such a depth that the distance h specified in clause (b) of sub paragraph (3) complies with the following:

h = B/15(m)

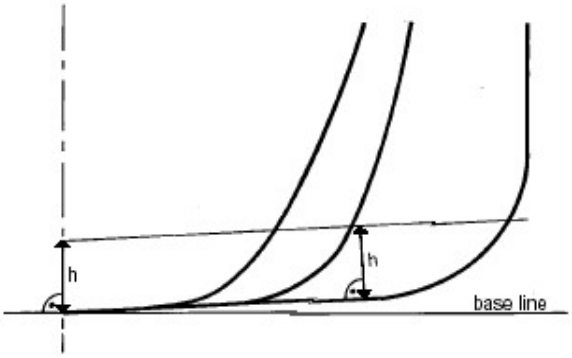
with a minimum value of h = 0.76 m;

in the turn of the bilge area and at locations without a clearly defined turn of the bilge, the cargo tank boundary line shall run parallel to the line of the midship flat bottom as shown in figure 3; and

(b) be provided with cargo tanks so arranged that the capacity of each cargo tank does not exceed 700m^3 unless wing tanks or spaces are arranged in accordance with clause (a) of sub paragraph (3), complying with the following:

w = { 0.4 + 2.4 DWT/ 20,000 }(m)

with a minimum value of w = 0.76 m.



Cargo tank boundary lines

Figure 3 – Cargo tank boundary lines for the purpose of sub-rule (6)

(7) Oil shall not be carried in any space extending forward of a collision bulkhead located in accordance with regulation II-1/11 of the International Convention for the

Safety of Life at Sea, 1974, as amended and an oil tanker that is not required to have a collision bulkhead in accordance with that regulation shall not carry oil in any space extending forward of the transverse plane perpendicular to the centerline that is located as if it were a collision bulkhead located in accordance with that regulation.

(8) In approving the design and construction of oil tankers to be built in accordance with the provisions of these rules, the Central Government shall have due regard to the general safety aspects, including the need for the maintenance and inspections of wing and double bottom tanks or spaces.

9. Double Hull and Double Bottom requirements for oil tankers delivered before 6th July, 1996 .—

(1) Unless expressly provided otherwise this rule shall-

(a) apply to oil tankers of five thousand tones deadweight and above, which are delivered before 6th July, 1996, as defined in clause (ii) of rule 2; and

(b) not apply to oil tankers complying with para 8 and paragraph 17 in respect of sub para (6) of para 17(7), which are delivered before 6th July, 1996, as defined in clause (ii) of rule 2; and

(c) not apply to oil tankers covered by sub para (1) above which comply with the provisions of clauses (a) and (b) of sub para (3), or sub para (4), or sub para (5), of para 8, except that the requirement for minimum distances between the cargo tank boundaries and the vessel side and bottom plating need not be met in all respects:

Provided that in such event, the side protection distances shall not be less than those specified in the International Bulk Chemical Code for type 2 cargo tank location and the bottom protection distances at centerline shall comply with the provisions of clause (b) of sub para (15) of para 7.

(2) For the purpose of this rule.—

(a) Heavy diesel oil means diesel oil other than those distillates of which more than fifty per cent. by volume distils at a temperature not exceeding 340ºC when tested by the American Society for Testing and Materials' Standard Test Method (Designation D86) or equivalent method acceptable to the Organisation.

(b) Fuel oil means heavy distillates or residues from crude oil or blends of such materials intended for use as a fuel for the production of heat or power of a quality equivalent or heavier than the American Society for Testing and Materials' Specification for Number Four Fuel Oil (Designation D396) acceptable to the Organisation.

(3) For the purpose of this rule, oil tankers are divided into the following categories, namely:-

(a) Category 1 oil tanker means an oil tanker of twenty thousand tones deadweight and above carrying crude oil, fuel oil, heavy diesel oil or lubricating oil as cargo, and of thirty thousand tones deadweight and above carrying oil other than the above, which does not comply with the requirements for oil tankers delivered after 1st June, 1982, as defined in clause (hh) of rule 2;

(b) Category 2 oil tanker means an oil tanker of twenty thousand tones deadweight and above carrying crude oil, fuel oil, heavy diesel oil or lubricating oil as cargo, and of thirty thousand tones deadweight and above carrying oil other than the above, which complies with the requirements for oil tankers delivered after 1st June, 1982, as defined in clause (hh) of rule 2; and

(c) Category 3 oil tanker means an oil tanker of five thousand tones deadweight and above but less than that specified in clauses (a) and (b).

(4) An oil tanker to which this rule applies shall comply with the requirements of sub para (2) to (5), (7) and (8) of para 8 and para 17.7 in respect of sub para (6) thereof

not later than 5th April, 2005 or the anniversary of the date of delivery of the vessel on the date or in the year specified in the following table. —

Category of oil tanker	Date or year
Category 1	5th April, 2005 for vessels delivered on 5th April, 1982 or earlier 2005 for vessels delivered after 5th April, 1982
Category 2 and Category 3	5th April, 2005 for vessels delivered on 5th April, 1977 or earlier 2005 for vessels delivered after 5th April, 1977 but before 1st January, 1978 2006 for vessels delivered in 1978 and 1979 2007 for vessels delivered in 1980 and 1981 2008 for vessels delivered in 1982 2009 for vessels delivered in 1983 2010 for vessels delivered in 1984 or later

(5) Notwithstanding anything contained in sub para (4), in the case of a Category 2 or 3 oil tanker fitted with only double bottoms or double sides not used for the carriage of oil and extending to the entire cargo tank length or double hull spaces which are not used for the carriage of oil and extend to the entire cargo tank length, but which does not fulfill conditions for being exempted from the provisions of clause (c) of sub para (1), the Central Government may allow continued operation of such a vessel beyond the date specified in sub para (4):

Provided that-

(a) the vessel was in service on 1st July, 2001;

(b) the Central Government is satisfied by verification of the official records that the vessel complied with the conditions specified above;

(c) the conditions of the vessel specified above remain unchanged; and

(d) such continued operation does not go beyond the date on which the vessel reaches twenty-five years after the date of its delivery.

(6) A Category 2 or 3 oil tanker of fifteen years and over after the date of its delivery shall comply with the Condition Assessment Scheme adopted by the Central Government.

(7) The Central Government may allow continued operation of a Category 2 or 3 oil tanker beyond the date specified in sub para (4), if satisfactory results of the Condition Assessment Scheme warrant that, in the opinion of the Central Government, the vessel is fit to continue such operation:

Provided that the operation shall not go beyond the anniversary of the date of delivery of the vessel in 2015 or the date on which the vessel reaches twenty-five years after the date of its delivery, whichever is early.

(8) The Central Government -

(a) which allows the application of sub para (5), or allows, suspends, withdraws or declines the application of sub para (7), to a vessel entitled to fly its flag, shall forthwith communicate to the Organization for circulation to the State Parties, particulars thereof, for their information and appropriate action, if any;

(b) shall be entitled to deny entry of oil tankers, operating in accordance with the provisions of sub para (5) beyond the anniversary of the date of delivery of the vessel in 2015, or sub para (7), into the ports or offshore terminals under its jurisdiction:

Provided that in such cases, the Central Government shall communicate to the Organization for circulation to the State Parties particulars thereof, for their information.

10. Prevention of oil Pollution from oil tankers carrying heavy grade oil as cargo.—

(1) This Rule shall-

(a) apply to oil tankers of six hundred tones deadweight and above carrying heavy grade oil as cargo regardless of the date of delivery; and

(b) not apply to oil tankers covered by clause (a) above which comply with clauses (a) and (b) of sub para (3) or sub para (4) or sub para (5) of rule para 8 of the schedule, except that the requirement for minimum distances between the cargo tank boundaries and the vessel side and bottom plating need not be met in all respects and in that event, the side protection distances shall not be less than those specified in the International Bulk Chemical Code for “Type 2” cargo tank location and the bottom protection distances at centerline shall comply with clause (b) of sub para (15) of para 7.

(2) For the purpose of this rule, ‘heavy grade oil’ means any of the following, namely :-

(a) crude oils having a density at 15º C higher than 900 kg/m³;

(b) oils other than crude oils, having either a density at 15º C higher than 900 Kg/m³; or a kinematic viscosity at 50º C higher than 180 mm²/s; or

(c) bitumen, tar and their emulsions.

(3) An oil tanker to which this rule applies shall comply with the provisions of sub para (4) to (8) in addition to complying with the applicable provisions of para 9.

(4) Subject to the provisions of sub para (5), (6) and (7), an oil tanker to which this rule applies shall,-

(a) if of five thousand tonnes deadweight and above, comply with the requirements of rule para 19 not later than 5th April, 2005; or

(b) if of six hundred tonnes deadweight and above but less than five thousand tonnes deadweight, be fitted with both double bottom tanks or spaces complying with the provisions of clause (a) of sub para (6) of para 8, and wing tanks or spaces arranged in accordance with clause (a) of sub para (3) of para 8 and complying with the requirement for distance "w" as referred to in clause (b) of sub para (6) of para 8, not later than the anniversary of the date of delivery of the vessel in the year 2008.

(5) In the case of an oil tanker of five thousand tones deadweight and above, carrying heavy grade oil as cargo fitted with only double bottoms or double sides not used for the carriage of oil and extending to the entire cargo tank length or double hull spaces which are not used for the carriage of oil and extend to the entire cargo tank length, but which does not fulfill conditions for being exempted from the provisions of clause (b) of sub para (1) of this rule, the Central Government may allow continued operation of such a vessel beyond the date specified in sub para (4) of this rule:

Provided that-

(a) the vessel was in service on 4th December, 2003;

(b) the Central Government is satisfied by verification of the official records that the vessel complied with the conditions specified above;

(c) the conditions of the vessel specified above remain unchanged; and

(d) such continued operation does not go beyond the date on which the vessel reaches 25 years after the date of its delivery.

(6) The Central Government may-

(a) allow continued operation of an oil tanker of five thousand tones deadweight and above, carrying crude oil having a density at 15º C higher than 900 Kg/m³ but lower than 945 kg/ m³, beyond the date specified in clause (a) of sub para (4) of this paragraph, if satisfactory results of the Condition Assessment Scheme referred to in sub para (6) of this para warrant that, in the opinion of the Central Government, the vessel is fit to continue such operation, having regard to the size, age, operational area and structural conditions of the vessel and provided that the operation shall not go beyond the date on which the vessel reaches twenty-five years after the date of its delivery.

(b) The Central Government may allow continued operation of an oil tanker of 600 tones deadweight and above but less than five thousand tones deadweight, carrying heavy grade oil as cargo, beyond the date specified in clause (b) of sub para (4) of para 10, if in the opinion of the Central Government, the vessel is fit to continue such operation, having regard to the size, age, operational area and structural conditions of the vessel, provided that the operation shall not go beyond the date on which the vessel reaches twenty-five years after the date of its delivery.

(7) The Central Government may exempt an oil tanker of six hundred tones deadweight and above carrying heavy grade oil as cargo from the provisions of this rule, if the oil tanker is -

(a) either engaged in voyages exclusively within an area under its jurisdiction, or operates as a floating storage unit of heavy grade oil located within an area under its jurisdiction; or

(b) either engaged in voyages exclusively within an area under the jurisdiction of another State Party, or operates as a floating storage unit of heavy grade oil located within an area under the jurisdiction of another State Party:

Provided that the State Party within whose jurisdiction the oil tanker will be operating agrees to the operation of the oil tanker within an area under its jurisdiction.

(8) The Central Government shall, –

(a) if it allows, suspends, withdraws or declines the application of sub para (5), (6) or (7) of this paragraph to a vessel entitled to fly its flag, forth with communicate to the Organization for circulation to the State Parties particulars thereof, for their information and appropriate action, if any.

(b) subject to the provisions of International law, be entitled to deny entry of oil tankers, operating in accordance with the provisions of sub para (5), (6) or (7) of this paragraph, into the ports or offshore terminals under its jurisdiction, or deny vessel-to-vessel transfer of heavy grade oil in areas under its jurisdiction, except when it is necessary, for the purpose of securing the safety of a vessel, or saving life at sea and in such cases, it shall communicate to the Organisation for circulation to the Parties particulars thereof, for their information.

11.Pump-room Bottom Protection. —

(1) This rule applies to oil tankers of five thousand tones deadweight and above constructed on or after 1st January, 2007.

(2) The pump room shall be provided with a double bottom such that at any cross-section the depth of each double bottom tank or space shall be such that the distance h between the bottom of the pump-room and the vessel's baseline measured at right angles to the vessel's baseline is not less than specified below:

h = B/15(m) or

h = 2m, whichever is the lesser.

The minimum value of h = 1m.

(3) In case of pump-rooms whose bottom plate is located above the baseline by at least the minimum height required in sub para (2) of this rule (e.g., gondola stern design), there shall be no need for a double bottom construction in way of the pump-room.

(4) Ballast pumps shall be provided with suitable arrangements to ensure efficient suction from double bottom tanks.

(5) Notwithstanding the provisions of sub para (2) and (3) above, where the flooding of the pump-room would not render the ballast or cargo pumping system inoperative, a double bottom need not be fitted.

12. Accidental oil outflow performance. —

(1) This rule shall apply to oil tankers delivered on or after 1st January, 2010, as defined in clause (kk) of rule 2.

(2) For the purpose of this rule, -

(a) 'Load line draught (d_s)' is the vertical distance, in metres, from the moulded baseline at mid-length to the waterline corresponding to the summer freeboard to be assigned to the vessel and calculations pertaining to this rule shall be based on draught d_s, notwithstanding assigned draughts that may exceed d_s, such as the topical load line.

(b) Waterline (d_B) is the vertical distance, in metres, from the moulded baseline at mid-length to the waterline corresponding to 30% of the depth D_s.

(c) Breadth (B_s) is the greatest moulded breadth of the vessel, in metres, at or below the deepest load line draught d_s.

(c) Breadth (B_B) is the greatest moulded breadth of the vessel, in metres, at or below the waterline d_B.

(d) Depth (D_s) is the moulded depth, in metres, measured at mid length to the upper deck at side.

(e) Deadweight (DWT) and length (L) are respectively defined in clauses (16) and (26) of rule 1A.

(3) To provide adequate protection against oil pollution in the event of collision or stranding, the following shall be complied with. —

(a) For oil tankers of 5,000 tones deadweight and above, the mean oil outflow parameter shall be -

$O_M \leq 0.015$ for $C \leq 200{,}000\ m^3$

$O_M \leq 0.012 + (0.003/200{,}000)\ (400{,}000 - C)$ for $200{,}000\ m^3 < C < 400{,}000\ m^3$

$O_M \leq 0.012$ for $C \geq 400{,}000\ m^3$:

(a) for combination carriers between 5,000 tones deadweight and 200,000 m³ capacity, the mean oil outflow parameter may be applied, provided calculations are submitted to the satisfaction of the Central Government, demonstrating that, after accounting for its increased structural strength, the combination carrier has at least equivalent oil outflow performance to a standard double hull tanker of the same size having a $O_M \leq 0.015$.

$O_M \leq 0.021$ for $C \leq 100{,}000\ m^3$

$O_M \leq 0.015 + (0.006/100{,}000)\ (200{,}000 - C)$ for $100{,}000\ m^3 < C \leq 200{,}000\ m^3$

where:

O_M = mean oil outflow parameter

C = total volume of cargo oil, in m³, at 98% tank filling;

(b) for oil tankers of less than 5,000 tones deadweight, the length of each cargo tank shall not exceed 10m or one of the following values, whichever is the greater:

(i) where no longitudinal bulkhead is provided inside the cargo tanks:

(0.5 bi /B + 0.1) L, but not to exceed 0.2L

(ii) where a centerline longitudinal bulkhead is provided inside the cargo tanks:

(0.25 bi /B + 0.15) L

(iii) where two or more longitudinal bulkheads are provided inside the cargo tanks:

(A) for wing cargo tanks: 0.2L

(B) for centre cargo tanks:

(I) if b_i /B ≥ 0.2L: 0.2L

(II) if b_i /B < 0.2L:

(i) where no centerline longitudinal bulkhead is provided-

(0.5 b_i /B + 0.1) L

(ii) where no centerline longitudinal bulkhead is provided-

(0.25 b_i /B + 0.15) L

Explanation. - 'b_i' is the minimum distance from the vessel's side to the outer longitudinal bulkhead of the tank in question measured inboard at right angles to the centerline at the level corresponding to the assigned summer freeboard.

(4) The following general assumptions shall apply when calculating the mean oil outflow parameter, namely: -

(a) the cargo block length extends between the forward and aft extremities of all tanks arranged for the carriage of cargo oil, including slop tanks;

(b) where this rule refers to cargo tanks, it shall be understood to include all cargo tanks, slop tanks and fuel tanks located within the cargo block length;

(c) the vessel shall be assumed loaded to the load line draught d_S without trim or heel;

(d) all cargo oil tanks shall be assumed loaded to ninety-eight per cent. of their volumetric capacity and the nominal density of the cargo oil (ρ_n) shall be calculated as follow:

ρ_n = 1000(DWT)/C (kg/ m^3);

(e) for the purposes of the outflow calculations, the permeability of each space within the cargo block, including cargo tanks, ballast tanks and other non-oil spaces, shall be taken as 0.99, unless proven otherwise;

(f) suction wells may be neglected in the determination of tank location provided that such wells are as small as practicable and the distance between the well bottom and bottom shell plating is not less than 0.5h, where h is the height as defined in clause (b) of sub para (3) of para 8.

(5) The following assumptions shall be used when combining the oil outflow parameters, namely:-

(a) the mean oil outflow shall be calculated independently for side damage and for bottom damage and then combined into the non-dimensional oil outflow parameter O_M, as follows:

$O_M = (0.4O_{MS} + 0.6O_{MB})/C$

where:

O_{MS} = mean outflow for side damage, in m^3; and

O_{MB} = mean outflow for bottom damage, in m^3;

(b) for bottom damage, independent calculations for mean outflow shall be done for

0 m and minus 2.5 m tide conditions, and then combined as follows:

$O_{MB} = 0.7O_{MS(0)} + 0.3O_{MB\ (2.5)}$

where :

O_{MB} (0) = mean outflow for 0 m tide condition; and

$O_{MB\ (2.5)}$ = mean outflow for minus 2.5 m tide condition, in m^3.

(6) The mean outflow for side damage O_{MS} shall be calculated as follows.—

$$O_{MS} = C3 \sum_{i}^{n} P_{S(i)} O_{S(i)} \quad (m^3)$$

where:

i =	represents each cargo tank under consideration;
n =	total number of cargo tanks;
$P_{S(i)}$ =	the probability of penetrating cargo tank I from side damage, calculated in accordance with clause (a) of sub para (8) of this rule
$O_{S(i)}$=	the outflow, in m^3, from side damage to cargo tank i, which is assumed equal to the total volume in cargo tank i at 98% filling, unless it is proven through the application of the Guidelines referred to in sub para (5) of para 19 that any significant cargo volume will be retained; and
C_3 =	0.77 for vessels having two longitudinal bulkheads inside the cargo tanks, provided these bulkheads are continuous over the cargo block and $P_{S(i)}$ is developed in accordance with this Rule. C_3 equals 1.0 for all other vessels or when $P_{S(i)}$ is developed in accordance with sub-rule sub para (10) of this para.

(7) The mean outflow for bottom damage shall be calculated for each tidal condition as follows.—

(a) $O_{MB(0)} = \sum_{i}^{n} P_{B(i)} O_{B(i)} C_{DB(i)}$ (m^3)

where:

i	Represents each cargo tank under consideration;
n =	The total number of cargo tanks;
$P_{B(i)}$ =	The probability of penetrating cargo tank i from bottom damage, calculated in accordance with clause (a) of sub para (9);
$O_{B(i)}$ =	The outflow from cargo tank i, in m^3, calculated in accordance with clause (c) of sub para (7) of para 23; and
$C_{DB(i)}$ =	Factor to account for oil capture as defined in clause (d) of sub para (7) of para 23.

(b) $O_{MB(2.5)} = \sum_{i}^{n} P_{B(i)} O_{B(i)} C_{DB(i)}$ (m^3)

where:

i, n, $P_{B(i)}$ and $C_{DB(i)}$ = as defined in clause (a) above;

$O_{B(i)}$ = the outflow from cargo tank i, in m3 after tidal change.

(c) The oil outflow $O_{B(i)}$ for each cargo oil tank shall be calculated based on pressure-balance principles, in accordance with the following assumptions, namely:-

(i) the vessel shall be assumed stranded with zero trim and heel, with the stranded draught prior to tidal change equal to the load line draught d_S;

(ii) the cargo level after damage shall be calculated as follows:

$h_c = \{(d_S + t_c – Z_1)(\rho s) – (1000p)/g\}/\rho_n$,

where :

h_c =	The height of the cargo oil above Z_1, in metres;
t_c =	The tidal change, in metres. Reductions in tide shall be expressed as negative values;
Z_1 =	The height of the lowest point in the cargo tank above baseline, in metres;
ρ_s =	Density of seawater, to be taken as 1000 kg/m^3;
p =	If an inert gas system is fitted, the normal overpressure, in kilopascals, to be taken as not less than 5 kPa; if an inert gas system is not fitted, the overpressure may be taken as 0;
g =	The acceleration due to gravity, to be taken as 9.81 m/s^2; and
ρ_n =	Nominal density of cargo oil, calculated in accordance with clause (d) of sub para (4) of this para;

(iii) for cargo tanks bounded by the bottom shell, unless proven otherwise, oil outflow $O_{B(i)}$ shall be taken not less than 1% of the total volume of cargo oil loaded in cargo tank i, to account for initial exchange losses and dynamic effects due to current and waves.

(d) In the case of bottom damage, a portion from the outflow from a cargo tank may be captured by non-oil compartments and this effect is approximated by application of the factor $C_{DB(i)}$, for each tank, which shall be taken as follows,-

$C_{DB(i)}$ =	0.6 for cargo tanks bounded from below by non-oil compartments
$C_{DB(i)}$ =	1.0 for cargo tanks bounded by the bottom shell.

(8) The probability PS of breaching a compartment from side damage shall be calculated as follows.—

(a) $P_S = P_{SL}\ P_{SV}\ P_{ST}$

where:

$P_{SL} = 1 - P_{Sf} - P_{Sa}$ =	Probability the damage will extend into the longitudinal zone bounded by X_a and X_f,
$P_{SV} = 1 - P_{Su} - P_{Sl}$ =	Probability the damage will extend into the vertical zone bounded by Z_l and Z_u; and
$P_{SL} = 1 - P_{Sy}$ =	Probability the damage will extend transversely beyond the boundary defined by y;

(b) P_{Sa}, P_{Sf},, P_{Sl}, P_{Su} and P_{Sy} shall be determined by linear interpolation from the tables of probabilities for side damage provided in clause (c) of sub para (8) of this para, where-

P_{Sa} =	the probability the damage will lie entirely aft of location X_a/L;
P_{Sf} =	The probability the damage will lie entirely forward of location X_f/L

P_{Sl} =	The probability the damage will lie entirely below the tank;
P_{Su} =	The probability the damage will lie entirely above the tank; and
P_{Sy} =	The probability the damage will lie entirely outboard of the tank.

and compartment boundaries X_a, X_f, Z_l, Z_u and y shall be developed as follows, namely:-

X_a =	The longitudinal distance from the aft terminal of L to the aftmost point on the compartment being considered, in metres;
X_f =	The longitudinal distance from the aft terminal of L to the foremost point on the compartment being considered, in metres;
Z_1 =	The vertical distance from the moulded baseline to the lowest point on the compartment being considered, in metres;
Z_u =	The vertical distance from the moulded baseline to the highest point on the compartment being considered, in metres, Zu is not to be taken greater than DS; and
y =	The minimum horizontal distance measured at right angles to the centerline between the compartment under consideration and the side shell, in metres;

(c) Table of probabilities for side damage-

X_a /L	P_{Sa}		X_f/ L	P_{Sf}		Z_l / D_S	P_{Sl}		Z_u / D_S	P_{Su}

0.	0.0	0.	0.9	0.	0.0	0.	0.9
00	00	00	67	00	00	00	68
0.	0.0	0.	0.9	0.	0.0	0.	0.9
05	23	05	17	05	00	05	52
0.	0.0	0.	0.8	0.	0.0	0.	0.9
10	68	10	67	10	01	10	31
0.	0.1	0.	0.8	0.	0.0	0.	0.9
15	17	15	17	15	03	15	05
0.	0.1	0.	0.7	0.	0.0	0.	0.8
20	67	20	67	20	07	20	73
0.	0.2	0.	0.7	0.	0.0	0.	0.8
25	17	25	17	25	13	25	36
0.	0.2	0.	0.6	0.	0.0	0.	0.7
30	67	30	67	30	21	30	89
0.	0.3	0.	0.6	0.	0.0	0.	0.7
35	17	35	17	35	34	35	33
0.	0.3	0.	0.5	0.	0.0	0.	0.6
40	67	40	67	40	55	40	70
0.	0.4	0.	0.5	0.	0.0	0.	0.5
45	17	45	17	45	85	45	99
0.	0.4	0.	0.4	0.	0.1	0.	0.5
50	67	50	67	50	23	50	25
0.	0.5	0.	0.4	0.	0.1	0.	0.4
55	17	55	17	55	72	55	52
0.	0.5	0.	0.3	0.	0.2	0.	0.3
60	67	60	67	60	26	60	83
0.	0.6	0.	0.3	0.	0.2	0.	0.3
65	17	65	17	65	85	65	17
0.	0.6	0.	0.2	0.	0.3	0.	0.2
70	67	70	67	70	47	70	55
0.	0.7	0.	0.2	0.	0.4	0.	0.1
75	17	75	17	75	13	75	97

0.80	0.767	0.80	0.167	0.80	0.482	0.80	0.143
0.85	0.817	0.85	0.117	0.85	0.553	0.85	0.092
0.90	0.867	0.90	0.068	0.90	0.626	0.90	0.046
0.95	0.917	0.95	0.023	0.95	0.700	0.95	0.013
1.00	0.967	1.00	0.000	1.00	0.775	1.00	0.000

Note: P_{Sy} shall be calculated as follows.—

$P_{Sy} = (24.96 – 199.6y / B_S) (y/B_S)$ for $y/B_S < 0.05$

$P_{Sy} = 0.749 + \{5 - 44.4(y/B_S – 0.05)\} (y/B_S – 0.05)$ for $0.05 < y/B_S < 0.1$

$P_{Sy} = 0.888 + 0.56(y/B_S – 0.1)$ for $y/B_S > 0.1$

PSy shall not be taken greater than 1.

(9) The probability P_B of breaching a compartment from bottom damage shall be calculated as follows.—

(a) $P_B = P_{BL} P_{BT} P_{BV}$

where:

$P_{BL} = 1 - P_{Bf} - P_{Ba}$	Probability the damage will extend into the longitudinal zone bounded by X_a and X_f,
$P_{BL} = 1 - P_{Bp} - P_{Bs}$	Probability the damage will extend into the transverse zone bounded by Y_p and Y_s; and

$P_{BV} = 1 - P_{Bz}$	Probability the damage will extend vertically above the boundary defined by z.

(b) P_{Ba}, P_{Bf}, P_{Bs} and P_{Bz} shall be determined by linear interpolation from the tables of probabilities for bottom damage provided in clause (c) of sub-para (9) of this para, where-

P_{Ba} =	The probability the damage will lie entirely aft of location X_a / L;
P_{Bf} =	The probability the damage will lie entirely forward of location X_f / L;
P_{Bp} =	The probability the damage will lie entirely to port of the tank;
P_{Bs} =	The probability the damage will lie entirely to starboard of the tank; and
P_{Bz} =	The probability the damage will lie entirely below the tank.

Compartment boundaries X_a, X_f, Y_p, Y_s, and z shall be developed as follows.—

X_a, X_f are as defined in clause (b) of sub-para (8) of this para;

Y_p=	The transverse distance from the port-most point on the compartment located at or below the waterline d_B, to a vertical plane located $B_B/2$ to starboard of the vessel's centerline, in metres;
Y_s=	The transverse distance from the starboard-most point on the compartment located at or below the waterline d_B, to a vertical plane

	located $B_B/2$ to starboard of the vessel's centerline, in metres; and
z =	The minimum value of z over the length of the compartment, where, at any given longitudinal location, z is the vertical distance from the lower point of the bottom shell at that longitudinal location to the lower point of the compartment at that longitudinal location, in meter.

(c) Tables of probabilities for bottom damage

X_a/L	P_{Ba}		X_f/L	P_{Bf}		Y_p/B_B	P_{Bp}		Y_s/B_B	P_{Bs}
0.000 0.005 0.010 0.015 0.020	0.000 0.002 0.008 0.017 0.029		0.000 0.005 0.010 0.015 0.020	0.969 0.953 0.936 0.916 0.894		0.000 0.050 0.100 0.150 0.200 0.250 0.300 0.350	0.844 0.794 0.744 0.694 0.644		0.000 0.005 0.010 0.015 0.020	0.000 0.009 0.032 0.063 0.097

0.	0.	0.	0.	0.	0.	0.	0.
2	04	2	87	40	59	2	13
5	2	5	0	0.	4	5	3
0.	0.	0.	0.	45	0.	0.	0.
3	05	3	84	0.	54	3	17
0	8	0	2	50	4	0	1
0.	0.	0.	0.	0.	0.	0.	0.
3	07	3	81	55	49	3	21
5	6	5	0	0.	4	5	1
0.	0.	0.	0.	60	0.	0.	0.
4	09	4	77	0.	44	4	25
0	6	0	5	65	4	0	3
0.	0.	0.	0.	0.	0.	0.	0.
4	11	4	73	70	39	4	29
5	9	5	4	0.	4	5	7
0.	0.	0.	0.	75	0.	0.	0.
5	14	5	68	0.	34	5	34
0	3	0	7	80	4	0	4
0.	0.	0.	0.	0.	0.	0.	0.
5	17	5	63	85	29	5	39
5	1	5	0	0.	7	5	4
0.	0.	0.	0.	90	0.	0.	0.
6	20	6	56	0.	25	6	44
0	3	0	3	95	3	0	4
0.	0.	0.	0.	1.	0.	0.	0.
6	24	6	48	00	21	6	49
5	2	5	9		1	5	4
0.	0.	0.	0.		0.	0.	0.
7	28	7	41		17	7	54
0	9	0	3		1	0	4
0.	0.	0.	0.		0.	0.	0.
7	34	7	33		13	7	59
5	4	5	3		3	5	4

0. 8 0 0. 8 5 0. 9 0 0. 9 5 1. 0 0	0. 40 9 0. 48 2 0. 56 5 0. 65 8 0. 76 1		0. 8 0 0. 8 5 0. 9 0 0. 9 5 1. 0 0	0. 25 2 0. 17 0 0. 08 9 0. 02 6 0. 00 0			0. 09 7 0. 06 3 0. 03 2 0. 00 9 0. 00 0		0. 8 0 0. 8 5 0. 9 0 0. 9 5 1. 0 0	0. 64 4 0. 69 4 0. 74 4 0. 79 4 0. 84 4

P_{Bz} shall be calculated as follows.—

$P_{Bz} = (14.5 – 67z / D_S) (z/D_S)$ for $z / D_S \leq 0.1$

$P_{Bz} = 0.78 + 1.1 (z / D_S – 0.1)$ for $z / D_S > 0.1$

P_{Bz} shall not be taken greater than 1.

(10) This paragraph uses a simplified probabilistic approach where a summation is carried out over the contributions to the mean outflow from each cargo tank and for certain designs, such as those characterized by the occurrence of steps/recesses in bulkheads/decks and for sloping bulkheads and/or a pronounced hull curvature, more rigorous calculations may be appropriate and, in such cases, one of the following calculation procedures may be applied, namely:-

(a) the probabilities referred to in sub para (8) and (9) above may be calculated with more precision through application of hypothetical sub-compartments;

(b) the probabilities referred to in sub para (8) and (9) above may be calculated through direct application of the probability density functions contained in the Guidelines referred to in sub para (5) of para 8;

(c) the oil outflow performance may be evaluated in accordance with the method described in the Guidelines referred to in sub para (5) of para 8.

(11) The following provisions regarding piping arrangements shall apply-

(a) Lines of piping that run through cargo tanks in a position less than $0.30B_S$ from the vessel's side or less than $0.30D_S$ from the vessel's bottom shall be fitted with valves or similar closing devices at the point at which they open into any cargo tank and these valves shall be kept closed at sea at any time when the tanks contain cargo oil, except that they may be opened only for cargo transfer needed for essential cargo operations;

(b) credit for reducing oil outflow through the use of an emergency rapid cargo transfer system or other system arranged to mitigate oil outflow in the event of an accident may be taken into account only after the effectiveness and safety aspects of the system are approved by the Central Government and the Organization.

13. Damage Assumptions.—

(1) For the purpose of calculating hypothetical oil outflow from oil tankers in accordance with para 14 and 15, three dimensions of the extent of damage of a parallel piped on the side and bottom of the vessel are assumed as given below and in the case of bottom damages, two conditions are set forth to be applied individually to the stated portions of the oil tanker:

(a) Side damage:

(i)	Longitudinal extent (l_c):	$\frac{1}{3}L^{\frac{2}{3}}$ or 14.5m, whichever is less
(ii)	Transverse extent (t_c) (inboard from the vessel's side at right angles to the	B/5 or 11.5 m, whichever is less

	centerline at the level corresponding to the assigned summer freeboard):	
(iii)	Vertical extent (V_c):	From the baseline upwards without limit

(b) Bottom damage.—

		For 0.3 L from the forward perpendicular of the vessel	Any other part of the vessel
(i)	Longitudinal extent (ls):	L/10	L/10 or 5 m, whichever is less
(ii)	Transverse extent (ts)	B/6 or 10 m, whichever is less than not less than 5m	5m
(iii)	Vertical extent from the baseline (v_s):	B/15 or 6 m, whichever is less	

(2) The symbols given in this rule when appear elsewhere in this chapter, they shall have the meaning as defined in this para.

14. Hypothetical Outflow of Oil.— (1) The hypothetical outflow of oil in the case of side damage (O_c) and bottom damage (O_s) shall be calculated by the following formulae with respect to compartments breached by damage to all conceivable locations along the length of the vessel to the extent as defined in para 13.

(a) For side damages:

$O_c = \sum W_i + \sum K_i C_i$ (I)

(b) For bottom damages:

$O_s = \frac{1}{3} (\sum Z_i W_i + \sum Z_i C_i)$ (II)

where:

W_i =	Volume of a wing tank, in cubic metres, assumed to be breached by the damage as specified in para 13 and W_i for a segregated ballast tank may be taken equal to zero.
C_i =	volume of a centre tank, in cubic metres, assumed to be breached by the damage as specified in para 13; C_i for a segregated ballast tank may be taken equal to zero.
K_i =	$1 - \frac{b_i}{t}$ when bi is equal to or greater than t_c, K_i shall be taken equal to zero.
Z_i =	$1 - \frac{h_i}{v}$ when hi is equal to or greater than v_s, Z_i shall be taken equal to zero.
b_i =	Width of wing tank under consideration, in metres, measured inboard from the vessel's side at right angles to the centerline at the level corresponding to the assigned summer freeboard.
h_i =	minimum depth of the double bottom under consideration, in metres; where no double bottom is fitted, hi shall be taken equal to zero.

Note: The symbols given in this paragraph when appear elsewhere in this chapter, they shall have the meaning as defined in this rule.

(2) If a void space or segregated ballast tank of a length less than l_c, as defined in para 13, is located between wing oil tanks, O_c in formula (I) may be calculated on the basis of volume W_i being the actual volume of one such tank (where they are of equal capacity) or the smaller of the two tanks (if they differ in capacity) adjacent to such space, multiplied by S_i as defined below and taking for all other wing tanks involved in such collision the value of the actual full volume.

$S_i = 1- l_i/l_c$

where l_i = length, in metres, of void space or segregated ballast tank under consideration.

(3) (a) Credit shall only be given in respect of double bottom tanks, which are either empty or carrying clean water when cargo is carried in the tanks above.

(b) Where the double bottom does not extend for the full length and width of the tank involved, the double bottom is considered non-existent and the volume of the tanks above the area of the bottom damage shall be included in formula (II) even if the tank is not considered breached because of the installation of such a partial double bottom.

(c) Suction wells may be neglected in the determination of the value hi provided such wells are not excessive in area and extend below the tank for a minimum distance and in no case more than half the height of the double bottom and if the depth of such a well exceeds half the height of the double bottom, hi shall be taken equal to the double bottom height minus the well height.

(d) Piping serving such wells if installed within the double bottom shall be fitted with valves or other closing arrangements located at the point of connection to the tank served to prevent oil outflow in the event of damage to the piping. Such piping

shall be installed as high from the bottom shell as possible and these valves shall be kept closed at sea at any time when the tank contains oil cargo, except that they may be opened only for cargo transfer needed for the purpose of trimming of the vessel.

(4) In the case where bottom damage simultaneously involves four centre tanks, the value of Os may be calculated according to the formula:

$$O_s = ¼ (\sum Z_i W_i + \sum Z_i C_i) \qquad \text{(III)}$$

(5) The Central Government may credit as reducing oil outflow in case of bottom damage, an installed cargo transfer system having an emergency high suction in each cargo oil tank, capable of transferring from a breached tank or tanks to segregated ballast tanks or to available cargo tankage if it can be assured that such tanks will have sufficient ullage:

Provided that the credit for such a system would be governed by ability to transfer in two hours of operation oil equal to one half of the largest of the breached tanks involved and by availability of equivalent receiving capacity in ballast or cargo tanks:

Provided further that such credit shall be confined to permitting calculation of O_s according to formula (III):

Provided also that the pipes for such suctions shall be installed at least at a height not less than the vertical extent of the bottom damage V_S:

Provided also that the Central Government shall supply the Organization with the information concerning the arrangements accepted by it, for circulation to other State Parties.

(6) This rule does not apply to oil tankers delivered on or after 1st January, 2010, as defined in sub-rule (kk) of rule 2.

15. Limitations of Size and Arrangement of Cargo Tanks. —

(1) Subject to the provisions of sub para (7) below, -

(a) every oil tanker of one hundred and fifty gross tonnage and above delivered after 31st December, 1979, as defined in sub-rule (ddd) of rule 2; and

(b) every oil tanker of one hundred and fifty gross tonnage and above delivered on or before 31st December, 1979, as defined in sub-rule (eee) of rule 2,

which fall into either of the following categories, namely: -

(i) a tanker, the delivery of which is after 1st January, 1977, or

(ii) a tanker to which both the following conditions apply:

(A) delivery is not later than 1st January, 1977; and

(B) the building contract is placed after 1st January, 1974, or in cases where no building contract has previously been placed, the keel is laid or the tanker is at a similar stage of construction after 30th June, 1974, shall comply with the provisions of this rule.

(2) Cargo tanks of oil tankers shall be of such size and arrangements that the hypothetical outflow O_c or O_s calculated in accordance with the provisions of para 14 anywhere in the length of the vessel does not exceed 30,000 cubic metres or 400 (DWT)1/3, whichever is the greater, but subject to a maximum of 40,000 cubic metres.

(3) The volume of any one wing cargo oil tank of an oil tanker shall not exceed seventy-five per cent. of the limits of the hypothetical oil outflow referred to in sub para (2) and the volume of any one centre cargo oil tank shall not exceed 50,000 cubic metres:

Provided that in segregated ballast oil tankers as defined in paragraph 7, the permitted volume of a wing cargo oil tank situated between two segregated ballast tanks, each exceeding lc in length may be increased to the maximum limit of hypothetical oil outflow if the width of the wing tanks exceeds t_c.

(4) The length of each cargo tank, shall not exceed 10 m or one of the following values, whichever is the greater.—

(a) where no longitudinal bulkhead is provided inside the cargo tanks:

$(0.5\ b_i/B + 0.1)\ L$ but not to exceed 0.2L

(b) where a centerline longitudinal bulkhead is provided inside the cargo tanks:

(0.25 b_i/B + 0.15) L

(c) Where two or more longitudinal bulkheads are provided inside the cargo tanks.—

(i) for wing cargo tanks: 0.2L

(ii) for centre cargo tanks.—

(A) if b_i/B is equal to or greater than one fifth: 0.2L

(B) if b_i/B is less than one fifth.—

(I) where no centerline longitudinal bulkhead is provided:

(0.5 b_i/B + 0.1) L

(II) where a centerline longitudinal bulkhead is provided:

(0.25 b_i/B + 0.15) L

where bi is the minimum distance from the vessel's side to the outer longitudinal bulkhead of the tank in question measured inboard at right angles to the centerline at the level corresponding to the assigned summer freeboard.

(5) In order not to exceed the volume limits established by sub para (2), (3) and (4) and irrespective of the accepted type of cargo transfer system installed, when such system interconnects two or more separating the tanks from each other. These valves or devices shall be closed when the tanker is at sea.

(6) Lines of piping which run through cargo tanks in a position less than tc from the vessel's side or less than vc from the vessel's bottom shall be fitted with valves or closing devices at the point at which they open into any cargo tank and these valves shall be kept closed at sea at any time when the tanks contain cargo oil, except that they may be opened only for cargo transfer needed for the purpose of trimming of the vessel.

(7) This rule does not apply to oil tankers delivered on or after 1st January, 2010, as defined in sub-rule (kk) of rule 2.

16. Intact Stability.—

(1) Every oil tanker of five thousand tonnes deadweight and above delivered on or after 1st February, 2002, as defined in sub-rule (jj) of rule 2, shall comply with the intact stability criteria specified in this para as appropriate, for any operating

draught under the worst possible conditions of cargo and ballast loading, consistent with good operational practice, including intermediate stages of liquid transfer operations and under all conditions, the ballast tanks shall be assumed slack.—.

(a) In port, the initial metacentric height GM_o, corrected for the free surface measured at 0 degree heel, shall be not less than 0.15metres;

(b) At sea, the following criteria shall be applicable.—

(i) the area under the righting lever curve (GZ curve) shall be not less than 0.055 m.rad up to θ = 30º angle of heel and not less than 0.09 m.rad up to θ = 40º or other angle of flooding θf if this angle is less than 40º and additionally, the area under the righting lever curve (GZ curve) between the angles of heel of 30º and 40º or between 30º and θf, if this angle is less than 40º shall be not less than 0.03 m.rad;

[Note: θf is the angle of heel at which openings in the hull, superstructures or deck-houses, which cannot be closed weathertight, immerse and in applying this criterion, small openings through which progressive flooding cannot take place need not be considered as open]

(ii) the righting lever GZ shall be at least 0.20m at an a angle of heel equal to or greater than 30º;

(iii) the maximum righting arm shall occur at an angle of heel preferably exceeding 30º but less than 25º; and

(iv) the initial metacentric height GM_o, corrected for free surface measured at 0º degree heel shall be not less than 0.15m.

(2) The requirements of sub para (1) shall be met through design measures and for combination carriers, simple supplementary operational procedures may be allowed.

(3) Simple supplementary operational procedures for liquid transfer operations referred to in sub-para (2) shall mean written procedures made available to the master which-

(a) are approved by the Central Government

(b) indicate those cargo and ballast tanks, which may, under any specific condition of liquid transfer and possible range of cargo densities, be slack and still allow

the stability criteria to be met and the slack tanks may vary during the liquid transfer operations and be of any combination provided they satisfy the criteria;

(c) will be readily understandable to the officer-in-charge of liquid transfer operation;

(d) provide for planned sequences of cargo/ballast transfer operations;

(e) allow comparisons of attained and required stability using stability performance criteria in graphical or tabular form;

(f) require no extensive mathematical calculations by the officer-in-charge;

(g) provide for corrective actions to be taken by the officer-in-charge in case of departure from recommended values and in case of emergency situation; and

(h) are prominently displayed in the approved trim and stability booklet and at the cargo/ballast transfer control station and in any computer software by which stability calculations are performed.

17. Sub divisions and Damage Stability. —

(1) Every oil tanker delivered after 31st December, 1979, as defined in sub-rule (ii) of rule 2, of one hundred and fifty gross tonnage and above, shall comply with the subdivision and damage stability criteria as specified in sub-para (3), after the assumed side or bottom damage as specified in sub-para (2), for any operating draught reflecting actual partial or full load conditions consistent with trim and strength of the vessel as well as relative densities of the cargo and such damage shall be applied to all conceivable locations along the length of the vessel as follows, namely:-

(a) in tankers of more than 225m in length, anywhere in the vessel's length;

(b) in tankers of more than 150m, but not exceeding 225m in length, anywhere in the vessel's length except involving either after or forward bulkhead bounding the machinery space located aft and the machinery space shall be treated as a single floodable compartment; and

(c) in tankers not exceeding 150m in length, anywhere in the vessel's length between adjacent transverse bulkheads with the exception of the machinery space and for tankers of 100 m or less in length where all requirements of sub-para (3) cannot be fulfilled without materially impairing the operational qualities

of the vessel, the Central Government may allow relaxations from these requirements:

Provided that Ballast conditions where the tanker is not carrying oil in cargo tanks, excluding any oil residues, shall not be considered.

The following provisions regarding the extent and the character of the assumed damage shall apply.—

(a) Side damage:

(i) Longitudinal extent: ⅓(L⅔) or 14.5 m, whichever is less

(ii) Transverse extent (inboard from the vessel's side at right angles to the centerline at the level of he summer load line): B/5 or 11.5 m, whichever is less

(iii) Vertical extent: From the moulded line of the bottom shell plating at centre line, upwards without limit;

(b) Bottom damage:

	For 0.3L from the forward perpendicular of the vessel	Any other part of the vessel
(i) Longitudinal extent:	1/3(L2/3) or 14.5 m, whichever is less	1/3(L2/3) or 5m, whichever is less
(ii) Transverse extent:	B/6 or 10m, whichever is less	B/6 or 5 m, whichever is less
(iii) Vertical extent:	B/15 or 6m,	B/6 or 10m,

	whichever is less, measured from the moulded line of the bottom shell plating at centerline	whichever is less, measured from the moulded line of the bottom shell plating at centerline;

.

(c) if any damage of a lesser extent than the maximum extent of damage specified in clauses (a) and (b) above would result in a more severe condition, such damage shall be considered;

(d) where the damage involving transverse bulkheads is envisaged as specified in clauses (a) and (b) above, transverse watertight bulkheads shall be spaced at least at a distance equal to the longitudinal extent of assumed damage specified in clause (a) in order to be considered effective and where transverse bulkheads are spaced at a lesser distance, one or more of these bulkheads within such extent of damage shall be assumed as non-existent for the purpose of determining flooded compartment;

(e) where the damage between adjacent transverse watertight bulkheads is envisaged as specified in clause (c) above, no main transverse bulkhead or a transverse bulkhead bounding side tanks or double bottom tanks shall be assumed damaged, unless-

(i) the spacing of the adjacent bulkheads is less than the longitudinal extent of assumed damage specified in clause (a); or

(ii) there is a step or recess in a transverse bulkhead of more than 3.05 m in length, located within the extent of penetration of assumed damage:

Provided that the step formed by the after-peak bulkhead and after peak top shall not be regarded as a step for the purpose of this rule;

(f) If pipes, ducts or tunnels are situated within the assumed extent of damage, arrangements shall be made so that progressive flooding cannot thereby extend to compartments other than those assumed to be floodable for each case of damage.

(3) Oil tankers shall be regarded as complying with the damage stability criteria if the following requirements are met, namely: -

(a) the final waterline, taking into account sinkage, heel and trim, shall be below the lower edge of any opening through which progressive flooding may take place and such openings shall include air-pipes and those which are closed by means of weathertight doors or hatch covers and may exclude those openings closed by means of watertight manhole covers and flush scuttles, small watertight cargo tank hatch covers which maintain the high integrity of the deck, remotely operated watertight sliding doors, hinged watertight access doors with open/closed indication locally and at the navigation bridge, of the quick-acting or single-action type that are normally closed at sea, hinged watertight doors that are permanently closed at sea, and side scuttles of the non-opening type:

(b) in the final stage of flooding, the angle of heel due to unsymmetrical flooding shall not exceed 25º, provided that this angle may be increased up to 30º if no deck edge immersion occurs;

(c) the stability in the final stage of flooding shall be investigated and may be regarded as sufficient if the righting lever curve has at least a range of 20º beyond the position of equilibrium in association with a maximum residual righting lever of at least 0.1 m within the 20º range and the area under the curve within this range shall not be less than 0.0175 m.rad.:

Provided that unprotected openings shall not be immersed within this range unless the space concerned is assumed to be flooded:

Provided further that within this range, the immersion of any of the openings listed in clause (a) above and other openings capable of being closed watertight may be permitted;

(d) the Central Government shall be satisfied that the stability is sufficient during intermediate stages of flooding;

(e) equalization arrangements requiring mechanical aids such as valves or cross-levelling pipes, if fitted, shall not be considered for the purpose of reducing an angle of heel or attaining the minimum range of residual stability to meet the requirements of clauses (a), (b) and (c) above and sufficient residual stability shall

be maintained during all stages where equalization is used and spaces which are linked by ducts of a large cross-sectional area may be considered to be common.

(4) The requirements of sub para (1) shall be confirmed by calculations, which take into consideration the design characteristics of the vessel, the arrangements, configuration and contents of the damaged compartments and the distribution, relative densities and the free surface effect of liquids:

Provided that the calculations shall be based on the following, namely:-

(a) account shall be taken of any empty or partially filled tank, the relative density of cargoes carried, as well as any outflow of liquids from damaged compartments;

(b) the permeabilities assumed for spaces flooded as a result of damage shall be as follows:

Spaces	Permeabilities
Appropriate to stores	0.60
Occupied by accommodation	0.95
Occupied by machinery	0.85
Voids	0.95
Intended for consumable liquids	0 to 0.95*
Intended for other liquids	0 to 0.95*

(* the permeability of partially filled compartments shall be consistent with the amount of liquid carried in the compartment. Whenever damage penetrates a tank containing liquid, it shall be assumed that the contents are completely lost from that compartment and replaced by salt water up to the level of the of the final plane of equilibrium.);

(c) the buoyancy of any superstructure directly above the side damage shall be disregarded and the unflooded parts of super structures beyond the extent of damage may be taken into consideration provided that they are separated from the damaged space by watertight bulkheads and the requirements of clause (a) sub para 3 above in respect of these intact spaces are complied with and hinged watertight doors may be acceptable in watertight bulkheads in the superstructure;

(d) the free surface effect shall be calculated at an angle of heel of 5 degree for each individual compartment. The Director General may require or allow the free surface corrections to be calculated at an angle of heel grater than 5 degree for partially filled tanks;

(e) in calculating the effect of free surfaces of consumable liquids it shall be assumed that, for each type of liquid, at least one transverse pair or a single centerline tank has a free surface and the tank or combination of tanks to be taken into account shall be those where the effect of free surface is the greatest.

(5) The master of every oil tanker and the person in charge of a non-self-propelled oil tanker which are covered under this rule shall be supplied in an approved form with-

(a) information relating to loading and distribution of cargo necessary to ensure compliance with the provisions of this rule; and

(b) data on the ability of the vessel to comply with damage stability criteria as determined by this rule, including the effect of relaxations that may have been allowed under clause (c) of sub para (1).

(6) All oil tankers shall be fitted with a stability instrument, capable of verifying compliance with intact and damage stability requirements approved by the Administration having regard to the performance standards recommended by the Organization

(a) oil tankers constructed before 1 January 2016 shall comply with this paragraph at the first scheduled renewal survey of the ship on or after 1 January 2016 but not later than 1 January 2021;

(b) notwithstanding the requirements of subparagraph .1 a stability instrument fitted on an oil tanker constructed before 1 January 2016 need not be replaced provided it is capable of verifying compliance with intact and damage stability, to the satisfaction of the Administration; and

(c) for the purposes of control under rule 13, the Administration shall issue a document of approval for the stability instrument.

(7) For oil tankers of twenty thousand tonnes deadweight and above delivered on or after 6th July 1996, as defined in sub-rule (ll) of rule 2, the damage assumptions prescribed in clause (b) of sub-rule (2) shall be supplemented by the following assumed bottom raking damage.—

(a) longitudinal extent.—

(i) vessels of 75,000 tonnes deadweight and above:
0.6L measured from the forward perpendicular;

(ii) vessels of less than 75,000 tonnes deadweight:
0.4L measured from the forward perpendicular;

(b) transverse extent: B/3 anywhere in the bottom;

(c) vertical extent: breach of the outer hull.

18. Slop Tanks.—

(1) Subject to provisions of sub-rule (4) of rule 4, oil tankers of hundred and fifty gross tonnage and above shall be provided with slop tank arrangements in accordance with the requirements of clauses (a) to (c) of sub-rule (2) and in oil tankers delivered on or before 31st December, 1979, as defined in sub-rule (eee) of rule 2, any cargo tank may be designated as a slop tank.

(2) In respect of an oil tanker referred to in sub-rule (1),-

(a) adequate means shall be provided for cleaning the cargo tanks and transferring the dirty ballast residue and tank washings from the cargo tanks into a slop tank approved by the Central Government;

(b) in such system, arrangements shall be provided to transfer the oily waste into a slop tank or combination of slop tanks in such a way that any effluent discharged into the sea will be such as to comply with the provisions of para 13 of the schedule;

(c) the arrangement of slop tank or combination of slop tanks shall have a capacity necessary to retain the slop generated by tank washings, oil residues and dirty ballast residues and the total capacity of the slop tank or

tanks shall not be less than three percent of the oil-carrying capacity of the vessel, except that the Central Government may accept,-

(i) 2% for such oil tankers where the tank washing arrangements are such that once the slop tank or tanks are charged with washing water, this water is sufficient for tank washing and, where applicable, for providing the driving fluid for eductors, without the introduction of additional water into the system;

(ii) 2% where segregated ballast tanks or dedicated clean ballast tanks are provided in accordance with para 18, or where a cargo tank cleaning system using crude oil washing is fitted in accordance with para 11 of the schedule:

Provided that this capacity may be further reduced to 1.5% for such oil tankers where the tank washing arrangements are such that once the slop tank or tanks are charged with washing water, this water is sufficient for tank washing and, where applicable, for providing the driving fluid for eductors, without the introduction of additional water into the system; and

(iii) 1% for combination carriers where oil cargo is only carried in tanks with smooth walls:

Provided that this capacity may be further reduced to 0.8% where the tank washing arrangements are such that once the slop tank or tanks are charged with washing water, this water is sufficient for tank washing and, where applicable, for providing the driving fluid for educators, without the introduction of additional water into the system;

(d) Slop tanks shall be so designed, particularly in respect of the position of inlets, outlets, baffles or weirs where fitted, so as to avoid excessive turbulence and entrainment of oil or emulsion with the water.

(3) Oil tankers of seventy thousand tonnes deadweight and above delivered after 31st December, 1979, as defined in sub-rule (ddd) of rule 2, shall be provided with atleast two slop tanks.

19. Pumping, Piping and Discharge Arrangement. —

(1) In every oil tanker, a discharge manifold for connection to reception facilities for the discharge of dirty ballast water or oil-contaminated water shall be located on the deck on both sides of the vessel.

(2) In every oil tanker of one hundred and fifty gross tonnage and above, pipelines for the discharge to the sea of ballast or oil-contaminated water from cargo tank areas which may be permitted under para 34 shall be led to the open deck or to the vessel's side above the waterline in the deepest ballast condition and different piping arrangements to permit operation in the manner specified in clauses (a) to (e) of sub-rule sub para (6), may be accepted.

(3) In oil tankers of one hundred and fifty gross tonnage and above delivered after 31st December, 1979, as defined in sub-rule (ddd) of rule 2, means shall be provided for stopping the discharge into the sea of ballast water or oil-contaminated water from cargo tank areas, other than those discharges below the waterline permitted under sub para (6), from a position on the upper deck or above located so that the manifold in use referred to in sub para (1) and the discharge to the sea from the pipelines referred to in sub para (2) may be visually observed:

Provided that means for stopping the discharge need not be provided at the observation position if a positive communication system such as a telephone or radio system is provided between the observation position and the discharge control position.

(4) Every oil tanker delivered after 1st June, 1982, as defined in sub-rule (hh) of rule 2, required to be provided with segregated ballast tanks, or fitted with a crude oil washing system, shall comply with the following requirements, namely: -

(a) it shall be equipped with oil piping so designed and installed that oil retention in the lines is minimized; and

(b) means shall be provided to drain all cargo pumps and all oil lines at the completion of cargo discharge, where necessary by connection to a stripping device and the line and pump draining shall be capable of being discharged both ashore and to a cargo tank or a slop tank:

Provided that for discharge ashore, a special small diameter line shall be provided and shall be connected outboard of the vessel's manifold valves.

(5) Every crude oil tanker delivered on or before 1st June, 1982, as defined in sub-rule (mm) of rule 2, required to be provided with segregated ballast tanks, or to be fitted with a crude oil washing system, shall comply with the provisions of clause (b) of sub para (4) this rule.

(6) On every oil tanker the discharge of ballast water or oil-contaminated water from cargo tank areas shall take place above the waterline, except as follows.—

(a) Segregated ballast and clean ballast may be discharged below the waterline-

(i) in ports or at offshore terminals;

(ii) at sea by gravity; or

(iii) at sea by pumps if the ballast water exchange is performed under the provisions of regulation D-1.1 of the International Convention for the Control and Management of Vessel's Ballast Water and Sediments:

Provided that the surface of the ballast water has been examined either visually or by other means immediately before the discharge to ensure that no contamination with oil has taken place;

(b) oil tankers delivered on or before 31st December, 1979, as defined in sub-rule (eee) of rule 2, which, without modification, are not capable of discharging segregated ballast above the waterline, may discharge segregated ballast below the waterline at sea, provided that the surface of the ballast water has been examined immediately before the discharge to ensure that no contamination with oil has taken place;

(c) oil tankers delivered on or before 1st June, 1982, as defined in sub-rule (mm) of rule 2, operating with dedicated clean ballast tanks, which without modification are not capable of discharging ballast water from dedicated clean ballast tanks above the waterline, may discharge this ballast below the waterline provided that the discharge of the ballast water is supervised in accordance with clause (c) of sub para (8) of para 7 in this Schedule;

(d) on every oil tanker at sea, dirty ballast water or oil-contaminated water from tanks in the cargo area, other than slop tanks, may be discharged by gravity below the waterline, provided that sufficient time has elapsed in order to allow oil/water separation to have taken place and the ballast water has been examined immediately before the discharge with an oil/water interface detector referred to in para 32, in order to ensure that the height of the interface is such that the discharge does not involve any increased risk of harm to the marine environment;

(e) oil tankers delivered on or before 31st December, 1979, as defined in sub-rule (ee) of rule 2, at sea dirty ballast water or oil-contaminated water from cargo tank areas may be discharged below the waterline, subsequent to or in lieu of the discharge by the method referred to in clause (d) of sub para (6):

Provided that-

(i) a part of the flow of such water is led through permanent piping to a readily accessible location on the upper deck or above where it may be visually observed during the discharge operation; and

(ii) such part flow arrangements shall comply with the conditions specified in the Sixth Schedule.

(7) Every oil tanker of one hundred and fifty gross tonnage and above delivered on or after 1st January, 2010, as defined in sub-rule (kk) of rule 2, which has installed a sea chest that is permanently connected to the cargo pipeline system, shall be equipped with both a sea chest valve and an inboard isolation valve and in addition to these valves, the sea chest shall be capable of isolation from the cargo piping system whilst the tanker is loading, transporting, or discharging cargo by use of a positive means that is to the satisfaction of the Central Government:

Explanation. - 'Positive means' is a facility that is installed in the pipeline system in order to prevent, under all circumstances, the section of pipeline between the sea chest valve and the inboard valve and the inboard valve being filled with cargo.

PART – B

EQUIPMENT

20. Oil discharge monitoring and control system. —

(1) Subject to the provisions of rule 4, oil tankers of one hundred and fifty gross tonnage and above shall be equipped with an oil discharge monitoring and control system of a design approved by the Central Government which shall be installed in accordance with the provisions of the Convention.

(2) Any such system referred to in sub para (1) shall be fitted with a recording device to provide, unless otherwise required by the Convention, a continuous record of the discharge of oil in litres per nautical miles and the total quantity of oil discharged or, in lieu of the total quantity of oil discharged, the oil content and rate of discharge of the effluent and the record shall be identifiable as to the time and date and be kept for at least three years.

(3) The system referred to in sub para (1) shall be brought into operation whenever there is a discharge of effluent into the sea and shall be such as to ensure that any discharge of oily mixture is, unless otherwise permitted by the Convention, automatically stopped when the instantaneous rate of discharge of oil exceeds thirty litres per nautical mile.

(4) On any failure of the system, the discharge shall be stopped and the failure noted in the Oil Record Book or manually operated alternative system shall be provided and may be used in the event of such a failure, but the defective unit shall be made operable as soon as possible and if a tanker with a defective unit is within India or the territorial waters thereof, the Central Government may allow the tanker to undertake one ballast voyage before proceeding to a repair port.

(5) Approved instruction manuals on the operation and maintenance of the various components comprising the oil discharge monitoring and control system shall be provided which shall contain information on manual as well as automatic operation and shall be so drawn up as to ensure that at no time will oil be discharged except in compliance with the conditions specified in para 23 in the schedule.

21. Oil / Water Interface Detector .—

Subject to the provisions of sub-rule (4) and (5) of rule 4, oil tankers of one hundred and fifty gross tonnage and above shall be provided with effective oil/water interface detectors of a design, approved by the Central Government, in accordance with the provisions of the Convention, for the rapid and accurate determination of the oil/water interface in slop tanks and in other tanks where the separation of oil and water is effected and from which it is intended to discharge the effluent directly into the sea.

22. Crude oil washing requirements .—

(1) Every crude oil tanker of twenty thousand tones deadweight and above delivered after 1st June, 1982, as defined in sub-rule (hh) of rule 2, shall be fitted with a cargo tank cleaning system using crude oil washing.

(2) The crude oil washing installation and associated equipment and arrangements (including qualification of personnel) shall comply with the requirements specified by the Central Government on the basis of the specifications for Design, Operation and Control of Crude Oil Washing Systems adopted by the Organisation:

Provided that when a vessel is not required to be so equipped under sub para (1) but is equipped with crude oil washing equipment, it shall comply with the safety aspects of the above mentioned specifications adopted by the Organisation.

(3) Every crude oil washing system required to be provided in accordance with sub para (7) of para 7 of this schedule shall comply with the requirements of this paragraph.

(4) An inert gas system shall be provided in every cargo tank and slop tank in accordance with the provisions of the International Convention on Safety of Life at Sea, 1974 as amended.

PART – C

CONTROL OF OPERATION DISCHARGES OF OIL

23. Control of Discharge of Oil .—

23. A Discharges outside special areas except in Arctic waters

(1) Subject to the provisions of rule 5 and sub-rule (2) hereunder, any discharge into the sea, outside special areas, of oil or oily mixtures from the cargo area of an oil tanker shall be prohibited except when all the following conditions are satisfied, namely: -

(a) the tanker is not within a special area;

(b) the tanker is more than fifty nautical miles from the nearest land;

(c) the tanker is proceeding en route;

(d) the instantaneous rate of discharge of oil content does not exceed 30 litres per nautical mile;

(e) the total quantity of oil discharged into the sea does not exceed for tankers delivered on or before 31st December, 1979, as defined in sub-rule (eee) of rule 2, 1/15,000 of the total quantity of the particular cargo of which the residue formed a part, and for tankers delivered after 31st December, 1979, as defined in sub-rule (ddd) of rule 2, 1/30,000 of the total quantity of the particular cargo of which the residue formed a part; and

(f) the tanker has in operation an oil discharge monitoring and control system and a slop tank arrangement as required by para 20 and 18 of the schedule.

(2) The provision of sub para (1) shall not apply to the discharge of clean or segregated ballast.

23.B Discharges in special areas

(3) Subject to the provisions of sub para (4), any discharge into the sea of oil or oily mixture from the cargo area of an oil tanker shall be prohibited while in a special area.

(4) The provisions of sub para (3) shall not apply to the discharge of clean or segregated ballast.

(5) Nothing in this schedule shall prohibit a vessel on a voyage only part of which is in a special area from discharging outside the special area in accordance with sub para (1).

(6) The requirements of para 18, 19 and 20 of the schedule shall not apply to oil tankers of less than one hundred and fifty gross tonnage, for which the control of discharge of oil under this rule shall be effected by the retention of oil on board with subsequent discharge of all contaminated washings to reception facilities and the total quantity of oil and water used for washing and returned to a storage tank shall be discharged to reception facilities unless adequate arrangements are made to ensure that any effluent which is allowed to be discharged into the sea is effectively monitored to ensure that the provisions of this rule are complied with.

(7) Whenever visible traces of oil are observed on or below the surface of the water in the immediate vicinity of a vessel or its wake, the Central Government, to the extent reasonable, shall promptly investigate the facts bearing on the issue of whether there has been a violation of the provisions of this rule:

Provided that such investigation shall include, in particular, the wind and sea conditions, the track and speed of the vessel, other possible sources of visible traces in the vicinity and relevant oil discharge records.

(8) No discharge into the sea shall contain chemicals or other substances in quantities or concentrations, which are hazardous to the marine environment or chemicals or other substances introduced for the purpose of circumventing the conditions of discharge specified in this rule.

(9) The oil residues, which cannot be discharged into the sea in compliance with sub para (1) and (3), shall be retained on board for subsequent discharge to reception facilities.

24. Crude oil washing operations .—

(1) Every oil tanker operating with crude oil washing system shall be provided with an Operations and Equipment Manual describing the system and equipment in detail and specifying the operational procedures as per the Convention.

(2) This Manual shall be approved by the Central Government and shall contain all the information and if any alteration is made affecting the crude oil washing system, the Operations and Equipment Manual shall be revised accordingly and such revision shall be approved by the Central Government.

(3) With respect to the ballasting of cargo tanks, sufficient cargo tanks shall be crude oil washed prior to each ballast voyage so that, taking into account the tanker's trading pattern and expected weather conditions, ballast water shall be put only into cargo tanks which have been crude oil washed.

(4) Unless an oil tanker carries crude oil which is not suitable for crude oil washing, the oil tanker shall operate the crude oil washing system in accordance with the Operation and Equipment Manual.

25. Oil Record Book Part II – Cargo / Ballast Operations. —

(1) Every oil tanker of one hundred and fifty gross tonnage and above shall be provided with an Oil Record Book Part II (Cargo/Ballast Operations). The Oil Record Book Part II, whether as a part of the ship’s official logbook, as an electronic record book which shall be approved by the Administration taking into account the Guidelines developed by the Organization*, or otherwise, shall be in the form specified in the Form-IV to these rules.
(2) The Oil Record Book Part II shall be completed on each occasion, on a tank-to tank basis, if appropriate, whenever any of the following cargo/ballast operations takes place in the vessel, namely :-
    (a) loading of oil cargo;
    (b) internal transfer of oil cargo during voyage;
    (c) unloading of oil cargo;
    (d) ballasting of cargo tanks and dedicated clean ballast tanks;

(e) cleaning of cargo tanks including crude oil washing;
(f) discharge of ballast except from segregated ballast tanks;
(g) discharge of water from slop tanks;
(h) closing of all applicable valves or similar devices after slop tank discharge operations;
(i) closing of valves necessary for isolation of dedicated clean ballast tanks from cargo and stripping lines after slop tank discharge operations; and
(j) disposal of residues.

(3) For oil tankers referred to in sub para (6) of para 23, the total quantity of oil and water used for washing and returned to storage tank shall be recorded in the Oil Record Book Part II.

(4) In the event of such discharge of oil or oily mixture as is referred to in rule 5 or in the event of accidental or other exceptional discharge of oil not permitted by that rule, a statement shall be made in the Oil Record Book Part II of the circumstances of, and the reasons for, the discharge.

(5) Each operation described in rule 3 of this rule shall be fully recorded without delay in the Oil Record Book Part II so that all entries in the book appropriate to that operation are completed. Each completed operation shall be signed by the officer or officers in charge of the operations concerned and each completed page or group of electronic entries shall be signed by the master of ship.

(6) Any failure of the oil discharge monitoring and control system shall be noted in the Oil Record Book Part II.

(7) The Oil Record Book shall be kept in such a place as to be readily available for inspection at all reasonable times and, except in the case of unmanned vessels under tow, shall be kept on board the vessel and it shall be preserved for a period of three year after the last entry has been made.

(8) The surveyor or the authorised person may inspect the Oil Record Book on board whilst the vessel is in a port or offshore terminal and may make a copy of any entry in that book and may require the master of the vessel to certify that the copy is a true copy of such an entry and such copy shall be admissible in any judicial proceedings as evidence of the facts stated in the entry:

Provided that the inspection of an Oil Record Book and the taking of a certified copy by the surveyor or the authorised person under this rule shall be performed as expeditiously as possible without causing the vessel to be unduly delayed.

(9) For oil tankers should be one hundred and fifty gross tonnage operating in accordance with sub para (6) of para 23, an appropriate Oil Record Book shall be developed by the Central Government.

CHAPTER – III

PREVENTION OF POLLUTION ARISING FROM AN OIL POLLUTION INCIDENT

26. Ship board Oil Pollution Emergency Plan. —

(1) Every oil tanker of one hundred and fifty gross tonnage and above and every vessel other than an oil tanker of four hundred gross tonnage and above shall carry on board a ship board oil pollution emergency plan approved by the Central Government.

(2) The plan referred to in sub-para
(a) shall be in accordance with the guidelines for the development of shipboard oil pollution emergency plans adopted by the Organization and includes any document amending it which is considered by the Central Government to be relevant from time to time and the plan shall consist at least-

(i) the procedure to be followed by the Master or other persons having charge of the vessel to report an oil pollution incident as required by the Convention;

(ii) the list of persons (including national and local authorities) to be contacted in the event of an oil pollution incident;

(iii) a detailed description of the action to be taken immediately by persons on board to reduce or control the discharge of oil following the incident; and

(iv) the procedures and point of contact on the vessel for coordinating shipboard action with national and local authorities in combating the pollution.

(3) In case of vessels to which the provisions of para 6 of the Merchant Shipping (Control of Pollution by Noxious Liquid Substances in Bulk) Rules, 2009 also applies, the plan referred to in sub-rule

(a) may be combined with the shipboard marine pollution emergency plan for noxious liquid substances required under the said para 6 and the title of such a plan shall be “Shipboard marine pollution emergency plan”.

(4) All oil tankers of five thousand tones deadweight or more shall have prompt access to computerized shore-based damage stability and residual structural strength calculation programmers.

CHAPTER – IV
RECEPTION FACILITIES

27. Reception facilities outside special areas. —

(1) The Central Government shall ensure the provision of reception facilities at oil loading terminals, repair ports, and in other ports in which vessels have oily residues to discharge, for the reception of such residues and oily mixtures as remain from oil tankers and other vessels, which shall be adequate to meet the needs of the vessels using them without causing undue delay to vessels.

(2) Reception facilities referred to in sub-para (1) shall be provided in-

(a) all ports and terminals in which crude oil is loaded into oil tankers where such tankers have, immediately prior to arrival, completed a ballast voyage of not more than 72 hours or not more than 1200 nautical miles;

(b) all ports and terminals in which oil other than crude oil in bulk is loaded at an average quantity of more than one thousand tons per day;

(c) all ports having vessel repair yards or tank cleaning facilities;

(d) all ports and terminals which handle vessels provided with the sludge tank as required by paragraph 1 of the schedule;

(e) all ports in respect of oily bilge waters and other residues that cannot be discharged in accordance with paragraphs 4 and 23 of the schedule and paragraph 1.1.1 of part II-A of the Polar Code;

(f) all loading ports for bulk cargoes in respect of oil residues from combination carriers which cannot be discharged in accordance with paragraph 23 of the schedule.

(3) The capacity for the reception facilities shall be as follows, namely: -

(a) crude oil loading terminals shall have sufficient reception facilities to receive oil and oily mixtures which cannot be discharged in accordance with the provisions of sub-para (1) of paragraphs 23 from all oil tankers on voyages as described in clause (a) of sub-paragraph (2);

(b) loading ports and terminals referred to in clause (b) of sub-para (2) shall have sufficient reception facilities to receive oil and oily mixtures which cannot be discharged in accordance with the provisions of sub-para (1) of paragraphs 23 from oil tankers which load oil other than crude oil in bulk;

(c) all ports having vessel repair yards or tank cleaning facilities shall have sufficient reception facilities to receive all residues and oily mixtures which remain on board for disposal from vessels prior to entering such yards or facilities;

(d) all facilities provided in ports and terminals under clause (d) of sub-rule (2) shall be sufficient to receive all residues retained according to paragraph 1 of the schedule from all vessels that may reasonably be expected to call at such ports and terminals;

(e) All facilities provided in ports and terminals under this schedule shall be sufficient to receive oily bilge waters and other residues which cannot be discharged in accordance with sub-paragraph 4 of this schedule and paragraph 1.1.1 of part II-A of the Polar Code

(f) the facilities provided in loading ports for bulk cargoes shall take into account the special problems of combination carriers as appropriate.

(4) (a) The coastline of which borders on any given special area shall ensure that all oil loading terminals and repair ports within the special area are provided with facilities adequate for the reception and treatment of all the dirty ballast and tank washing water from oil tankers. In addition, all ports within the special area shall be provided with adequate reception facilities for other residues and oily mixtures from all ships. Such facilities shall have adequate capacity to meet the needs of the ships using them without causing undue delay.

(b) Small Island Developing States may satisfy the requirements in paragraph 4 of this schedule through regional arrangements when, because of those States' unique circumstances, such arrangements are the only practical means to satisfy these requirements. Parties participating in a regional arrangement shall develop a Regional Reception Facilities Plan, taking into account the guidelines developed by the Organization. The Government of each Party participating in the arrangement shall consult with the Organization for circulation to the Parties of the present Convention:

(i) how the Regional Reception Facilities Plan takes into account the Guidelines;

(ii) particulars of the identified Regional Ships Waste Reception Centers; and

(iii) particulars of those ports with only limited facilities.

(5) The Central Government shall notify the Organization for transmission to the Parties concerned of all cases where the facilities provided under this schedule are alleged to be inadequate.

(6) With regard to the Red Sea area, Gulfs area, Gulf of Aden area and Oman area of the Arabian Sea:

(a) Each Party concerned shall notify the Organization of the measures taken pursuant to provisions of sub paragraphs 4 and 5 of these paras. Upon receipt of sufficient notifications, the Organization shall establish a date from which the discharge requirements of paragraph 4 and 23 of this schedule in respect of the area in question shall take effect. The Organization shall notify all Parties of the date so established no less than twelve months in advance of that date.

(b) During the period between the entry into force of the present Convention and the date so established, ships while navigating in the special area shall comply with the requirements of paragraph 4 and 23 of the schedule as regards discharges outside special areas.

(c) After such date oil tankers loading in ports in these special areas where such facilities are not yet available shall also fully comply with the requirements of paragraph 4 and 23 of this schedules as regards discharges within special areas. However, oil tankers entering these special areas for the purpose of loading shall make every effort to enter the area with only clean ballast on board

(d) After the date on which the requirements for the special area in question take effect, each Party shall notify the Organization for transmission to the

Parties concerned of all cases where the facilities are alleged to be inadequate.

(e) At least the reception facilities as prescribed in sub paragraphs 1, 2 and 3 of this paragraph shall be provided one year after the date of entry into force of the present Convention.

(7) Not with standing sub paragraphs 4, 5 and 6 of this para , the following rules apply to the Antarctic area:

(a) The central Government to the present Convention at whose ports ships depart en route to or arrive from the Antarctic area undertakes to ensure that as soon as practicable adequate facilities are provided for the reception of all oil residue (sludge), dirty ballast, tank washing water, and other oily residues and mixtures from all ships, without causing undue delay, and according to the needs of the ships using them

(b) The Central Government to the present Convention shall ensure that all ships entitled to fly its flag, before entering the Antarctic area, are fitted with a tank or tanks of sufficient capacity on board for the retention of all oil residue (sludge), dirty ballast, tank washing water and other oily residues and mixtures while operating in the area and have concluded arrangements to discharge such oily residues at a reception facility after leaving the area.

(8) In verifying compliance with the Rules in relation to platforms configured as FPSOs or FSUs, in addition to the requirements of sub paragraph 2, Administrations should take account of the Guidelines developed by the Organization

CHAPTER V

SPECIAL REQUIREMENTS FOR FIXED OR FLOATING PLATFORM

28. Special requirements for fixed or floating platform. —

(1) Offshore installations, when engaged in the exploration, exploitation and associated offshore processing of sea bed mineral resources, shall comply with the requirements of these rules applicable to vessels of four hundred gross tonnage and above other than oil tankers, notwithstanding that the installations are not proceeding on a voyage, except that. —

(a) they shall be equipped as far as practicable with the systems and tanks as required by paragraph 1 and 3 of the schedules;

(b) they shall keep a record of all operations on oil or oily mixture discharges, in a form as approved by the Central Government

(c) unless the discharge is the one specified in rule 5, an offshore installation when so engaged shall not discharge into the sea any oil or oily mixture except when the oil content of the discharge without dilution does not exceed 15 parts per million.

Explanation — For the purposes of this rule,-

(a) "offshore installation" means any mobile or fixed drilling or production platform or any other platform used in connection with the exploration, exploitation or associated offshore processing of seabed mineral resources;

(c) "oil or oily mixtures" means discharge associated with machinery space drainage and does not include production or displacement water discharge.

29. Fee. — The Fee for surveys and issue of International Oil Pollution Prevention Certificate or the Indian Oil Pollution Prevention certificates shall be as specified in the Second Schedule.

30. Penalty. − Whoever contravenes any of the provisions of these rules shall be punishable with fine in accordance with the provisions of Section 281 of the Act.

CHAPTER VI

PREVENTION OF POLLUTION DURING TRANSFER OF OIL CARGO BETWEEN OIL TANKERS AT SEA

31. Scope of application

(1) The rules contained in this chapter apply to oil tankers of 150 gross tonnage and above engaged in the transfer of oil cargo between oil tankers at sea (STS operations) and their STS operations conducted on or after 1 April 2012. However, STS operations conducted before that date but after the approval of the Administration of STS operations Plan required under para 32 and sub para (1) shall be in accordance with the STS operations Plan as far as possible

(2) The chapter shall not apply to oil transfer operations associated with fixed or floating platforms including drilling rigs; floating production, storage and offloading facilities (FPSOs) used for the offshore production and storage of oil; and floating storage units (FSUs) used for the offshore storage of produced oil.

(3) This chapter shall not apply to bunkering operations.

(4) The rules contained in this chapter shall not apply to STS operations necessary for the purpose of securing the safety of a vessel or saving life at sea, or for combating specific pollution incidents in order to minimize the damage from pollution.

(5) The rules contained in this chapter shall not apply to STS operations where either of the vessels involved is a warship, naval auxiliary or other vessel owned or operated by a State and used, for the time being, only on government non-commercial service. However, each State shall ensure, by the adoption of appropriate measures not impairing operations or operational capabilities of such vessels that the STS operations are conducted in a manner consistent, so far as is reasonable and practicable, with this chapter.

32. Arctic waters

(1) General rules on safety and environmental protection**: Any** oil tanker involved in STS operations shall carry on board a Plan prescribing how to conduct STS operations (STS operations Plan) not later than the date of the first annual, intermediate or renewal survey of the vessel to be carried out on or after 1 January 2011. Each oil tanker's STS operations Plan shall be approved by the Administration. The STS operations Plan shall be written in the working language of the vessel.

(2) The STS operations Plan shall be developed taking into account the information contained in the best practice guidelines for STS operations identified by the Organization[2]. The STS operations Plan may be incorporated into an existing Safety Management System required by chapter IX of the International Convention for the Safety of Life at Sea, 1974, as amended, if that requirement is applicable to the oil tanker in question.

(3) Any oil tanker subject to this chapter and engaged in STS operations shall comply with its STS operations Plan.

(4) The person in overall advisory control of STS operations shall be qualified to perform all relevant duties, taking into account the qualifications contained in the best practice guidelines for STS operations identified by the Organization.

(5) Records of STS operations shall be retained on board for three years and be readily available for inspection by a Party to the present Convention.

33. Notification (1) Each oil tanker subject to this chapter that plans STS operations within the territorial sea, or the exclusive economic zone of a Party to the present Convention shall notify that Party not less than 48 hours in advance of the scheduled STS operations. Where, in an exceptional case, all of the information specified in sub paragraph 2 is not available not less than 48 hours in advance, the oil tanker discharging the oil cargo shall notify the Party to the present Convention, not less than 48 hours in advance that an STS operation will

occur and the information specified in sub paragraph 2 shall be provided to the Party at the earliest opportunity.

(2) The notification specified in sub para (1) of this para shall include at least the following:

(a) name, flag, call sign, IMO Number and estimated time of arrival of the oil tankers involved in the STS operations;

(b) date, time and geographical location at the commencement of the planned STS operations;

(c) whether STS operations are to be conducted at anchor or underway;

(d) oil type and quantity;

(e) planned duration of the STS operations;

(f) identification of STS operations service provider or person in overall advisory control and contact information; and

(g) confirmation that the oil tanker has on board an STS operations Plan meeting the requirements of paragraph 30 of the schedule.

(3) If the estimated time of arrival of an oil tanker at the location or area for the STS operations changes by more than six hours, the master, owner or agent of that oil tanker shall provide a revised estimated time of arrival to the Party to the present Convention specified in sub para (1) of this schedule.

CHAPTER VII

SPECIAL REQUIREMENTS FOR THE USE OR CARRIAGE OF OILS IN POLAR WATERS

34. (1) (a) With the exception of vessels engaged in securing the safety of vessels or in a search and rescue operation, the carriage in bulk as cargo, use as ballast, or carriage and use as fuel of the following:

(i) crude oils having a density at 15°C higher than 900 kg/m3;

(ii) oils, other than crude oils, having a density at 15°C higher than 900 kg/m3 or a kinematic viscosity at 50°C higher than 180 mm2/s; or

(iii) bitumen, tar and their emulsions, shall be prohibited in the Antarctic area, as defined in 2 rule (xx).

(b) When prior operations have included the carriage or use of oils listed in sub rule (o) to (p) of rule 2, the cleaning or flushing of tanks or pipelines is not required.

(2) Special requirements for the use and carriage of oils as fuel in Arctic waters

(a) With the exception of vessels engaged in securing the safety of vessels or in search and rescue operations, and vessels dedicated to oil spill preparedness and response, the use and carriage of oils listed in paragraph 31 (1) (b) as fuel by vessels shall be prohibited in Arctic waters, as defined in paragraph 35(2), on or after 1 July 2024.

(b) Notwithstanding the provisions of para 31 (3) (a) of this schedule, for vessels to which para 1(2) or regulation 1.2.1 of chapter 1 of part II-A of the Polar Code applies, the use and carriage of oils listed in paragraph 31 (1) (b) as fuel by those vessels shall be prohibited in Arctic waters, as defined in paragraph 35(2), on or after 1 July 2029.

(c) When prior operations have included the use and carriage of oils listed in para 31 (1) as fuel, the cleaning or flushing of tanks or pipelines is not required.

(d) Notwithstanding the provisions of paragraphs (a) and (b) of this rule, the Administration of a Party to the present Convention the coastline of which borders on Arctic waters may temporarily waive the requirements of paragraph (a) of this rule for vessels flying the flag of that Party while operating in waters subject to the sovereignty or jurisdiction of that Party, taking into account the guidelines to be developed by the Organization. No waivers issued under this paragraph shall apply on or after 1 July 2029.

(e) The Administration of a Party to the present Convention which allows application of sub para (2) (d) of this paragraph shall communicate to the Organization for circulation to the Parties particulars of the waiver thereof, for their information and appropriate action, if any.

CHAPTER VIII

INTERNATIONAL CODE FOR SHIPS OPERATING IN POLAR WATERS

35. (1) Definitions for the purpose of this schedule- *Polar Code* means the International Code for Vessels Operating in Polar Waters, consisting of an introduction, parts I-A and II-A and parts I-B and II-B, adopted by resolutions MSC.385(94) and MEPC.264(68), as may be amended, provided that:

(a) amendments to the environment-related provisions of the introduction and chapter 1 of part II-A of the Polar Code are adopted, brought into force and take effect in accordance with the provisions of Article 16 of the present Convention concerning the amendment procedures applicable to an appendix to an annex; and

(b) amendments to part II-B of the Polar Code are adopted by the Marine Environment Protection Committee in accordance with its Rules of Procedure.

(2) *Arctic waters* means those waters which are located north of a line from the latitude 58º00′.0 N and longitude 042º00′.0 W to latitude 64º37′.0 N, longitude 035º27′.0 W and thence by a rhumb line to latitude 67º03′.9 N, longitude 026º33′.4 Wand thence by a rhumb line to the latitude 70º49′.56 N and longitude 008º59′.61 W (Sørkapp, Jan Mayen) and by the southern shore of Jan Mayen to 73º31′.6 N and 019º01′.0 E by the Island of Bjørnøya, and thence by a great circle line to the latitude 68º38′.29 N and longitude 043º23′.08 E (Cap Kanin Nos) and hence by the northern shore of the Asian Continent eastward to the Bering Strait and thence from the Bering Strait westward to latitude 60º N as far as Il'pyrskiy and following the 60th North parallel eastward as far as and including Etolin Strait and thence by the northern shore of the North American continent as far south as latitude 60º

N and thence eastward along parallel of latitude 60º N, to longitude 056º37′.1 W and thence to the latitude 58º00′.0 N, longitude 042º00′.0 W.
(3) *Polar waters* means Arctic waters and/or the Antarctic area.

36. (1) Application of this chapter: This chapter applies to all vessels operating in polar waters.
(2) Unless expressly provided otherwise, any vessel covered by sub para 1 of this paragraph shall comply with the environment-related provisions of the introduction and with chapter 1 of part II-A of the Polar Code, in addition to any other applicable requirements of this schedule
In applying chapter 1 of part II-A of the Polar Code, consideration should be given to the additional guidance in part II-B of the Polar Code.

LIST OF OILS

Asphalt solutions
Blending stocks
Roofers flux
Straight run residue

Oils
Clarified
Crude oil
Mixtures containing crude oil

Diesel oil
Fuel oil no. 4
Fuel oil no. 5
Fuel oil no. 6
Residual fuel oil
Road oil

Transformer oil
Aromatic oil (excluding vegetable oil)
Lubricating oils and blending stocks
Mineral oil
Motor oil
Penetrating oil
Spindle oil
Turbine oil

Distillates
Straight run
Flashed feed stocks

Gas oil
Cracked

Gasoline blending stocks
Alkylates fuel
Reformates
Polymer — fuel

Gasolines
Casinghead (natural)
Automotive
Aviation

Straight run
oil no. 1 (kerosene)
Fuel oil no. 1-D
Fuel oil no. 2
Fuel oil no. 2-D

Jet fuels
JP-1 (kerosene)
JP-3
JP-4
JP-5 (kerosene, heavy)
Turbo fuel
Kerosene
Mineral spirit

Naphtha
Solvent
Petroleum
Heartcut distillate oil

FORM -1

[See rule 9{regulation 7}]

Certificate No.: _____

INTERNATIONAL OIL POLLUTION PREVENTION CERTIFICATE.

(Note : This Certificate shall be supplemented by a Record of Construction & Equipment)

Issued under the provisions of the International Convention for the Prevention of
Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, and
as amended, (hereinafter referred to as “the Convention”)
under the authority of the **Government of India.**

By : PRINCIPAL OFFICER-CUM-JOINT DG(TECH), Mercantile Marine Department

Particulars of vessel:

Name of Vessel	**Distinctive number or letters**	**Port of Registry**	**Gross Tonnage**	**Deadweight of Vessel (metric tons)[1)]**	**IMO Number**

Type of vessel [2]

- Oil Tanker
- Ship other than an oil tanker with cargo tanks coming under regulation 2.2 of Annex I of the Convention.
- Ship other than any of the above

THIS IS TO CERTIFY :

1. That the has been surveyed in accordance with regulation 6 of Annex I of the convention ;and
2. That the survey shows that the structure, equipment, systems, fittings, arrangements and material of the and the condition thereof are in all respects satisfactory and that the Ship complies with the applicable requirements of Annex I of the Convention.

This certificate is valid until dd/mm /yyyy subject to surveys in accordance with regulation 6 of Annex I of the Convention.

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

Issued at : on the dd/mm/yyyy day of

(Seal or Stamp of the issuing authority, as appropriate)

PRINCIPAL OFFICER CUM JOINT DG(TECH) MERCANTILE MARINE DEPARTMENT XXXXX DISTRICT

1 For oil tankers only.

2 Delete as appropriate.

Certificate No.: _____

Endorsement for annual and intermediate surveys

THIS IS TO CERTIFY that, at a survey required by regulation 6 of Annex I of the Convention, the was found to comply with the relevant provisions of the Convention.

Annual Survey

(Seal or stamp of the authority as appropriate)

Signed :

_____

Place :

_____

Date :

_____

(dd/mm/yyyy)

Annual / Intermediate [2] Survey

Seal or stamp of the authority as appropriate)

Signed :

_____

Place :

_____

Date :

_____

(dd/mm/yyyy)

Annual / Intermediate[2] Survey

Seal or stamp of the authority as appropriate)

Signed :
_____

Place :
_____

Date :
_____
(dd/mm/yyyy
)

Annual Survey

Seal or stamp of the authority as appropriate)

Signed :
_____

Place :
_____

Date :
_____
(dd/mm/yyyy)

ANNUAL/INTERMEDIATESURVEY IN ACCORDANCE WITH REGULATION 10.8.3 OF ANNEX I OF THE CONVENTION

THIS IS TO CERTIFY that, at an annual/intermediate* survey in accordance with regulation10.8.3 of Annex I of the Convention, the ship was found to comply with the relevant provisions of the Convention:

Signed.....

(Signatureofdulyauthorizedofficial)

Place.....

Date.....

(Sealorstampof theauthority,asappropriate)

ENDORSEMENT TO EXTEND THE CERTIFICATE IF VALID FOR LESS THAN 5 YEARS WHERE REGULATION 10.3 OF ANNEX I OF THE CONVENTION APPLIES

The ship complies with the relevant provisions of the Convention, and this Certificate shall, in accordance with regulation 10.3 of Annex I of the Convention, be accepted as valid until .....

Signed.....

(Signature of duly authorized official)

Place.....

Date.....

(Seal or stamp of the authority, as appropriate)

ENDORSEMENT WHERE THE RENEWAL SURVEY HAS BEEN COMPLETED AND REGULATION 10.4 ANNEX I OF THE CONVENTION APPLIES

The ship complies with the relevant provisions of the Convention and this Certificate shall, in accordance with regulation 10.4 of Annex I of the Convention, be accepted as valid until .....

Signed.....

(Signature of duly authorized official) Place

.....

Date.....

(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 REGULATIONS 10.5 OR 10.6 OFANNEX I OF THE CONVENTION APPLIES

This Certificate shall, in accordance with rule 10.5 or 10.6* of Annex I of The Convention, be accepted as valid until .....

Signed.....

(Signature of duly authorized official)

Place.....

Date.....

(Seal or stamp of the authority, as appropriate)

ENDORSEMENT FOR ADVANCEMENT OF ANNIVERSARY DATE WHERE REGULATION 10.8 ANNEX I OF THE CONVENTION APPLIES

In accordance with regulation 10.8 of Annex I of the Convention the new Anniversary date is.....

Signed.....

(Signature of duly authorized official)

Place .....

Date .....

(Seal or stamp of the authority, as appropriate)

FORM A

Supplement to the International Oil Pollution Prevention Certificate

(IOPP Certificate)

RECORD OF CONSTRUCTION AND EQUIPMENT

FOR SHIPS OTHERTHAN OIL TANKERS

In respect of the provisions of Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as “the Convention”).

Notes:

1. This form is to be used for the third type of ships as categorized in the IOPP Certificate, i.e. “ships other than any of the above”. For oil tankers and ships other than oil tankers with cargo tanks coming under regulation 2.2 of Annex I of the Convention, Form B shall be used.
2. This Record shall be permanently attached to the IOPP Certificate. The IOPP Certificate shall be available on board the ship at all times.
3. If the language of the original Record is neither English nor French nor Spanish, the text shall include a translation into one of these languages.
4. Entries in boxes shall be made by inserting either a cross (×) for the answers “yes” and “applicable” or a dash (—) for the answers “no” and “not applicable” as appropriate.
5. Regulations mentioned in this Record refer to regulations of Annex I of the Convention and resolutions refer to those adopted by the International Maritime Organization.

1. Particulars of ship

1.1 Name of ship.....

1.2 Distinctive number or letters.....

1.3 Port of registry.....

1.4 Gross tonnage.....

1.5 Date of build:

1.5.1 Date of building contract .....

1.5.2.2 Date on which keel was laid or ship was at a similar stage of construction

.....

1.5.3 Date of Delivery.....

1.6 Major conversion (if applicable):

1.6.1 Date of conversion contract .....

1.6.2 Date on which conversion was commenced.....

1.6.3 Date of completion of conversion.....

1.7 The ship has been accepted by the Administration as a “ship deliverer donor before 31 December 1979”under Rule 2 (eee) due to unforeseen delay in delivery

2. **Equipment for the control of oil discharge from Machinery space bilges and oil fuel tanks**

(paragraph 5 and 3 of the schedule)

2.1 Carriage of ballast water in oil fuel tanks:

2.1.1 The ship may under normal conditions carry ballast water In oil fuel tanks

2.2 Type of oil filtering equipment fitted

2.2.1 Oil filtering (15 ppm) equipment (paragraph 3.6)

2.2.2 Oil filtering (15 ppm) equipment with alarm and automatic stopping device (paragraph 3.7)

2.3 Approval standards:*

2.3.1 The separating/filtering equipment:

.1 has been approved in accordance with resolution A.393(X);

.2 has been approved in accordance with resolution MEPC.60(33);

.3 has been approved in accordance with resolution MEPC.107(49);

.4 has been approved in accordance with resolution A.233(VII);

.5 has been approved in accordance with national standards not based upon resolution A.393(X) or A.233(VII);

.6 has not been approved.

2.3.2 The process unit has been approved in accordance with resolution A.444(XI)

2.3.3 The oil content meter:

.1 has been approved in accordance with resolution A.393(X);

.2 has been approved in accordance with resolution MEPC.60(33);

.3 has been approved in accordance with resolution MEPC.107(49).

2.4 Maximum throughput of the system is ..... m 3 /h

2.5 Waiver of paragraph 3:

2.5.1 The requirements of paragraph 3.1 or 3.2 are waived in respect of the ship in accordance with paragraph 3.5.

2.5.1.1 The ship is engaged exclusively on voyages within special area(s): .....

2.5.1.2 The ship is certified under the International Code of Safety for High-Speed Craft and engaged on a scheduled service with a turn-around time not exceeding 24 hours

2.5.2 The ship is fitted with holding tank(s) for the total retention on board of all oily bilge water as follows:

2A. Oil fuel tank protection (paragraph 1(2))

2A.1 The ship is required to be constructed according to paragraph 1(2) and complies with the requirements of:

Sub paragraphs 6 and either 7 or 8 (double hull construction)

sub paragraph 11 (accidental oil fuel outflow performance)

2A.2 The ship is not required to comply with the requirements of paragraph 1A

TANK IDENTIFICATION	TANK LOCATION	VOLUME (m^3)

		Total volume: ..... m^3	

3. Means for retention and disposal of oil residues (sludge) (Paragraph 1) and oily bilge water holding tank(s)

3.1 The ship is provided with oil residue (sludge) tanks for retention of oil residues (sludge) on board as follows:

TANK IDENTIFICATION	**TANK LOCATION**		**VOLUME (m^3)**
		Total volume: ..... m^3	

3.2 Means for the disposal of oil residues (sludge) retained in oil residue (sludge) tanks:

3.2.1 Incinerator for oil residues (sludge)

3.2.2 Auxiliary boiler suitable for burning oil residues (sludge)

3.2.3 Other acceptable means, state which .....

3.3 The ship is provided with holding tank(s) for the retention on board of oily bilge water as follows:

TANK IDENTIFICATION	TANK LOCATION		VOLUME (m^3)
		Total volume: ..... m^3	

4. Standard discharge connection (Paragraph 2)

4.1 The ship is provided with a pipeline for the discharge of residues from machinery bilges and sludges to reception facilities, fitted with a standard discharge connection in accordance with Paragraph 2.

5. Shipboard oil/marine pollution emergency plan (paragraph 26)

5.1 The ship is provided with a shipboard oil pollution emergency plan in compliance with paragraph 26

5.2 The ship is provided with a shipboard marine pollution emergency plan in compliance with paragraph 26.3

6. Exemption

6.1 Exemptions have been granted by the Administration from the requirements of chapter 3 of AnnexI of the Convention in accordance with rule 4.1 on those items listed underparagraph(s) .....

.....

.....of this Record.

7. Equivalents (rule 6)

7.1 Equivalents have been approved by the Administration for certain requirements of Annex I on those items listed under paragraph(s) .....

.....of this Record.

8. Compliance with part II-A–chapter 1 of the Polar Code

8.1 The ship is in compliance with additional requirements in the environment related provisions of the introduction and section 1.2 of chapter 1 of part II A of the Polar Code .....

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

(Place of issue of the Record)

.....

(Date of issue) .....

(Signature of duly authorized official issuing the Record)

(Seal or stamp of the issuing authority, as appropriate)

FORM B

Supplement to the International Oil Pollution Prevention Certificate

(IOPP Certificate)

RECORD OFCONSTRUCTION AND EQUIPMENT

FOR OILTANKERS

In respect of the provisions of Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as “the Convention”).

Notes:

1. This form is to be used for the first two types of ships as categorized in the IOPP Certificate, i.e. “oil tankers” and “ships other than oil tankers with cargo tanks coming under regulation 2.2 of Annex I of the Convention”. For the third type of ships as categorized in the IOPP Certificate, Form A shall be used.
2. This Record shall be permanently attached to the IOPP Certificate. The IOPP Certificate shall be available on board the ship at all times.

3. If the language of the original Record is neither English nor French nor Spanish, the text shall include a translation into one of these languages.
4. Entries in boxes shall be made by inserting either a cross (×) for the answers “yes” and “applicable” or a dash (—) for the answers “no” and“not applicable” as appropriate.
5. Unless otherwise stated, regulations mentioned in this Record refer to regulations of Annex I of the Convention and resolutions refer to those adopted by the International Maritime Organization.

1. Particulars of ship

1.1 Name of ship .....

1.2 Distinctive number or letters .....

1.3 Port of registry .....

1.4 Gross tonnage .....

1.5 Carrying capacity of ship ..... (m3)

1.6 Deadweight of ship ..... (tons) (rule 2(p))

1.7 Length of ship ..... (m) (rule 2(x))

1.8 Date of build:

1.8.1 Date of building contract .....

1.8.2 Date on which keel was laid or ship was at a similar stage of construction .....

1.8.3 Date of delivery .....

1.9 Major conversion (if applicable):

1.9.1 Date of conversion contract .....

1.9.2 Date on which conversion was commenced .....

1.9.3 Date of completion of conversion. .....

1.10 Unforeseen delay in delivery:

1.10.1 The ship has been accepted by the Administration as a “ship delivered on or before 31 December 1979” under rule 2 (eee) due to unforeseen delay in delivery. □

1.10.2 The ship has been accepted by the Administration as an “oil tanker delivered on or before 1 June 1982” under rule 2 (mm) due to unforeseen delay in delivery.

□

1.10.3 The ship is not required to comply with the provisions of paragraph 15 of the schedule due to unforeseen delay in delivery .

□

1.11 Type of ship:

1.11.1 Crude oil tanker □

1.11.2 Product carrier □

1.11.3 Product carrier not carrying fuel oil or heavy diesel oil as referred to in paragraph 9.2 of the schedule, or lubricating oil □

1.11.4 Crude oil/product carrier □

1.11.5 Combination carrier □

1.11.6 Ship, other than an oil tanker, with cargo tanks coming under regulation 2.2 of Annex I of the Convention □

1.11.7 Oil tanker dedicated to the carriage of products referred to in rule 3.4. □

2. Equipment for the control of oil discharge from machinery **space bilges and oil fuel tank (paragraph 5 and 3 of the schedule)**

2.1 Carriage of ballast water in oil fuel tanks:

2.1.1 The ship may under normal conditions carry ballast water in oil fuel tanks □

2.2 Type of oil filtering equipment fitted:

2.2.1 Oil filtering (15 ppm) equipment (paragraph 3.6 of the schedule) □

2.2.2 Oil filtering (15 ppm) equipment with alarm and automatic stopping device (rule 3.7) □

2.3 Approval standards:

2.3.1 The separating/filtering equipment:

.1 has been approved in accordance with resolution A.393(X); □

.2 has been approved in accordance with resolution MEPC.60(33); □

.3 has been approved in accordance with resolution MEPC.107(49); □

.4 has been approved in accordance with resolution A.233(VII); □

.5 has been approved in accordance with national standards not based upon resolution A.393(X) or A.233(VII);

.6 has not been approved. □

2.3.2 The process unit has been approved in accordance with resolution A.444(XI). □

2.3.3 The oil content meter:

.1 has been approved in accordance with resolution A.393(X); □

.2 has been approved in accordance with resolution MEPC.60(33); □

.3 has been approved in accordance with resolution MEPC.107(49). □

2.4 Maximum throughput of the system is m3/h

2.5 Waiver of paragraph 3 of the schedule:

2.5.1 The requirements of paragraph 3.1 or 3.2 are waived in respect of the ship in accordance with paragraph 3.5 of the schedule.

The ship is engaged exclusively on voyages within special area(s): □

2.5.2 The ship is fitted with holding tank(s) for the total retention on board of all oily bilge water as follows:

TANK IDENTIFICATION	**TANK LOCATION**		**VOLUME (m^3)**
		Total volume: ..... m^3	

2.5.3 In lieu of the holding tank(s) the ship is provided with arrangements to transfer bilge water to the slop tank □

2A. Oil fuel tank protection (paragraph 1(2) of the schedule)

2A.1 The ship is required to be constructed according to paragraph 1(2) and complies with the requirements of:

Sub paragraphs 6 and either 7 or 8 (double hull construction) □

paragraph 11 (accidental oil fuel outflow performance) □

2A.2 The ship is not required to comply with the requirements of paragraph 1(2)

□

3. Means for retention and disposal of oil residues (sludge) (paragraph 1 of the schedule) and oily bilge water holding tank(s)

3.1 The ship is provided with oil residue (sludge) tanks for retention of oil residues (sludge) on board as follows:

TANK IDENTIFICATION	**TANK LOCATION**		**VOLUME (m^3)**
		Total volume: ..... m^3	

3.2 Means for the disposal of oil residues (sludge) retained in oil residue (sludge) tanks:

3.2.1 Incinerator for oil residues (sludge) □

3.2.2 Auxiliary boiler suitable for burning oil residues (sludge) □

3.2.3 Other acceptable means, state which .....

3.3 The ship is provided with holding tank(s) for the retention on board of oily bilge water as follows:

. . .

	TANK LOCATION	

Tank identification	Frames	Lateral	*Volume*
		Total volume:	

4. Standard discharge connection (paragraph 2 of the schedule)

4.1 The ship is provided with a pipeline for the discharge of residues from machinery bilges and sludges to reception facilities, fitted with a standard discharge connection in accordance with paragraph 2 of the schedule. □

5. Construction (paragraph 7,8,9,10,11,12,15,16,17 and 22)

5.1 In accordance with the requirements of paragraph 7 of the schedule, the ship is qualified as a segregated ballast tanker in compliance with paragraph 7.9. □

5.2 Segregated ballast tanks (SBT) in compliance with paragraph 7 of the schedule are distributed as follows:

Tank identification	TANK LOCATION		*Volume*
	Frames	**Lateral**	**(m3)**
		Total volume:	

5.3 Crude oil washing (COW): . □

5.3.1 The ship is equipped with a COW system in compliance with paragraph 22 of the schedule

5.3.2 The ship is equipped with a COW system in compliance with paragraph 22 of the schedule except that the effectiveness of the system has not been confirmed in accordance with paragraph 22.1 of the schedule and paragraph 4.2.10 of the Revised COW Specifications (resolution A.446(XI) as amended by resolutions A.497(XII) and A.897(21))

5.3.3 The ship has been supplied with a valid Crude Oil Washing Operations and Equipment Manual, which is dated .....

5.3.4 The ship is not required to be but is equipped with COW in compliance with the safety aspects of the Revised COW Specifications (resolution A.446(XI) amended by as resolutions A.497(XII) and A.897(21)).

5.4 Limitation of size and arrangements of cargo tanks (paragraph 15 of the schedule):

5.4.1 The ship is required to be constructed according to, and complies with, the requirements of paragraph 15 of the schedule.

5.4.2 The ship is required to be constructed according to, and complies with, the requirements of paragraph 15.4 of the schedule (see rule 2.2)

5.5 Subdivision and stability (paragraph 17 of the schedule):

5.5.1 The ship is required to be constructed according to, and complies with, the requirements of paragraph 17.

5.5.2 Information and data required under paragraph 17.5 have been supplied to the ship in an approved form

5.5.3 The ship is required to be constructed according to, and complies with, the requirements of paragraph 16 of the schedule.

5.5.4 Information and data required under paragraph 16 for combination carriers have been supplied to the ship in a written procedure approved by the Administration.

5.5.5 The ship is provided with an Approved Stability Instrument in accordance with paragraph 17.6

5.5.6 The requirements of paragraph 17.6 of the schedule are waived in respect of the ship in accordance with rule 3.6. Stability is verified by one or more of the following means:

.1 loading only to approved conditions defined in the stability information provided to the master in accordance with paragraph 17.6 of the schedule.

.2 verification is made remotely by a means approved by the Administration

.3 loading within an approved range of loading conditions defined in the stability information provided to the master in accordance with paragraph 17.5 of the schedule.

.4 loading in accordance with approved limiting KG/GM curves covering all applicable intact and damage stability requirements defined in the stability information provided to the master in accordance with paragraph 17.5 of the schedule.

5.6 Double-hull construction:

5.6.1 The ship is required to be constructed according to paragraph 8 of the schedule and complies with the requirements of:

.1 sub paragraph 3 (double-hull construction)

.2 sub paragraph 4 (mid-height deck tankers with double side construction)

.3 sub paragraph 5 (alternative method approved by the Marine Environment Protection Committee) complies with, the requirements of paragraph 8.6.

5.6.2 The ship is required to be constructed according to, and

5.6.3 The ship is not required to comply with the requirements of paragraph 8 of the schedule.

5.6.4 The ship is subject to paragraph 9 of the schedule and:

1 is required to comply with sub paragraphs 2 to 5, 7 and 8 of the schedule and paragraph 17 in respect of sub paragraph (7) of the 17 para not later than .....

.2 is allowed to continue operation in accordance with para 9.5 until .....

.3 is allowed to continue operation in accordance with para 9.7 until .....

5.6.5 The ship is not subject to para 9 and:

.1 the ship is less than 5,000 tones deadweight

.2 the ship complies with paragraph 20.1.2

.3 the ship complies with paragraph 20.1.3

5.6.6 The ship is subject to sub paragraph 10 and:

.1 is required to comply with paragraph 10.4 not later than .....

.2 is allowed to continue operation in accordance with paragraph 10.5 until .....

.3 is allowed to continue operation in accordance with paragraph 10.6.1 until .....

.4 is allowed to continue operation in accordance with paragraph 10.6.2 until .....

.5 is exempted from the provisions of paragraph 10 in accordance with paragraph 10.7.2

5.6.7 The ship is not subject to paragraph 10 of the schedule and:

.1 the ship is less than 600 tones deadweight

.2 the deadweight ≥5,000) ship complies with paragraph 8 of the schedule (tones)

.3 the ship complies with paragraph 10.1.2 of the schedule

.4 the ship complies with paragraph 10.4.2 of the schedule (600 ≤tones deadweight < 5,000) □

.5 the ship does not carry “heavy grade oil” as defined in regulation 21.2 of MARPOL Annex I □

5.6.8 The ship is subject to paragraph 11 of the schedule and:

.1 complies with the requirements of paragraph 11.2 of the schedule □

.2 complies with the requirements of paragraph 11.3 of the schedule □

.3 complies with the requirements of paragraph 11.5 of the schedule □

5.6.9 The ship is not subject to paragraph 11 of the schedule □

5.7 Accidental oil outflow performance:

5.7.1 The ship complies with the requirements of paragraph 12 of the schedule

6. Retention of oil on board (paragraph 18, 20 and 21 of the schedule) .

6.1 Oil discharge monitoring and control system:

6.1.1 The ship comes under category ..... oil tanker as defined in resolution A.496(XII) or A.586(14)*

6.1.2 The oil discharge monitoring and control system has been approved in accordance with resolution MEPC.108(49)**

6.1.3 The system comprises:

.1 control unit □

.2 computing unit □

.3 calculating unit □

6.1.4 The system is:

.1 fitted with a starting interlock □

.2 fitted with automatic stopping device □

6.1.5 The oil content meter is approved under the terms of resolution

A.393(X) or A.586(14)†or MEPC.108(49)

suitable for:

.1 crude oil □

.2 black products □

.3 white products □

6.1.6 The ship has been supplied with an operations manual for the oil discharge monitoring and control system □

6.2 Slop tanks:

The ship is provided with ..... dedicated slop tank(s)

with the total capacity of ..... m3, which is ..... % of the oil carrying capacity, in accordance with:

.1 paragraph 18.2.3 of the schedule □

.2 paragraph 18.2.3.1 of the schedule □

.3 paragraph 18.2.3.2 of the schedule □

.4 paragraph 18.2.3.3 of the schedule □

6.2.2 Cargo tanks have been designated as slop tanks □

6.3 Oil/water interface detectors:

6.3.1 The ship is provided with oil/water interface detectors approved under the terms of resolution MEPC.5(XIII)* □

6.4 Exemptions from paragraph 18, 20, and 21 of the schedule:

6.4.1 The ship is exempted from the requirements of paragraph 18, 20, and 21 of the schedules in accordance with rule 3.4 □

6.4.2 The ship is exempted from the requirements of paragraph 18, 20, and 21 of the schedules in accordance with rule 3.2 □

6.5 Waiver of schedule:

6.5.1 The requirements of paragraph 20, and 21 of the schedules are waived in respect of the ship in accordance with rule 4.5. The ship is engaged exclusively on:

.1 specific trade under rule 3.5:

.....

.....

.2 voyages within special area(s):

.....

.....

.3 voyages within 50 nautical miles of the nearest land outside special area(s) of 72 hours or less in duration restricted to:

.....

7. Pumping, piping and discharge arrangements (paragraph 19 of the schedule)

7.1 The overboard discharge outlets for segregated ballast are located:

7.1.1. Above the waterline □

7.1.2 Below the waterline □

7.2 The overboard discharge outlets, other than the discharge manifold, for clean ballast are located†:

7.2.1 Above the waterline □

7.2.2 Below the waterline □

7.3 The overboard discharge outlets, other than the discharge manifold, for dirty ballast water or oil-contaminated water from cargo tank areas are located:

7.3.1 Above the waterline □

7.3.2 Below the waterline in conjunction with the part flow arrangements in compliance with paragraph 19.6.5 of the schedule □

7.3.3 Below the waterline □

7.4 Discharge of oil from cargo pumps and oil lines (paragraph 19.4 and 19.5 of the schedule):

7.4.1 Means to drain all cargo pumps and oil lines at the completion of cargo discharge:

.1 draining capable of being discharged to a cargo tank or slop tank □

.2 for discharge ashore a special small-diameter line is provided □

8. Shipboard oil/marine pollution emergency plan (paragraph 26 of the schedule)

8.1 The ship is provided with a shipboard oil pollution emergency plan in compliance with paragraph 26 of the schedule □

8.2 The ship is provided with a shipboard marine pollution emergency plan in compliance with paragraph 26.3 of the schedule □

8A. Ship-to-ship oil transfer operations at sea (paragraph 30 of the schedule)

8A.1 The oil tanker is provided with an STS operations Plan in compliance with paragraph 30 of the schedule □

9. Exemption .

9.1 Exemptions have been granted by the Administration from the requirements of chapter 3 of Annex I of the Convention in accordance with rule 4.1 on those items listed under paragraph(s)

.....

.....

..... of this Record

10. Equivalents (rule 6)

10.1 Equivalents have been approved by the Administration for certain requirements of Rule on those items listed under paragraph(s).....

.....of this Record

11. Compliance with part II-A – chapter 1 of the Polar Code

11.1 The ship is in compliance with additional requirements in the environment-related provisions of the introduction and section 1.2 of chapter 1 of part II-A of the Polar Code.

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

.....

(Place of issue of the Record)

.....

(Date of issue)

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

(Seal or stamp of the issuing authority, as appropriate)

APPENDIX III

FORM OF OIL RECORD BOOK

OIL RECORD BOOK

PART I — MACHINERY SPACE OPERATIONS

(All Ships)

Name of Ship: .....

Distinctive number or letters: .....

Gross tonnage: .....

Period from: ..... to: .....

Note: Oil Record Book Part I shall be provided to every oil tanker of 150 gross tonnage and above and every ship of 400 gross tonnage and above, other than oil tankers, to record relevant machinery space operations. For oil tankers, Oil Record Book Part II shall also be provided to record relevant cargo/ballast operations.

Introduction

The following pages of this section show a comprehensive list of items of machinery space operations which are, when appropriate, to be recorded in the Oil Record Book

Part I in accordance with regulation 17 of Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78). The items have been grouped into operational sections, each of which is denoted by a letter Code.

When making entries in the Oil Record Book Part I, the date, operational Code and item number shall be inserted in the appropriate Columns and the required particulars shall be recorded chronologically in the blank spaces.

Each completed operation shall be signed for and dated by the officer or officers in charge. The master of the Ship shall sign each completed page.
The Oil Record Book Part I contains many references to oil quantity. The limited accuracy of tank Measurement devices, temperature variations and clingage will affect the accuracy of these readings. The entries in the Oil Record Book Part I should be considered accordingly.

In the event of accidental or other exceptional discharge of oil statement shall be made in the Oil Record Book Part I of the circumstances of, and the reasons for, the discharge.

Any failure of the oil filtering equipment shall be noted in the Oil Record Book Part I.

The entries in the Oil Record Book Part I, for ships holding an IOPP Certificate, shall be at least in English, French or Spanish. Where entries in official language of the State whose flag the ship is entitled to fly are also used, this shall prevail in case of a dispute or discrepancy.

The Oil Record Book Part I shall be kept in such a place as to be readily available for inspection at all reasonable times and, except in the case of unmanned ships under tow, shall be kept on board the ship. It shall be preserved for a period of three years after the last entry has been made.

The competent authority of the Government of a Party to the Convention may inspect the Oil Record Book Part I on board any ship to which this Annex applies while the ship is in its port or offshore terminals and may make a copy of any entry in that book and may require the master of the ship to certify that the copy is a true copy of such entry. Any copy so made which has been certified by the master of the ship as a true copy of an entry in the Oil Record Book Part I shall be made admissible in any juridical proceedings as evidence of the facts stated in the entry. The inspection of an Oil Record Book Part I and the taking of a certified copy by the competent authority under this paragraph shall be performed as expeditiously as possible without causing the ship to be unduly delayed.

LIST OF ITEMS TO BE RECORDED

(A) Ballasting or cleaning of oil fuel tanks

1. Identity of tank(s) ballasted.

2. Whether cleaned since they last contained oil and, if not, type of oil previously carried.

3. Cleaning process:

.1 position of ship and time at the start and completion of cleaning;

.2 identify tank(s) in which one or another method has been employed (rinsing through, steaming, cleaning with chemicals; type and quantity of chemicals used, in m3);

.3 identity of tank(s) into which cleaning water was transferred and the quantity in m3.

4. Ballasting:

.1 position of ship and time at start and end of ballasting;

.2 quantity of ballast if tanks are not cleaned, in m3.

(B) Discharge of dirty ballast or cleaning water from oil fuel tanks referred to under Section (A)

5. Identity of tank(s).

6. Position of ship at start of discharge.

7. Position of ship on completion of discharge. 8 Ship's speed(s) during discharge.

9. Method of discharge:

.1 through 15 ppm equipment;

.2 to reception facilities.

10. Quantity discharged, in m3.

(C) Collection, transfer and disposal of oil residues (sludge)

11. Collection of oil residues (sludge).

Quantities of oil residues (sludge) retained on board. The quantity should be recorded weekly1: (This means that the quantity must be recorded once a week even if the voyage lasts more than one week):

.1 identity of tank(s)

.2 capacity of tank(s) m3

.3 total quantity of retention m3

.4 quantity of residue collected by manual operation .. m3(Operator initiated manual collections where oil residue (sludge) is transferred into the oil residue (sludge) holding tank(s).)

12. Methods of transfer or disposal of oil residues (sludge).

State quantity of oil residues transferred or disposed of, the tank(s) emptied and the quantity of contents retained in m3:

.1 to reception facilities (identify port)2;

.2 to another (other) tank(s) (indicate tank(s) and the total content of tank(s));

.3 incinerated (indicate total time of operation);

.4 other method (state which).

(D) Non-automatic starting of discharge overboard, transfer or disposal otherwise of bilge water which has accumulated in machinery spaces

13. Quantity discharged, transferred or disposed of, in cubic metres.

14. Time of discharge, transfer or disposal (start and stop).

15. Method of discharge, transfer, or disposal:

.1 through 15 ppm equipment (state position at start and end);

.2 to reception facilities (identify port);

.3 to slop tank or holding tank or other tank(s) (indicate tank(s); state quantity retained in tank(s), in m3).

(E) Automatic starting of discharge overboard, transfer or disposal otherwise of bilge water which has accumulated in machinery spaces

16. Time and position of ship at which the system has been put into automatic mode of operation for discharge overboard, through 15 ppm equipment.

17. Time when the system has been put into automatic mode of operation for transfer of bilge water to holding tank (identify tank).

18. Time when the system has been put into manual operation.

(F) Condition of the oil filtering equipment

19. Time of system failure.5

20. Time when system has been made operational.

21. Reasons for failure.

(G) Accidental or other exceptional discharges of oil

22. Time of occurrence.

23. Place or position of ship at time of occurrence.

24. Approximate quantity and type of oil.

25. Circumstances of discharge or escape, the reasons therefor and general remarks.

(H) Bunkering of fuel or bulk lubricating oil

26. Bunkering:

.1 Place of bunkering.

.2 Time of bunkering.

.3 Type and quantity of fuel oil and identity of tank(s) (state quantity added, in tonnes and total content of tank(s)).

.4 Type and quantity of lubricating oil and identity of tank(s) (state quantity added, in tonnes and total content of tank (s)).

(l) Additional operational procedures and general remarks

Name of ship .....

Distinctive number or letters .....

MACHINERY SPACE OPERATIONS

Date	**Code** (letter)	**Item** (number)	**Record of operations/signature**

Signature of master .....

OIL RECORD BOOK

PART II — CARGO/BALLAST OPERATIONS

(*Oil Tankers*)

Name of Ship: .....

Distinctive number or letters: .....

Gross tonnage: .....

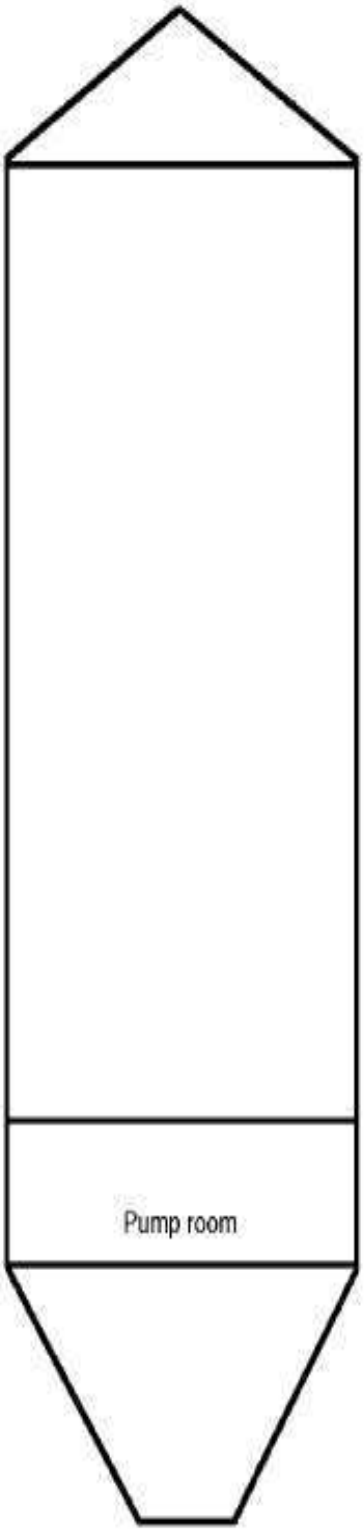
Period from: ..... to: .....

Note: Every oil tanker of 150 gross tonnage and above shall be provided with Oil Record Book Part II to record relevant cargo/ballast operations. Such a tanker shall also be provided with Oil Record Book Part I to record relevant machinery space

Name of Ship

Distinctive number or letters .....

PLAN VIEW OF CARGO AND SLOP TANKS



Identification of tanks	Capacity
Depth of slop tank(s):	

(Give the capacity of each tank and the depth of slop tank(s))

Introduction

The following pages of this section show a comprehensive list of items of cargo and ballast operations which are, when appropriate, to be recorded in the Oil Record Book Part II in accordance with regulation 36 of Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78). The items have been grouped into operational section, each of which is denoted by a code letter.

When making entries in the Oil Record Book Part II, the date, operational code and item number shall be inserted in the appropriate columns and the required particulars shall be recorded chronologically in the blank spaces.

Each completed operation shall be signed for and dated by the officer or officers in charge. Each completed page shall be countersigned by the master of the ship.

In respect of the oil tankers engaged in specific trades in accordance with regulation 2.5 of Annex I of MARPOL 73/78, appropriate entry in the Oil Record Book Part II shall be endorsed by the competent port State authority.*

The Oil Record Book Part II contains many references to oil quantity. The limited accuracy of tank Measurement devices, temperature variations and clingage will affect the accuracy of these readings. The entries in the Oil Record Book Part II should be considered accordingly.

In the event of accidental or other exceptional discharge of oil a statement shall be made in the Oil Record Book Part II of the circumstances of, and the reasons for, the discharge.

Any failure of the oil discharge monitoring and control system shall be noted in the Oil Record Book Part II.

The entries in the Oil Record Book Part II, for ships holding an IOPP Certificate, shall be at least in English, French or Spanish. Where entries in an official language of the State whose flag the ship is entitled to fly are also used, this shall prevail in case of a dispute or discrepancy.

The Oil Record Book Part II shall be kept in such a place as to be readily available for inspection at all reasonable times and, except in the case of unmanned Ships under tow, shall be kept on board the Ship. It shall be preserved for a period of three years after the last entry has been made.

The competent authority of the Government of a Party to the Convention may inspect the Oil Record Book Part II on board any Ship to which this Annex applies while the Ship is in its port or offshore terminals and may make a copy of any entry in that book and may require the master of the Ship to certify that the copy is a true copy of such entry. Any copy so made which has been certified by the master of the Ship as a true copy of an entry in the Oil Record Book Part II shall be made admissible in any juridical proceedings as evidence of the facts stated in the entry. The inspection of an Oil Record Book Part II and taking of a certified copy by the competent authority under this paragraph shall be performed as expeditiously as possible without causing the ship to be unduly delayed.

LIST OF ITEMS TO BE RECORDED

(A) Loading of oil cargo

1. Place of loading.
2. Type of oil loaded and identity of tank(s).
3. Total quantity of oil loaded (state quantity added, in m3at 15°C and the total content of tank(s), in m3).

(B) Internal transfer of oil cargo during voyage

4. Identity of tank(s):

.1 from:

.2 to: (state quantity transferred and total quantity of tank(s), in m3).

5. Was (were) the tank(s) in 4.1 emptied? (If not, state quantity retained, in m3.)

(C) Unloading of oil cargo

6. Place of unloading.
7. Identity of tank(s) unloaded.
8. Was (were) the tank(s) emptied? (If not, state quantity retained, in m3.)

(D) Crude oil washing (COW tankers only)

(To be completed for each tank being crude oil washed)

9. Port where crude oil washing was carried out or ship's position if carried out between two discharge ports.
10. Identity of tank(s) washed
11. Number of machines in use.
12. Time of start of washing.
13. Washing pattern employed.
14. Washing line pressure.
15. Time washing was completed or stopped.
16. State method of establishing that tank(s) was (were) dry.
17. Remarks.

(E) Ballasting of cargo tanks

18. Position of ship at start and end of ballasting.
19. Ballasting process:

.1 identity of tank(s) ballasted;

.2 time of start and end; and

.3 quantity of ballast received. Indicate total quantity of ballast for each tank involved in operation, in m3.

(F) Ballasting of dedicated clean ballast tanks (CBT tankers only)

20. Identity of tank(s) ballasted.
21. Position of ship when water intended for flushing, or port ballast was taken to dedicated clean ballast tank(s).
22. Position of ship when pump(s) and lines were flushed to slop tank.
23. Quantity of the oily water which, after line flushing, is transferred to the slop tank(s) or cargo tank(s) in which slop is preliminarily stored (identify tank(s)). State total quantity, in m3.
24. Position of ship when additional ballast water was taken to dedicated clean ballast tank(s).
25. Time and position of ship when valves separating the dedicated clean ballast tanks from cargo and stripping lines were closed.
26. Quantity of clean ballast taken on board, in m3.

(G) Cleaning of cargo tanks

27. Identity of tank(s) cleaned.
28. Port or ship's position.
29. Duration of cleaning.
30. Method of cleaning
31. Tank washings transferred to:

.1 reception facilities (state port and quantity, in m3); and

.2 slop tank(s) or cargo tank(s) designated as slop tank(s) (identify tank(s); state quantity transferred and total quantity, in m3).

(H) Discharge of dirty ballast

32. Identity of tank(s).
33. Time and position of ship at start of discharge into the sea.
34. Time and position of ship on completion of discharge into the sea.
35. Quantity discharged into the sea, in m3.
36. Ship's speed(s) during discharge.
37. Was the discharge monitoring and control system in operation during the discharge?
38. Was a regular check kept on the effluent and the surface of the water in the locality of the discharge?
39. Quantity of oily water transferred to slop tank(s) (identify slop tank(s). State total quantity, in m3.)
40. Discharged to shore reception facilities (identify port and quantity involved, in m3)

(I) Discharge of water from slop tanks into the sea

41. Identity of slop tanks.
42. Time of settling from last entry of residues, or
43. Time of settling from last discharge.
44. Time and position of ship at start of discharge.
45. Ullage of total contents at start of discharge.
46. Ullage of oil/water interface at start of discharge.
47. Bulk quantity discharged, in m3and rate of discharge, in m3/hour.
48. Final quantity discharged, in m3and rate of discharge, in m3/hour.
49. Time and position of ship on completion of discharge.
50. Was the discharge monitoring and control system in operation during the discharge?
51. Ullage of oil/water interface on completion of discharge, in metres.
52. Ship's speed(s) during discharge.
53. Was a regular check kept on the effluent and the surface of water in the locality of the discharge?

54. Confirm that all applicable valves in the ship's piping system have been closed on completion of discharge from the slop tanks.

(J) Collection, transfer and disposal of residues and oily mixtures not otherwise dealt with

55. Identity of tanks.

56. Quantity transferred or disposed of from each tank. (State the quantity retained, in m3.)

57. Method of transfer or disposal:

.1 disposal to reception facilities (identify port and quantity involved);

.2 mixed with cargo (state quantity);

.3 transferred to or from (an)other tank(s) including transfer from machinery space oil residue (sludge) and oily bilge water tanks (identify tank(s); state quantity transferred and total quantity in tank(s), in m3); and

.4 other method (state which); state quantity disposed of in m3.

(K) Discharge of clean ballast contained in cargo tanks

58. Position of ship at start of clean ballast.

59. Identity of tank(s) discharged.

60. Was (were) the tank(s) empty on completion?

61. Position of ship on completion if different from 58.

62. Was a regular check kept on the effluent and the surface of the water in the locality of the discharge?

(L) Discharge of ballast from dedicated clean ballast tanks (CBT tankers only)

63. Identity of tank(s) discharged.

64. Time and position of ship at start of discharge of clean ballast into the sea.

65. Time and position of ship on completion of discharge into the sea.

66. Quantity discharged, in m3:

.1 into the sea; or

.2 to reception facility (identify port).7

67. Was there any indication of oil contamination of the ballast water before or during discharge into the sea?

68. Was the discharge monitored by an oil content meter?

69. Time and position of ship when valves separating dedicated clean ballast tanks from the cargo and stripping lines were closed on completion of deballasting.

(M) Condition of oil discharge monitoring and control system

70. Time of system failure.

71. Time when system has been made operational.

72. Reasons for failure.

(N) Accidental or other exceptional discharges of oil

73. Time of occurrence.

74. Port or ship's position at time of occurrence.

75. Approximate quantities, in m3, and type of oil.

76. Circumstances of discharge or escape, the reasons therefor and general remarks.

(O) Additional operational procedures and general remarks

TANKERS ENGAGED IN SPECIFIC TRADES

(P) Loading of ballast water

77. Identity of tank(s) ballasted.

78. Position of ship when ballasted.

79. Total quantity of ballast loaded in cubic metres.

80. remarks.

(Q) Re-allocation of ballast water within the ship

81. Reason for re-allocation.

(R) Ballast water discharge to reception facility

82. Port(s) where ballast water was discharged.

83. Name or designation of reception facility.

84. Total quantity of ballast water discharged in cubic metres.

85. Date, signature and stamp of port authority official.

Name of ship .....

Distinctive number or letters .....

CARGO/BALLAST OPERATIONS (OIL TANKERS)

Date	**Code** (letter)	**Item** (number)	**Record of operations/signature of officer in charge**

Signature of master .....

APPENDIX IV

FORM OF EXEMPTION CERTIFICATE FOR UNSP BARGES

INTERNATIONAL OIL POLLUTION PREVENTION EXEMPTION CERTIFICATE FOR UNMANNED NON-SELF-PROPELLED (UNSP) BARGES

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

.....

by

.....

.....

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

Particulars of ship*

Name of ship .....

Distinctive number or letters .....

Port of registry .....

Gross tonnage .....

THIS IS TO CERTIFY:

1 That the UNSP barge has been surveyed in accordance with regulation 3.7 of Annex I to the Convention;

2 That the survey shows that the UNSP barge:

.1 is not propelled by mechanical means;

.2 carries no oil (as defined in regulation 1.1 of Annex I to the Convention);

.3 has no machinery fitted that may use oil or generate oil residue (sludge);

.4 has no oil fuel tank, lubricating oil tank, oily bilge water holding tank and oil residue (sludge) tank; and

.5 has neither persons nor living animals on board; and

3 That the UNSP barge is exempted, under regulation 3.7 of Annex I to the Convention, from the certification and related survey requirements of regulations 6.1 and 7.1 of Annex I to the Convention.

This certificate is valid until *(dd/mm/yyyy)* ..... subject to the exemption conditions being maintained.

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

....

Issued at .....

(place of issue of certificate)

.....	.....
..	.....
(date of issue) (dd/mm/yyyy)	*(signature of duly authorized official issuing the certificate)*

(*seal or stamp of authority, as*

FEES

(See paragraph 29 of the schedule)

A. Fees payable for surveys conducted for the purposes of issue of an international Oil Pollution Prevention Certificate / India Oil Pollution Prevention Certificate, Annual Survey, Intermediate and Renewal Survey for Oil Tankers.		
1. Gross Tonnage of Ship upto 500 tons		
Initial Survey		RS. 12,000
Annual Survey		RS. 4,000
Intermediate Survey		RS. 5,000
Renewal Survey		RS. 7,000
2. Gross Tonnage of Ship 500 to 19,999 tons		
Initial Survey		RS. 30,000
Annual Survey		RS. 10,000
Intermediate Survey		RS. 15,000
Renewal Survey		RS. 20,000

3. Gross Tonnage of Ship 20000 to 29,999 tons		
Initial Survey		RS. 35,000
Annual Survey		RS. 15,000
Intermediate Survey		RS. 20,000
Renewal Survey		RS. 25,000
4. Gross Tonnage of Ship 30000 to 49,999 tons		
Initial Survey		RS. 40,000
Annual Survey		RS. 15,000
Intermediate Survey		RS. 20,000
Renewal Survey		RS. 25,000
5. Gross Tonnage of Ship 50000 to 99,999 tons		
Initial Survey		RS. 45,000
Annual Survey		RS. 20,000
Intermediate Survey		RS. 25,000
Renewal Survey		RS. 30,000
6. Gross Tonnage of Ship – Above 1,00,000 tons		
Initial Survey		RS. 75,000
Annual Survey		RS. 25,000
Intermediate Survey		RS. 30,000
Renewal Survey		RS. 40,000

B. Fees payable for surveys conducted for the purposes of issue of an international Oil Pollution Prevention Certificate / India Oil Pollution Prevention Certificate, Annual Survey, Intermediate and Renewal Survey for other Indian ships.		
1. Gross Tonnage of Ship upto 500 tons		
Initial Survey		RS. 10,000
Annual Survey		RS. 3,500
Intermediate Survey		RS. 5,000
Renewal Survey		RS. 7,000
2. Gross Tonnage of Ship 500 to 19,999 tons		
Initial Survey		RS. 25,000
Annual Survey		RS. 10,000
Intermediate Survey		RS. 15,000
Renewal Survey		RS. 20,000
3. Gross Tonnage of Ship 20000 to 29,999 tons		
Initial Survey		RS. 30,000
Annual Survey		RS. 12,000
Intermediate Survey		RS. 18,000
Renewal Survey		RS. 22,000
4. Gross Tonnage of Ship 30000 to 49,999 tons		
Initial Survey		RS. 35,000
Annual Survey		RS. 15,000
Intermediate Survey		RS. 20,000

Renewal Survey		RS. 25,000
5. Gross Tonnage of Ship 50000 to 99,999 tons		
Initial Survey		RS. 40,000
Annual Survey		RS. 20,000
Intermediate Survey		RS. 25,000
Renewal Survey		RS. 30,000
Sundays, holidays and overtime fees	For all the items of surveys for which no fees has been prescribed in the relevant rules, the fees shall be as follows: Overtime (Before 9.30 am. or after 6.00 p.m.) Holidays fees	RS. 1,000 RS. 3,000

C. Fees payable for verification of port reception facilites		
1. Ports which have fewer than five berths		
Initial verification		RS. 40,000

Annual verification		RS. 25,000
Intermediate Survey		RS. 25,000
Renewal verification		RS. 40000
2. Ports which have more than five berths		
Initial verification		RS. 80,000
Annual verification		RS. 40,000
Intermediate Survey		RS. 15,000
Renewal Verification		RS. 80,000

[See clause (zz) of rule 2]

Specifications for the design, installation and operation of a part flow system for control of overboard discharges

1 Purpose

1.1 The purpose of these specifications is to provide specific design criteria and installation and operational requirements for the part flow system referred to in clause (e) sub-para (6) of paragraph 20 of the schedule.

1 Application

2.1 Oil tankers delivered on or before 31 December 1979, as defined in sub-rule (eee) of rule 2, may, in accordance with clause (e) sub para (6) of paragraph 20 of the schedule., discharge dirty ballast water and oil-contaminated water from cargo tank areas below the waterline, provided that a part of the flow is led through permanent piping to a readily accessible location on the upper deck or above where it may be visually observed during the discharge operation and provided that the arrangements comply with the requirements established by the Director General shall at least contain all the provisions of these specifications.

2.2 The part flow concept is based on the principle that the observation of a representative part flow of the overboard effluent is equivalent to observing the entire effluent stream. These specifications provide the details of the design, installation and operation of a part flow system.

2 General provisions

3.1 The part flow system shall be so fitted that it can effectively provide a representative sample of the overboard effluent for visual display under all normal operating conditions.

3.2 The part flow system is in many respects similar to the sampling system for an oil discharge monitoring and control system but shall have pumping and piping arrangements separate from such a system, or combined equivalent arrangements acceptable to the Director General.

3.3 The display of the part flow shall be arranged in a sheltered and readily accessible location on the upper deck or above, approved by the Director General (e.g. the entrance to the pump-room). Regard should be given to effective communication between the location of the part flow display and the discharge control position.

3.4 Samples shall be taken from relevant sections of the overboard discharge piping and be passed to the display arrangement through a permanent piping system.

3.5 The part flow system shall include the following components:

.1 sampling probes;

.2 sample water piping system;

.3 sample feed pump(s);

.4 display arrangements;

.5 sample discharge arrangements, and, subject to the diameter of the sample piping.

.6flushing arrangement.

3.6 The part flow system shall comply with the applicable safety requirements.

4.System arrangement

4.1 Sampling points

4.1.1 Sampling point location:

.1Sampling points shall be so located that relevant samples can be obtained of the effluent being discharged through outlets below the waterline which are used for operational discharges.

.2Sampling points shall as far as practicable be located in pipe sections where a turbulent flow is normally encountered.

.3Sampling points shall as far as practicable be arranged in accessible locations in vertical sections of the discharge piping.

4.1.2 Sampling probes:

.1Sampling probes shall be arranged to protrude into the pipe a distance of about one fourth of the pipe diameter.

.2Sampling probes shall be arranged for easy withdrawal for cleaning.

.3The part flow system shall have a stop valve fitted adjacent to each probe, except that where the probe is mounted in a cargo line, two stop valves shall be fitted in series, in the sample line.

.4Sampling probes should be of corrosion-resistant and oil-resistant material, of adequate strength, properly jointed and supported.

.5Sampling probes shall have shape that is not prone to becoming clogged by particle contaminants and should not generate high hydrodynamic pressures at

the sampling probe tip. Figure 1 is an example of one suitable shape of a sampling probe.

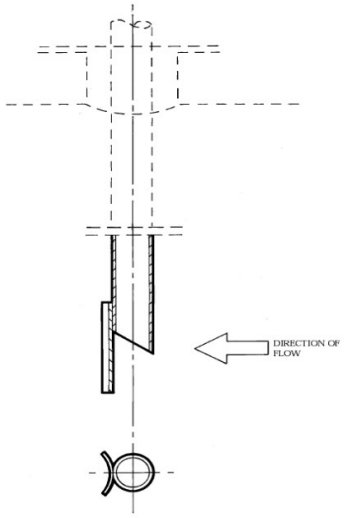
.6Sampling probes shall have the same nominal bore as the sample piping.

4.2 Sample piping

.1The sample piping shall be arranged as straight as possible between the sampling points and the display arrangement. Sharp bends and pockets where settled oil or sediment may accumulate should be avoided.

.2The sample piping shall be so arranged that sample water is conveyed to the display arrangement within 20 s. The flow velocity in the piping should not be less than 2 m/s.

Figure 1 – Sampling probe for a part flow display system



.3The diameter of the piping shall not be less than 40 mm if no fixed flushing arrangement is provided and shall not be less than 25 mm if a pressurized flushing arrangement as detailed in paragraph 4.4 is installed.

.4The sample piping should be of corrosion-resistant and oil-resistant material, of adequate strength, properly jointed and supported.

.5Where several sampling points are installed, the piping shall be connected to a valve chest at the suction side of the sample feed pump.

4.3 Sample feed pump

.1The sample feed pump capacity shall be suitable to allow the flow rate of the sample water to comply with 4.2.2.

4.4 Flushing arrangement

.1If the diameter of sample piping is less than 40 mm, a fixed connection from a pressurized sea or fresh water piping system shall be installed for flushing of the sample piping system.

4.5 Display arrangement

.1The display arrangement shall consist of a display chamber provided with a sight glass. The chamber should be of a size that will allow a free fall stream of the sample water to be clearly visible over a length of at least 200 mm. The Administration may approve equivalent arrangements.

.2The display arrangement shall incorporate valves and piping in order to allow part of the sample flow to bypass the display chamber to obtain a laminar flow for display in the chamber.

.3The display arrangement shall be designed to be easily opened and cleaned.

.4The interior of the display chamber shall be white except for the background wall which shall be so coloured as to facilities the observation of any change in the quality of the sample water.

.5 The lower part of the display chamber shall be shaped like a funnel for collection of the sample water.

.6 A test cock for taking a grab sample shall be provided in order that a sample of the water can be examined independent of that in the display chamber.

.7 The display arrangement shall be adequately lighted to facilitate visual observation of the sample water.

4.6 Sample discharge arrangement

.1 The sample water leaving the display chamber shall be routed to the sea or to a slop tank through fixed piping of adequate diameter.

5 Operation

5.1 When a discharge of dirty ballast water or other oil-contaminated water from the cargo tank area is taking place through an outlet below the waterline, the part flow system shall provide sample water from the relevant discharge outlet at all times.

5.2 The sample water should be observed particularly during those phases of the discharge operation when the greatest possibility of oil contamination occurs. The discharge shall be stopped whenever any traces of oil are visible in the flow and when the oil content meter reading indicates that the oil content exceeds permissible limits.

5.3 On those systems that are fitted with flushing arrangements, the sample piping should be flushed after contamination has been observed and,

additionally, it is recommended that the sample piping be flushed after each period of usage.

5.4 The vessel's cargo and ballast handling manuals and, where applicable, those manuals required for crude oil washing systems or dedicated clean ballast tanks operation shall clearly describe the use of the part flow system in conjunction with the ballast discharge and the slop tank decanting procedures.

LIST OF RESOLUTIONS OF THE ORGANISATION

A.393(X) Recommendation on international performance and test specifications
for oily-water separating equipment and oil content meters; superseded
by resolution MEPC.60(33) effective 6th July 1993

A.444(XI) Specifications for oily-water process unit; superseded by resolution
MEPC.60(33) effective 6th July 1993

A.446(XI) Revised specifications for the design, operation and control of crude oil
Washing systems

A.495(XII) Revised specifications for oil tankers with dedicated clean ballast tanks

A.497(XII) Amendments to Resolution A.446(XI)

A.586(14) Revised guidelines and specifications for oil discharge monitoring and

Control systems for oil tankers

A.600(15) IMO vessel identification number scheme

A.851(20) Procedures to be followed by the master or other persons having charge
Of the vessel to report an oil pollution incident

A.897(21) Amendments to resolution A.446(XI)

MEPC.5(XIII) Specification for oil/water interface detectors

MEPC.54(32) Guidelines for the development vesselboard oil pollution emergency plans

MEPC.60(33) Guidelines and specifications for pollution prevention equipment for
Machinery space bilges of vessels

MEPC.64(36) Guidelines for approval of alternative structural or operational
Arrangements as called for in regulation 13G(7) of Annex 1 of
MARPOL 73/78

MEPC.86(44) Amendments to the Guidelines for the development of vessel board oil
Pollution emergency plans

MEPC.94(46) Condition Assessment Scheme

MEPC 164 (56) Reception facilities outside Special Areas

MEPC 235 (65) Amendments to Form A and Form B of supplement to the IOPP certificate under MARPOL Annex I

MEPC 238 (65) Amendment to MARPOL Annex I to make the RO Code mandatory

MEPC 248 (66)	Amendment to Mandatory Carriage Requirement for a stability Instrument
MEPC 256 (67)	Amendment to MARPOL Annex I Special Requirement for the Use or Carriage of Oil in Antarctic Area
MEPC 265 (68)	Amendment to MARPOL Annex I to make use of environment- related provisions of the Polar Code Mandatory
MEPC 266 (68)	Amendment to Regulation 12 of MARPOL Annex I
MEPC 276 (70)	Amendment to MARPOL Annex I – Form B of the supplement to the International Oil Pollution Prevention Certificate
MEPC 312 (74)	Amendment to MARPOL Annex I – Guidelines for the use of Electronic Record Books under the MARPOL
MEPC 314 (74)	Amendment to MAPOL Annex I – Electronic Record Books
MEPC 330 (76)	Amendment to Exception of Unmanned Non Self Propelled Barges from certain survey and certificate requirements
MEPC 343 (78)	Amendment to MARPOL Annex I- Water tight doors
MEPC 359 (79)	Regional Reception facilities within Arctic waters and Form of IOPP certificate and supplements