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No. S 686

PREVENTION OF POLLUTION OF THE SEA ACT (CHAPTER 243)

PREVENTION OF POLLUTION OF THE SEA (NOXIOUS LIQUID SUBSTANCES IN BULK) REGULATIONS 2006

ARRANGEMENT OF REGULATIONS

In exercise of the powers conferred by sections 9, 10(4), 13 and 34 of the Prevention of Pollution of the Sea Act, the Maritime and Port Authority of Singapore, with the approval of the Minister for Transport, hereby makes the following Regulations:

Citation and commencement

1. These Regulations may be cited as the Prevention of Pollution of the Sea (Noxious Liquid Substances in Bulk) Regulations 2006 and shall come into operation on 1st January 2007.

Definitions

2.—(1) For the purposes of these Regulations —

"Annex II" means Annex II to the Convention which contains regulations for the control of pollution by noxious liquid substances in bulk and which is set out in the First Schedule;

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

[*Deleted by S 868/2014 wef 01/01/2015*]

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

[S 868/2014 wef 01/01/2015]

"SNLS Certificate" means a Singapore Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk issued by the Director or an authorised organisation under regulation 8.

(2) For the purposes of the definition of "noxious liquid substance" in section 2 of the Act, the substances prescribed as being noxious liquid substances shall be such substances as are designated in Appendix 1 to Annex II or provisionally assessed under regulation 1.10 of Annex II as falling into category X, Y or Z.

[S 868/2014 wef 01/01/2015]

Application

3.—(1) Annex II, with the exception of regulation 18 thereof, shall, subject to these Regulations, have the force of law in Singapore.

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

(3) For the purposes of regulation 2.1 of Annex II, the reference to "all ships certified to carry Noxious Liquid Substances in bulk" shall be read as a reference to —

(*a*) Singapore ships carrying in bulk noxious liquid substances or unassessed liquid substances; and

(*b*) other ships carrying in bulk noxious liquid substances or unassessed liquid substances while they are in Singapore waters,

and these Regulations shall apply to such ships.

[S 868/2014 wef 01/01/2015]

Exemptions

4. The Director may grant exemptions from all or any of these Regulations including Annex II (as may be specified in the exemption) for any ship or class or description of ship as he may so specify and may, subject to giving reasonable notice, alter or cancel any such exemption.

Administration

5.—(1) Except where provided in these Regulations, for the purposes of these Regulations, references to the Administration shall be read as references to the Director.

(2) For the purposes of regulation 3.1.3 of Annex II, the reference to the Administration shall be read as a reference to the Director or the Port Master.

[S 868/2014 wef 01/01/2015]

(3) For the purposes of regulations 4.4.1, 4.4.4, 5.3.5, 12.5, 13.3, 13.4.3, 13.5.1, 13.6.1.3.1, 14.1, 16.8 and 17.1 and the Appendices of Annex II, references to the Administration shall be read as references to the Director or an authorised organisation.

[S 868/2014 wef 01/01/2015]

(4) For the purposes of these Regulations, references to an officer of the Administration shall be read as references to a surveyor of ships, and references to a nominated surveyor, recognised organisation or organisation duly authorised shall be read as references to an authorised organisation.

(5) For the purposes of regulation 15.6 of Annex II, the reference to the competent authority of the Government of a Party shall be read as a reference to the Director, the Port Master, an authorised

organisation, a MARPOL surveyor or any person acting under the direction of the Director or the Port Master.

[S 868/2014 wef 01/01/2015]

(6) For the purposes of regulation 16 of Annex II —

(*a*) the reference to surveyor shall be read as a reference to a MARPOL surveyor or, where there is no MARPOL surveyor at that port, the master; and

(*b*) the reference to the Government of the receiving Party shall be read as a reference to a MARPOL surveyor or, where there is no MARPOL surveyor at that port, the master.

Powers to inspect

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

(2) Any such inspection shall be limited to verifying that there is on board in relation to that ship a valid certificate referred to in regulation 9 or 10 of Annex II or a valid SNLS Certificate unless there are clear grounds for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of that certificate.

(3) In the case referred to in paragraph (2), or if the ship does not carry a valid Certificate referred to in regulation 9 or 10 of Annex II or a valid SNLS Certificate, the surveyor of ships shall take such steps as he may consider necessary to ensure that the ship shall not sail until it can proceed to sea without presenting an unreasonable threat of harm to the marine environment.

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

(5) Upon receiving evidence that a particular ship has discharged noxious liquid substances or unassessed liquid substances carried in bulk or a mixture containing such substances contrary to the provisions of these Regulations, the Director shall cause the matter to be investigated by an inspector and shall inform the State which has reported the contravention as well as IMO of the action taken.

(6) The Director may also cause a ship other than a Singapore ship to be inspected by an inspector when it enters Singapore waters if a request for an investigation is received from any State which is a Party to the Convention together with sufficient evidence that the ship has discharged noxious liquid substances or unassessed liquid substances carried in bulk or a mixture containing such substances contrary to the provisions of these Regulations in any place.

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

Authorised organisations

6A. An authorised organisation must comply with such provisions as may be applicable to it in part 2 of the Code for Recognized Organizations referred to in regulation 8.2.2 of Annex II.

[S 868/2014 wef 01/01/2015]

Prohibition on proceeding to sea without Certificate

7.—(1) The master of every ship to which these Regulations apply shall produce to the Port Master, at the time a clearance for the ship is demanded for a voyage from Singapore to a port or place outside Singapore waters, the relevant certificate referred to in regulation 9 or 10 of Annex II as appropriate to be in force when the ship proceeds to sea.

(2) A clearance shall not be granted, and the ship may be detained, until the certificate or certificates are so produced.

SNLS Certificate

8.—(1) The Director or an authorised organisation shall, after a survey in accordance with the provisions of regulation 8 of Annex II which relates to any ship carrying noxious liquid substances in bulk which operates within Singapore waters and is not engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to the Convention, issue a SNLS Certificate; and the annual survey requirements of regulation 8 of Annex II shall not apply to such ships.

(2) The SNLS Certificate shall be issued in the form set out in Appendix 3 of Annex II modified in line with this regulation and approved by the Director.

Penalties

9. If any ship fails to comply with any requirement of these Regulations, the owner and the master of the ship shall each be guilty of an offence and shall be liable on conviction to a fine not exceeding $20,000 or to imprisonment for a term not exceeding 2 years or to both.

Exemption in certain circumstances

10. For the purposes of section 10(4) of the Act, the ships exempted from the operation of section 10(1) of the Act shall be such ships as are exempted from the prohibition of the discharge into the sea of a noxious liquid substance or of a mixture containing a noxious liquid substance in accordance with the provisions of Annex II.

Notification of proposal to carry substances

11. For the purposes of section 9 of the Act, where a person proposes to export or import any noxious liquid substance referred to in regulation 6.3 of Annex II by having that liquid substance carried in bulk in a ship, that person or the master of the ship shall notify the Port Master or an officer designated by the Port Master of the proposal in the form set out in the Second Schedule at least 24 hours before the estimated time of departure or arrival of the ship and by such means as the Port Master may from time to time determine.

[S 868/2014 wef 01/01/2015]

Fees

12. The fees specified in the Third Schedule shall be payable to the Director in respect of the services provided by the Director set out in that Schedule.

Revocation

13. The Prevention of Pollution of the Sea (Noxious Liquid Substances in Bulk) Regulations (Rg 2) are revoked.

FIRST SCHEDULE

Regulation 2

ANNEX II
OF THE CONVENTION

REGULATIONS FOR THE CONTROL OF POLLUTION BY NOXIOUS LIQUID SUBSTANCES IN BULK

ARRANGEMENT OF REGULATIONS

CHAPTER 1
GENERAL

CHAPTER 2
CATEGORIZATION OF NOXIOUS LIQUID SUBSTANCES

CHAPTER 3
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CHAPTER 4
DESIGN, CONSTRUCTION, ARRANGEMENT AND EQUIPMENT

CHAPTER 5
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FIRST SCHEDULE — *continued*

CHAPTER 1

FIRST SCHEDULE — *continued*

GENERAL

Regulation 1

Definitions

For the purposes of this Annex:

1 *Anniversary date* means the day and the month of each year which will correspond to the date of expiry of the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk.

2 *Associated piping* means the pipeline from the suction point in a cargo tank to the shore connection used for unloading the cargo and includes all ship's piping, pumps and filters which are in open connection with the cargo unloading line.

3 *Ballast water*

Clean ballast means ballast water carried in a tank which, since it was last used to carry a cargo containing a substance in Category X, Y or Z, has been thoroughly cleaned and the residues resulting therefrom have been discharged and the tank emptied in accordance with the appropriate requirements of this Annex.

Segregated ballast means ballast water introduced into a tank permanently allocated to the carriage of ballast or cargoes other than oil or Noxious Liquid Substances as variously defined in the Annexes of the present Convention, and which is completely separated from the cargo and oil fuel system.

4 *Chemical Codes*

Bulk Chemical Code means the Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.20(22), as amended by the Organization, provided that such amendments are adopted and brought into force in accordance with the provisions of article 16 of the present Convention concerning amendment procedures applicable to an appendix to an Annex.

International Bulk Chemical Code means the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.19(22), as amended by the Organization, provided that such amendments are adopted and brought into force in accordance with the provisions of article 16 of the present Convention concerning amendment procedures applicable to an appendix to an Annex.

5 *Depth of water* means the charted depth.

FIRST SCHEDULE — *continued*

6 *En route* means that the ship is under way at sea on a course or courses, including deviation from the shortest direct route, which as far as practicable for navigational purposes, will cause any discharge to be spread over as great an area of the sea as is reasonable and practicable.

7 *Liquid substances* are those having a vapour pressure not exceeding 0.28 MPa absolute at a temperature of 37.8°C.

8 *Manual* means Procedures and Arrangements Manual in accordance with the model given in appendix 6 of this Annex.

9 *Nearest land*. The term "from the nearest land" means from the baseline from which the territorial sea in question is established in accordance with international law, except that, for the purposes of the present Convention "from the nearest land" off the north-eastern coast of Australia shall mean from the line drawn from a point on the coast of Australia in:

latitude 11°00' S, longitude 142°08' E

to a point in latitude 10°35' S, longitude 141°55' E,

thence to a point latitude 10°00' S, longitude 142°00' E,

thence to a point latitude 9°10' S, longitude 143°52' E,

thence to a point latitude 9°00' S, longitude 144°30' E,

thence to a point latitude 10°41' S, longitude 145°00' E,

thence to a point latitude 13°00' S, longitude 145°00' E,

thence to a point latitude 15°00' S, longitude 146°00' E,

thence to a point latitude 17°30' S, longitude 147°00' E,

thence to a point latitude 21°00' S, longitude 152°55' E,

thence to a point latitude 24°30' S, longitude 154°00' E,

thence to a point on the coast of Australia

in latitude 24°42' S, longitude 153°15' E.

10 *Noxious Liquid Substance* means any substance indicated in the Pollution Category column of chapter 17 or 18 of the International Bulk Chemical Code or provisionally assessed under the provisions of regulation 6.3 as falling into Category X, Y or Z.

11 *PPM* means ml/m^3.

12 *Residue* means any noxious liquid substance which remains for disposal.

FIRST SCHEDULE — *continued*

13 *Residue/water mixture* means residue to which water has been added for any purpose (e.g. tank cleaning, ballasting, bilge slops).

14 *Ship construction*

14.1 *Ship constructed* means a ship the keel of which is laid or which is at a similar stage of construction. A ship converted to a chemical tanker, irrespective of the date of construction, shall be treated as a chemical tanker constructed on the date on which such conversion commenced. This conversion provision shall not apply to the modification of a ship, which complies with all of the following conditions:

.1 the ship is constructed before 1 July 1986; and

.2 the ship is certified under the Bulk Chemical Code to carry only those products identified by the Code as substances with pollution hazards only.

14.2 *Similar stage of construction* means the stage at which:

.1 construction identifiable with a specific ship begins; and

.2 assembly of that ship has commenced comprising at least 50 tons or one per cent of the estimated mass of all structural material, whichever is less.

15 *Solidifying/non-solidifying*

15.1 *Solidifying Substance* means a noxious liquid substance which:

.1 in the case of a substance with a melting point of less than 15°C which is at a temperature of less than 5°C above its melting point at the time of unloading; or

.2 in the case of a substances with a melting point of equal to or greater than 15°C which is at a temperature of less than 10°C above its melting point at the time of unloading.

15.2 *Non-solidifying Substance* means a noxious liquid substance, which is not a Solidifying Substance.

16 *Tanker*

.1 *Chemical tanker* means a ship constructed or adapted for the carriage in bulk of any liquid product listed in chapter 17 of the International Bulk Chemical Code;

.2 *NLS tanker* means a ship constructed or adapted to carry a cargo of Noxious Liquid Substances in bulk and includes an “oil tanker” as

FIRST SCHEDULE — *continued*

defined in Annex I of the present Convention when certified to carry a cargo or part cargo of Noxious Liquid Substances in bulk.

17 *Viscosity*

.1 *High-Viscosity Substance* means a noxious liquid substance in Category X or Y with a viscosity equal to or greater than 50 mPa.s at the unloading temperature.

.2 *Low-Viscosity Substance* means a noxious liquid substance, which is not a High-Viscosity Substance.

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

[S 798/2015 wef 01/01/2016]

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

[S 798/2015 wef 01/01/2016]

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

[S 798/2015 wef 01/01/2016]

21 *Audit Standard* means the Code for Implementation.

[S 798/2015 wef 01/01/2016]

Regulation 2

Application

1 Unless expressly provided otherwise the provisions of this Annex shall apply to all ships certified to carry Noxious Liquid Substances in bulk.

2 Where a cargo subject to the provisions of Annex I of the present Convention is carried in a cargo space of an NLS tanker, the appropriate requirements of Annex I of the present Convention shall also apply.

Regulation 3

Exceptions

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

FIRST SCHEDULE — *continued*

1 The discharge requirements of this Annex and chapter 2 of part II-A of the Polar Code shall not apply to the discharge into the sea of Noxious Liquid Substances or mixtures containing such substances when such a discharge:

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

.2 results from damage to a ship or its equipment:

.1 provided that all reasonable precautions have been taken after the occurrence of the damage or discovery of the discharge for the purpose of preventing or minimizing the discharge; and

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

.3 is approved by the Administration, when being used for the purpose of combating specific pollution incidents in order to minimize the damage from pollution. Any such discharge shall be subject to the approval of any Government in whose jurisdiction it is contemplated the discharge will occur.

[S 667/2016 wef 01/01/2017]

Regulation 4

Exemptions

1 With respect to amendments to carriage requirements due to the upgrading of the categorization of a substance, the following shall apply:

.1 where an amendment to this Annex and the International Bulk Chemical Code and Bulk Chemical Code involves changes to the structure or equipment and fittings due to the upgrading of the requirements for the carriage of certain substances, the Administration may modify or delay for a specified period the application of such an amendment to ships constructed before the date of entry into force of that amendment, if the immediate application of such an amendment is considered unreasonable or impracticable. Such relaxation shall be determined with respect to each substance;

.2 the Administration allowing a relaxation of the application of an amendment under this paragraph shall submit to the Organization a report giving details of the ship or ships concerned, the cargoes certified to carry, the trade in which each ship is engaged and the

FIRST SCHEDULE — *continued*

justification for the relaxation, for circulation to the Parties to the Convention for their information and appropriate action, if any and reflect the exemption on the Certificate as referred to in regulation 7 or 9 of this Annex;

.3 Notwithstanding the above, an Administration may exempt ships from the carriage requirements under regulation 11 for ships certified to carry individually identified vegetable oils identified by the relevant footnote in chapter 17 of the IBC Code, provided the ship complies with the following conditions:

.1 Subject to this regulation, the NLS tanker shall meet all requirements for ship type 3 as identified in the IBC Code except for cargo tank location;

.2 under this regulation, cargo tanks shall be located at the following distances inboard. The entire cargo tank length shall be protected by ballast tanks or spaces other than tanks that carry oil as follows:

.1 wing tanks or spaces shall be arranged such that cargo tanks are located inboard of the moulded line of the side shell plating nowhere less than 760 mm;

.2 double bottom tanks or spaces shall be arranged such that the distance 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 is not less than B/15 (m) or 2.0 m at the centreline, whichever is the lesser. The minimum distance shall be 1.0 metre; and

.3 the relevant certificate shall indicate the exemption granted.

2 Subject to the provisions of paragraph 3 of this regulation, the provisions of regulation 12.1 need not apply to a ship constructed before 1 July 1986 which is engaged in restricted voyages as determined by the Administration between:

.1 ports or terminals within a State Party to the present Convention; or

.2 ports or terminals of States Parties to the present Convention.

3 The provisions of paragraph 2 of this regulation shall only apply to a ship constructed before 1 July 1986 if:

.1 each time a tank containing Category X, Y or Z substances or mixtures is to be washed or ballasted, the tank is washed in accordance with a prewash procedure approved by the

FIRST SCHEDULE — *continued*

Administration in compliance with appendix 6 of this Annex, and the tank washings are discharged to a reception facility;

.2 subsequent washings or ballast water are discharged to a reception facility or at sea in accordance with other provisions of this Annex;

.3 the adequacy of the reception facilities at the ports or terminals referred to above, for the purpose of this paragraph, is approved by the Governments of the States Parties to the present Convention within which such ports or terminals are situated;

.4 in the case of ships engaged in voyages to ports or terminals under the jurisdiction of other States Parties to the present Convention, the Administration communicates to the Organization, for circulation to the Parties to the Convention, particulars of the exemption, for their information and appropriate action, if any; and

.5 the certificate required under this Annex is endorsed to the effect that the ship is solely engaged in such restricted voyages.

4 For a ship whose constructional and operational features are such that ballasting of cargo tanks is not required and cargo tank washing is only required for repair or dry-docking, the Administration may allow exemption from the provisions of regulation 12, provided that all of the following conditions are complied with:

.1 the design, construction and equipment of the ship are approved by the Administration, having regard to the service for which it is intended;

.2 any effluent from tank washings which may be carried out before a repair or dry-docking is discharged to a reception facility, the adequacy of which is ascertained by the Administration;

.3 the certificate required under this Annex indicates:

.1 that each cargo tank is certified for the carriage of a restricted number of substances which are comparable and can be carried alternately in the same tank without intermediate cleaning; and

.2 the particulars of the exemption;

.4 the ship carries a Manual approved by the Administration; and

.5 in the case of ships engaged in voyages to ports or terminals under the jurisdiction of other States Parties to the present Convention, the Administration communicates to the Organization, for circulation to

FIRST SCHEDULE — *continued*

the Parties to the Convention, particulars of the exemption, for their information and appropriate action, if any.

Regulation 5

Equivalents

1 The Administration may allow any fitting, material, appliance or apparatus to be fitted in a ship as an alternative to that required by this Annex if such fitting, material, appliance or apparatus is at least as effective as that required by this Annex. This authority of the Administration shall not extend to the substitution of operational methods to effect the control of discharge of Noxious Liquid Substances as equivalent to those design and construction features which are prescribed by regulations in this Annex.

2 The Administration, which allows a fitting, material, appliance or apparatus as alternative to that required by this Annex, under paragraph 1 of this regulation, shall communicate to the Organization for circulation to the Parties to the Convention, particulars thereof, for their information and appropriate action, if any.

3 Notwithstanding the provisions of paragraphs 1 and 2 of this regulation, the construction and equipment of liquefied gas carriers certified to carry Noxious Liquid Substances listed in the applicable Gas Carrier Code, shall be deemed to be equivalent to the construction and equipment requirements contained in regulations 11 and 12 of this Annex, provided that the gas carrier meets all following conditions:

.1 hold a Certificate of Fitness in accordance with the appropriate Gas Carrier Code for ships certified to carry liquefied gases in bulk;

.2 hold an International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk, in which it is certified that the gas carrier may carry only those Noxious Liquid Substances identified and listed in the appropriate Gas Carrier Code;

.3 be provided with segregated ballast arrangements;

.4 be provided with pumping and piping arrangements, which, to the satisfaction of the Administration, ensure that the quantity of cargo residue remaining in the tank and its associated piping after unloading does not exceed the applicable quantity of residue as required by regulation 12.1, 12.2 or 12.3; and

.5 be provided with a Manual, approved by the Administration, ensuring that no operational mixing of cargo residues and water

FIRST SCHEDULE — *continued*

will occur and that no cargo residues will remain in the tank after applying the ventilation procedures prescribed in the Manual.

CHAPTER 2

CATEGORIZATION OF
NOXIOUS LIQUID SUBSTANCES

Regulation 6

Categorization and listing of
Noxious Liquid Substances and other substances

1 For the purpose of the regulations of this Annex, Noxious Liquid Substances shall be divided into four categories as follows:

.1 Category X: Noxious Liquid Substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a major hazard to either marine resources or human health and, therefore, justify the prohibition of the discharge into the marine environment;

.2 Category Y: Noxious Liquid Substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a hazard to either marine resources or human health or cause harm to amenities or other legitimate uses of the sea and therefore justify a limitation on the quality and quantity of the discharge into the marine environment;

.3 Category Z: Noxious Liquid Substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a minor hazard to either marine resources or human health and therefore justify less stringent restrictions on the quality and quantity of the discharge into the marine environment;

.4 Other Substances: Substances indicated as OS (Other Substances) in the pollution category column of chapter 18 of the International Bulk Chemical Code which have been evaluated and found to fall outside Category X, Y or Z as defined in regulation 6.1 of this Annex because they are, at present, considered to present no harm to marine resources, human health, amenities or other legitimate uses of the sea when discharged into the sea from tank cleaning or deballasting operations. The discharge of bilge or ballast water or other residues or mixtures containing only substances referred to as "Other Substances" shall not be subject to any requirements of the Annex.

FIRST SCHEDULE — *continued*

2 Guidelines for use in the categorization of Noxious Liquid Substances are given in appendix 1 to this Annex.

3 Where it is proposed to carry a liquid substance in bulk which has not been categorized under paragraph 1 of this regulation, the Governments of Parties to the Convention involved in the proposed operation shall establish and agree on a provisional assessment for the proposed operation on the basis of the guidelines referred to in paragraph 2 of this regulation. Until full agreement among the Governments involved has been reached, the substance shall not be carried. As soon as possible, but not later than 30 days after the agreement has been reached, the Government of the producing or shipping country, initiating the agreement concerned, shall notify the Organization and provide details of the substance and the provisional assessment for annual circulation to all Parties for their information. The Organization shall maintain a register of all such substances and their provisional assessment until such time as the substances are formally included in the IBC Code.

CHAPTER 3

SURVEYS AND CERTIFICATION

Regulation 7

Survey and certification of chemical tankers

Notwithstanding the provisions of regulations 8, 9, and 10 of this Annex, chemical tankers which have been surveyed and certified by States Parties to the present Convention in accordance with the provisions of the International Bulk Chemical Code or the Bulk Chemical Code, as applicable, shall be deemed to have complied with the provisions of the said regulations, and the certificate issued under that Code shall have the same force and receive the same recognition as the certificate issued under regulation 9 of this Annex.

Regulation 8

Surveys

1 Ships carrying Noxious Liquid Substances in bulk shall be subject to the surveys specified below:

.1 An initial survey before the ship is put in service or before the Certificate required under regulation 9 of this Annex is issued for the first time, and which shall include a complete survey of its structure, equipment, systems, fittings, arrangements and material in so far as the ship is covered by this Annex. This survey shall be such as to ensure that the structure, equipment, systems, fittings, arrangements

FIRST SCHEDULE — *continued*

and material fully comply with the applicable requirements of this Annex.

.2 A renewal survey at intervals specified by the Administration, but not exceeding 5 years, except where regulation 10.2, 10.5, 10.6, 10.7 of this Annex is applicable. The renewal survey shall be such as to ensure that the structure, equipment, systems, fittings, arrangements and material fully comply with applicable requirements of this Annex.

.3 An intermediate survey within 3 months before or after the second anniversary date or within 3 months before or after the third anniversary date of the Certificate which shall take the place of one of the annual surveys specified in paragraph 1.4 of this regulation. The intermediate survey shall be such as to ensure that the equipment and associated pump and piping systems fully comply with the applicable requirements of this Annex and are in good working order. Such intermediate surveys shall be endorsed on the Certificate issued under regulation 9 of this Annex.

.4 An annual survey within 3 months before or after each anniversary date of the Certificate including a general inspection of the structure, equipment, systems, fittings, arrangements and material referred to in paragraph 1.1 of this regulation to ensure that they have been maintained in accordance with paragraph 3 of this regulation and that they remain satisfactory for the service for which the ship is intended. Such annual surveys shall be endorsed on the Certificate issued under regulation 9 of this Annex.

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

2.1 Surveys of ships, as regards the enforcement of the provisions of this Annex, shall be carried out by officers of the Administration. The Administration may, however, entrust the surveys either to surveyors nominated for the purpose or to organizations recognized by it.

2.2 Such organizations, including classification societies, shall be authorized by the Administration in accordance with the provisions of the present Convention

FIRST SCHEDULE — *continued*

and with the Code for Recognized Organizations (RO Code), consisting of part 1 and part 2 (the provisions of which shall be treated as mandatory) and part 3 (the provisions of which shall be treated as recommendatory), as adopted by the Organization by resolution MEPC.238(65), as may be amended by the Organization, provided that:

.1 amendments to part 1 and part 2 of the RO 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 this Annex;

.2 amendments to part 3 of the RO Code are adopted by the Marine Environment Protection Committee in accordance with its Rules of Procedure; and

.3 any amendments referred to in paragraphs 2.2.1 and 2.2.2 of this regulation adopted by the Maritime Safety Committee and the Marine Environment Protection Committee are identical and come into force or take effect at the same time, as appropriate.

[S 868/2014 wef 01/01/2015]

2.3 An Administration nominating surveyors or recognizing organizations to conduct surveys as set forth in paragraph 2.1 of this regulation shall, as a minimum, empower any nominated surveyor or recognized organization to:

.1 require repairs to a ship; and

.2 carry out surveys if requested by the appropriate authorities of a port State.

2.4 The Administration shall notify the Organization of the specific responsibilities and conditions of the authority delegated to the nominated surveyors or recognized organizations, for circulation to Parties to the present Convention for the information of their officers.

2.5 When a nominated surveyor or recognized organization determines that the condition of the ship or its equipment does not correspond substantially with the particulars of the Certificate, or is such that the ship is not fit to proceed to sea without presenting an unreasonable threat of harm to the marine environment, such surveyor or organization shall immediately ensure that corrective action is taken and shall in due course notify the Administration. If such corrective action is not taken the Certificate should be withdrawn and the Administration shall be notified immediately, and if the ship is in a port of another Party, the appropriate authorities of the port State shall also be notified immediately. When an officer of the Administration, a nominated surveyor or a recognized organization has

FIRST SCHEDULE — *continued*

notified the appropriate authorities of the port State, the Government of the port State concerned shall give such officer, surveyor or organization any necessary assistance to carry out their obligations under this regulation. When applicable, the Government of the port State concerned shall take such steps as will ensure that the ship shall not sail until it can proceed to sea or leave the port for the purpose of proceeding to the nearest appropriate repair yard available without presenting an unreasonable threat of harm to the marine environment.

2.6 In every case, the Administration concerned shall fully guarantee the completeness and efficiency of the survey and shall undertake to ensure the necessary arrangements to satisfy this obligation.

3.1 The condition of the ship and its equipment shall be maintained to conform with the provisions of the present Convention to ensure that the ship in all respects will remain fit to proceed to sea without presenting an unreasonable threat of harm to the marine environment.

3.2 After any survey of the ship required under paragraph 1 of this regulation has been completed, no change shall be made in the structure, equipment, systems, fittings, arrangements or material covered by the survey, without the sanction of the Administration, except the direct replacement of such equipment and fittings.

3.3 Whenever an accident occurs to a ship or a defect is discovered which substantially affects the integrity of the ship or the efficiency or completeness of its equipment covered by this Annex, the master or owner of the ship shall report at the earliest opportunity to the Administration, the recognized organization or the nominated surveyor responsible for issuing the relevant Certificate, who shall cause investigations to be initiated to determine whether a survey as required by paragraph 1 of this regulation is necessary. If the ship is in a port of another Party, the master or owner shall also report immediately to the appropriate authorities of the port State and the nominated surveyor or recognized organization shall ascertain that such report has been made.

Regulation 9

Issue or endorsement of Certificate

1 An International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk shall be issued, after an initial or renewal survey in accordance with the provisions of regulation 8 of this Annex, to any ship intended to carry Noxious Liquid Substances in bulk and which is engaged in voyages to ports or terminals under the jurisdiction of other Parties to the Convention.

FIRST SCHEDULE — *continued*

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

3.1 The Government of a Party to the Convention may, at the request of the Administration, cause a ship to be surveyed and, if satisfied that the provisions of this Annex are complied with, shall issue or authorize the issue of an International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk to the ship and, where appropriate, endorse or authorize the endorsement of that Certificate on the ship, in accordance with this Annex.

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

3.3 A Certificate so issued shall contain a statement to the effect that it has been issued at the request of the Administration and it shall have the same force and receive the same recognition as the Certificate issued under paragraph 1 of this regulation.

3.4 No International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk shall be issued to a ship, which is entitled to fly the flag of a State which is not a party.

4 The International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk shall be drawn up in the form corresponding to the model given in appendix 3 to this Annex and shall be at least in English, French or Spanish. Where entries in an official national language of the State whose flag the ship is entitled to fly are also used, this shall prevail in the case of a dispute or discrepancy.

Regulation 10

Duration and validity of Certificate

1 An International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk shall be issued for a period specified by the Administration which shall not exceed 5 years.

2.1 Notwithstanding the requirements of paragraph 1 of this regulation, when the renewal survey is completed within 3 months before the expiry date of the existing Certificate, the new Certificate shall be valid from the date of completion of the renewal survey to a date not exceeding 5 years from the date of expiry of the existing Certificate.

2.2 When the renewal survey is completed after the expiry date of the existing Certificate, the new Certificate shall be valid from the date of completion of the

FIRST SCHEDULE — *continued*

renewal survey to a date not exceeding 5 years from the date of expiry of the existing Certificate.

2.3 When the renewal survey is completed more than 3 months before the expiry date of the existing Certificate, the new Certificate shall be valid from the date of completion of the renewal survey to a date not exceeding 5 years from the date of completion of the renewal survey.

3 If a Certificate is issued for a period of less than 5 years, the Administration may extend the validity of the Certificate beyond the expiry date to the maximum period specified in paragraph 1 of this regulation, provided that the surveys referred to in regulation 8.1.3 and 8.1.4 of this Annex applicable when a Certificate is issued for a period of 5 years are carried out as appropriate.

4 If a renewal survey has been completed and a new Certificate cannot be issued or placed on board the ship before the expiry date of the existing Certificate, the person or organization authorized by the Administration may endorse the existing Certificate and such a Certificate shall be accepted as valid for a further period which shall not exceed 5 months from the expiry date.

5 If a ship at the time when a Certificate expires is not in a port in which it is to be surveyed, the Administration may extend the period of validity of the Certificate but this extension shall be granted only for the purpose of allowing the ship to complete its voyage to the port in which it is to be surveyed, and then only in cases where it appears proper and reasonable to do so. No Certificates shall be extended for a period longer than 3 months, and a ship to which an extension is granted shall not, on its arrival in the port in which it is to be surveyed, be entitled by virtue of such extension to leave that port without having a new Certificate. When the renewal survey is completed, the new Certificate shall be valid to a date not exceeding 5 years from the date of expiry of the existing Certificate before the extension was granted.

6 A Certificate issued to a ship engaged on short voyages which has not been extended under the foregoing provisions of this regulation may be extended by the Administration for a period of grace of up to one month from the date of expiry stated on it. When the renewal survey is completed, the new Certificate shall be valid to a date not exceeding 5 years from the date of expiry of the existing Certificate before the extension was granted.

7 In special circumstances, as determined by the Administration, a new Certificate need not be dated from the date of expiry of the existing Certificate as required by paragraph 2.2, 5 or 6 of this regulation. In these special circumstances, the new Certificate shall be valid to a date not exceeding 5 years from the date of completion of the renewal survey.

FIRST SCHEDULE — *continued*

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

.1 the anniversary date shown on the Certificate shall be amended by endorsement to a date which shall not be more than 3 months later than the date on which the survey was completed;

.2 the subsequent annual or intermediate survey required by regulation 8 of this Annex shall be completed at the intervals prescribed by that regulation using the new anniversary date;

.3 the expiry date may remain unchanged provided one or more annual or intermediate surveys, as appropriate, are carried out so that the maximum intervals between the surveys prescribed by regulation 8 of this Annex are not exceeded.

9 A Certificate issued under regulation 9 of this Annex shall cease to be valid in any of the following cases:

.1 if the relevant surveys are not completed within the periods specified under regulation 8.1 of this Annex;

.2 if the Certificate is not endorsed in accordance with regulation 8.1.3 or 8.1.4 of this Annex;

.3 upon transfer of the ship to the flag of another State. A new Certificate shall only be issued when the Government issuing the new Certificate is fully satisfied that the ship is in compliance with the requirements of regulation 8.3.1 and 8.3.2 of this Annex. In the case of a transfer between Parties, if requested within 3 months after the transfer has taken place, the Government of the Party whose flag the ship was formerly entitled to fly shall, as soon as possible, transmit to the Administration copies of the Certificate carried by the ship before the transfer and, if available, copies of the relevant survey reports.

CHAPTER 4

DESIGN, CONSTRUCTION,
ARRANGEMENT AND EQUIPMENT

Regulation 11

Design, construction, equipment and operations

1 The design, construction, equipment and operation of ships certified to carry Noxious Liquid Substances in bulk identified in chapter 17 of the International

FIRST SCHEDULE — *continued*

Bulk Chemical Code, shall be in compliance with the following provisions to minimize the uncontrolled discharge into the sea of such substances:

.1 the International Bulk Chemical Code when the chemical tanker is constructed on or after 1 July 1986; or

.2 the Bulk Chemical Code as referred to in paragraph 1.7.2 of that Code for:

.1 ships for which the building contract is placed on or after 2 November 1973 but constructed before 1 July 1986, and which are engaged on voyages to ports or terminals under the jurisdiction of other States Parties to the Convention; and

.2 ships constructed on or after 1 July 1983 but before 1 July 1986, which are engaged solely on voyages between ports or terminals within the State the flag of which the ship is entitled to fly.

.3 The Bulk Chemical Code as referred to in paragraph 1.7.3 of that Code for:

.1 ships for which the building contract is placed before 2 November 1973 and which are engaged on voyages to ports or terminals under the jurisdiction of other States Parties to the Convention; and

.2 ships constructed before 1 July 1983, which are solely engaged on, voyages between ports or terminals within the State the flag of which the ship is entitled to fly.

2 In respect of ships other than chemical tankers or liquefied gas carriers certified to carry Noxious Liquid Substances in bulk identified in chapter 17 of the International Bulk Chemical Code, the Administration shall establish appropriate measures based on the Guidelines* developed by the Organization in order to ensure that the provisions shall be such as to minimize the uncontrolled discharge into the sea of such substances.

Regulation 12

Pumping, piping, unloading arrangements and slop tanks

1 Every ship constructed before 1 July 1986 shall be provided with a pumping and piping arrangement to ensure that each tank certified for the carriage of substances in Category X or Y does not retain a quantity of residue in excess of 300 litres in the tank and its associated piping and that each tank certified for the

* Reference is made to resolutions A.673(16) and MEPC.120(52).

FIRST SCHEDULE — *continued*

carriage of substances in Category Z does not retain a quantity of residue in excess of 900 litres in the tank and its associated piping. A performance test shall be carried out in accordance with appendix 5 of this Annex.

2 Every ship constructed on or after 1 July 1986 but before 1 January 2007 shall be provided with a pumping and piping arrangement to ensure that each tank certified for the carriage of substances in Category X or Y does not retain a quantity of residue in excess of 100 litres in the tank and its associated piping and that each tank certified for the carriage of substances in Category Z does not retain a quantity of residue in excess of 300 litres in the tank and its associated piping. A performance test shall be carried out in accordance with appendix 5 of this Annex.

3 Every ship constructed on or after 1 January 2007 shall be provided with a pumping and piping arrangement to ensure that each tank certified for the carriage of substances in Category X, Y or Z does not retain a quantity of residue in excess of 75 litres in the tank and its associated piping. A performance test shall be carried out in accordance with appendix 5 of this Annex.

4 For a ship other than a chemical tanker constructed before 1 January 2007 which cannot meet the requirements for the pumping and piping arrangements for substances in Category Z referred to in paragraphs 1 and 2 of this regulation no quantity requirement shall apply. Compliance is deemed to be reached if the tank is emptied to the most practicable extent.

5 Pumping performance tests referred to in paragraphs 1, 2 and 3 of this regulation shall be approved by the Administration. Pumping performance tests shall use water as the test medium.

6 Ships certified to carry substances of Category X, Y or Z shall have an underwater discharge outlet (or outlets).

7 For ships constructed before 1 January 2007 and certified to carry substances in Category Z an underwater discharge outlet as required under paragraph 6 of this regulation is not mandatory.

8 The underwater discharge outlet (or outlets) shall be located within the cargo area in the vicinity of the turn of the bilge and shall be so arranged as to avoid the re-intake of residue/water mixtures by the ship's seawater intakes.

9 The underwater discharge outlet arrangement shall be such that the residue/water mixture discharged into the sea will not pass through the ship's boundary layer. To this end, when the discharge is made normal to the ship's shell plating, the minimum diameter of the discharge outlet is governed by the following equation:

$$d = \frac{Q_d}{5L_d}$$

FIRST SCHEDULE — *continued*

where:

d = minimum diameter of the discharge outlet (m)

L_d = distance from the forward perpendicular to the discharge outlet (m)

Q_d = the maximum rate selected at which the ship may discharge a residue/water mixture through the outlet (m^3/h).

10 When the discharge is directed at an angle to the ship's shell plating, the above relationship shall be modified by substituting for Q_d the component of Q_d which is normal to the ship's shell plating.

11 *Slop tanks*

Although this Annex does not require the fitting of dedicated slop tanks, slop tanks may be needed for certain washing procedures. Cargo tanks may be used as slop tanks.

CHAPTER 5

OPERATIONAL DISCHARGES OF RESIDUES OF NOXIOUS LIQUID SUBSTANCES

Regulation 13

Control of discharges of residues of Noxious Liquid Substances

Subject to the provisions of regulation 3 of this Annex the control of discharges of residues of Noxious Liquid Substances or ballast water, tank washings or other mixtures containing such substances shall be in compliance with the following requirements.

1 *Discharge provisions*

1.1 The discharge into the sea of residues of substances assigned to Category X, Y or Z or of those provisionally assessed as such or ballast water, tank washings or other mixtures containing such substances shall be prohibited unless such discharges are made in full compliance with the applicable operational requirements contained in this Annex.

1.2 Before any prewash or discharge procedure is carried out in accordance with this regulation, the relevant tank shall be emptied to the maximum extent in accordance with the procedures prescribed in the Manual.

1.3 The carriage of substances which have not been categorized, provisionally assessed or evaluated as referred to in regulation 6 of this Annex or of ballast water, tank washings or other mixtures containing such residues shall be

FIRST SCHEDULE — *continued*

prohibited along with any consequential discharge of such substances into the sea.

2 *Discharge standards*

2.1 Where the provisions in this regulation allow the discharge into the sea of residues of substances in Category X, Y or Z or of those provisionally assessed as such or ballast water, tank washings or other mixtures containing such substances the following discharge standards shall apply:

.1 the ship is proceeding en route at a speed of at least 7 knots in the case of self-propelled ships or at least 4 knots in the case of ships which are not self-propelled;

.2 the discharge is made below the waterline through the underwater discharge outlet(s) not exceeding the maximum rate for which the underwater discharge outlet(s) is (are) designed; and

.3 the discharge is made at a distance of not less than 12 nautical miles from the nearest land in a depth of water of not less than 25 metres.

2.2 For ships constructed before 1 January 2007 the discharge into the sea of residues of substances in Category Z or of those provisionally assessed as such or ballast water, tank washings or other mixtures containing such substances below the waterline is not mandatory.

2.3 The Administration may waive the requirements of paragraph 2.1.3 for substances in Category Z, regarding the distance of not less than 12 nautical miles from the nearest land for ships solely engaged in voyages within waters subject to the sovereignty or jurisdiction of the State the flag, of which, the ship is entitled to fly. In addition, the Administration may waive the same requirement regarding the discharge distance of not less than 12 nautical miles from the nearest land for a particular ship entitled to fly the flag of their State, when engaged in voyages within waters subject to the sovereignty or jurisdiction of one adjacent state after the establishment of an agreement, in writing, of a waiver between the two coastal States involved provided that no third party will be affected. Information on such agreement shall be communicated to the Organization within 30 days for further circulation to the Parties to the Convention for their information and appropriate action if any.

3 *Ventilation of cargo residues*

Ventilation procedures approved by the Administration may be used to remove cargo residues from a tank. Such procedures shall be in accordance with appendix 7 of this Annex. Any water subsequently introduced into the tank shall be regarded as clean and shall not be subject to the discharge requirements in this Annex.

FIRST SCHEDULE — *continued*

4 *Exemption for a prewash*

On request of the ship's master an exemption for a prewash may be granted by the Government of the receiving Party, where it is satisfied that:

.1 the unloaded tank is to be reloaded with the same substance or another substance compatible with the previous one and that the tank will not be washed or ballasted prior to loading; or

.2 the unloaded tank is neither washed nor ballasted at sea. The prewash in accordance with the applicable paragraph of this regulation shall be carried out at another port provided that it has been confirmed in writing that a reception facility at that port is available and is adequate for such a purpose; or

.3 the cargo residues will be removed by a ventilation procedure approved by the Administration in accordance with appendix 7 of this Annex.

5 *The use of cleaning agents or additives*

5.1 When a washing medium other than water, such as mineral oil or chlorinated solvent, is used instead of water to wash a tank, its discharge shall be governed by the provisions of either Annex I or Annex II, which would apply to the medium had it been carried as cargo. Tank washing procedures involving the use of such a medium shall be set out in the Manual and be approved by the Administration.

5.2 When small amounts of cleaning additives (detergent products) are added to water in order to facilitate tank washing, no additives containing Pollution Category X components shall be used except those components that are readily biodegradable and present in a total concentration of less than 10% of the cleaning additive. No restrictions additional to those applicable to the tank due to the previous cargo shall apply.

6 *Discharge of residues of Category X*

6.1 Subject to the provision of paragraph 1, the following provisions shall apply:

.1 A tank from which a substance in Category X has been unloaded, shall be prewashed before the ship leaves the port of unloading. The resulting residues shall be discharged to a reception facility until the concentration of the substance in the effluent to such facility, as indicated by analyses of samples of the effluent taken by the surveyor, is at or below 0.1% by weight. When the required concentration level has been achieved, remaining tank washings

shall continue to be discharged to the reception facility until the tank is empty. Appropriate entries of these operations shall be made in the Cargo Record Book and endorsed by the surveyor referred to in regulation 16.1.

.2 Any water subsequently introduced into the tank may be discharged into the sea in accordance with the discharge standards in regulation 13.2.

.3 Where the Government of the receiving party is satisfied that it is impracticable to measure the concentration of the substance in the effluent without causing undue delay to the ship, that Party may accept an alternative procedure as being equivalent to obtain the required concentration in regulation 13.6.1.1 provided that:

.1 the tank is prewashed in accordance with a procedure approved by the Administration in compliance with appendix 6 of this Annex; and

.2 appropriate entries shall be made in the Cargo Record Book and endorsed by the surveyor referred to in regulation 16.1.

7 *Discharge of residues of Category Y and Z*

7.1 Subject to the provision of paragraph 1, the following provisions shall apply:

.1 With respect to the residue discharge procedures for substances in Category Y or Z the discharge standards in regulation 13.2 shall apply.

.2 If the unloading of a substance of Category Y or Z is not carried out in accordance with the Manual, a prewash shall be carried out before the ship leaves the port of unloading, unless alternative measures are taken to the satisfaction of the surveyor referred to in regulation 16. 1 of this Annex to remove the cargo residues from the ship to quantities specified in this Annex. The resulting tank washings of the prewash shall be discharged to a reception facility at the port of unloading or another port with a suitable reception facility provided that it has been confirmed in writing that a reception facility at that port is available and is adequate for such a purpose.

.3 For High-Viscosity or Solidifying Substances in Category Y the following shall apply:

.1 a prewash procedure as specified in appendix 6 shall be applied;

FIRST SCHEDULE — *continued*

.2 the residue/water mixture generated during the prewash shall be discharged to a reception facility until the tank is empty; and

.3 any water subsequently introduced into the tank may be discharged into the sea in accordance with the discharge standards in regulation 13.2.

7.2 Operational requirements for ballasting and deballasting

7.2.1 After unloading, and, if required, after a prewash, a cargo tank may be ballasted. Procedures for the discharge of such ballast are set out in regulation 13.2.

7.2.2 Ballast introduced into a cargo tank which has been washed to such an extent that the ballast contains less than 1 ppm of the substance previously carried, may be discharged into the sea without regard to the discharge rate, ship's speed and discharge outlet location, provided that the ship is not less than 12 miles from the nearest land and in water that is not less than 25 metres deep. The required degree of cleanliness has been achieved when a prewash as specified in appendix 6 has been carried out and the tank has been subsequently washed with a complete cycle of the cleaning machine for ships built before 1 July 1994 or with a water quantity not less than that calculated with k = 1.0.

7.2.3 The discharge into the sea of clean or segregated ballast shall not be subject to the requirements of this Annex.

8 *Discharges in the Antarctic Area*

8.1 *Antarctic Area* means the sea area south of latitude 60°S.

8.2 In the Antarctic area any discharge into the sea of Noxious Liquid Substances or mixtures containing such substances is prohibited.

Regulation 14

Procedures and Arrangements Manual

1 Every ship certified to carry substances of Category X, Y or Z shall have on board a Manual approved by the Administration. The Manual shall have a standard format in compliance with appendix 4 to this Annex. In the case of a ship engaged in international voyages on which the language used is not English, French or Spanish, the text shall include a translation into one of these languages.

2 The main purpose of the Manual is to identify for the ship's officers the physical arrangements and all the operational procedures with respect to cargo handling, tank cleaning, slops handling and cargo tank ballasting and deballasting which must be followed in order to comply with the requirements of this Annex.

FIRST SCHEDULE — *continued*

Regulation 15

Cargo record book

1 Every ship to which this Annex applies shall be provided with a Cargo Record Book, whether as part of the ship's official logbook or otherwise, in the form specified in appendix 2 to this Annex.

2 After completion of any operation specified in appendix 2 to this Annex, the operation shall be promptly recorded in the Cargo Record Book.

3 In the event of an accidental discharge of a noxious liquid substance or a mixture containing such a substance or a discharge under the provisions of regulation 3 of this Annex, an entry shall be made in the Cargo Record Book stating the circumstances of, and the reason for, the discharge.

4 Each entry shall be signed by the officer or officers in charge of the operation concerned and each page shall be signed by the master of the ship. The entries in the Cargo Record Book, for ships holding an International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk or a certificate referred to in regulation 7 of this Annex shall be at least in English, French or Spanish. Where entries in an official national 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.

5 The Cargo Record Book shall be kept in such a place as to be readily available for inspection and, except in the case of unmanned ships under tow, shall be kept on board the ship. It shall be retained for a period of three years after the last entry has been made.

6 The competent authority of the Government of a Party may inspect the Cargo Record Book on board any ship to which this Annex applies while the ship is in its port, 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 ship's Cargo Record Book shall be made admissible in any judicial proceedings as evidence of the facts stated in the entry. The inspection of a Cargo Record Book 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.

CHAPTER 6

MEASURES OF CONTROL BY PORT STATES

Regulation 16

Measures of control

FIRST SCHEDULE — *continued*

1 The Government of each Party to the Convention shall appoint or authorize surveyors for the purpose of implementing this regulation. The surveyors shall execute control in accordance with control procedures developed by the Organization.*

2 When a surveyor appointed or authorized by the Government of the Party to the Convention has verified that an operation has been carried out in accordance with the requirements of the Manual, or has granted an exemption for a prewash, then that surveyor shall make an appropriate entry in the Cargo Record Book.

3 The master of a ship certified to carry Noxious Liquid Substances in bulk shall ensure that the provisions of regulation 13 and of this regulation, and chapter 2 of part II-A of the Polar Code when the ship is operating in Arctic waters, have been complied with and that the Cargo Record Book is completed in accordance with regulation 15 whenever operations as referred to in that regulation take place.

[S 667/2016 wef 01/01/2017]

4 A tank which has carried a Category X substance shall be prewashed in accordance with regulation 13.6. The appropriate entries of these operations shall be made in the Cargo Record Book and endorsed by the surveyor referred to under paragraph 1 of this regulation.

5 Where the Government of the receiving party is satisfied that it is impracticable to measure the concentration of the substance in the effluent without causing undue delay to the ship, that Party may accept the alternative procedure referred to in regulation 13.6.3 provided that the surveyor referred to under paragraph 1 of this regulation certifies in the Cargo Record Book that:

.1 the tank, its pump and piping systems have been emptied; and

.2 the prewash has been carried out in accordance with the provisions of appendix 6 of this Annex; and

.3 the tank washing resulting from such prewash have been discharged to a reception facility and the tank is empty.

6 At the request of the ship's master, the Government of the receiving Party may exempt the ship from the requirements for a prewash referred to in the applicable paragraphs of regulation 13, when one of the conditions of regulation 13.4 is met.

7 An exemption referred to in paragraph 6 of this regulation may only be granted by the Government of the receiving Party to a ship engaged in voyages to ports or terminals under the jurisdiction of other States Parties to the present Convention. When such an exemption has been granted, the appropriate entry

* Refer to the Procedures for port State control adopted by the Organization by resolution A.787(19) as amended by A.882(21).

FIRST SCHEDULE — *continued*

made in the Cargo Record Book shall be endorsed by the surveyor referred to in paragraph 1 of this regulation.

8 If the unloading is not carried out in accordance with the pumping conditions for the tank approved by the Administrations and based on appendix 5 of this Annex, alternative measures may be taken to the satisfaction of the surveyor referred to in paragraph 1 of this regulation to remove the cargo residues from the ship to quantities specified in regulation 12 as applicable. The appropriate entries shall be made in the Cargo Record Book.

9 *Port State control on operational requirements**

9.1 A ship when in a port of another Party is subject to inspection by officers duly authorized by such Party concerning operational requirements under this Annex, where there are clear grounds for believing that the master or crew are not familiar with essential shipboard procedures relating to the prevention of pollution by Noxious Liquid Substances.

9.2 In the circumstances given in paragraph 9.1 of this regulation, the Party shall take such steps as will ensure that the ship shall not sail until the situation has been brought to order in accordance with the requirements of this Annex.

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

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

CHAPTER 7

PREVENTION OF POLLUTION ARISING FROM AN INCIDENT INVOLVING NOXIOUS LIQUID SUBSTANCES

Regulation 17

Shipboard marine pollution emergency plan for Noxious Liquid Substances

1 Every ship of 150 gross tonnage and above certified to carry Noxious Liquid Substances in bulk shall carry on board a shipboard marine pollution emergency plan for Noxious Liquid Substances approved by the Administration.

* Refer to the Procedures for port State control adopted by the Organization by resolution A.787(19) as amended by A.882(21).

FIRST SCHEDULE — *continued*

2 Such a plan shall be based on the Guidelines* developed by the Organization and written in a working language or languages understood by the master and officers. The plan shall consist at least of:

.1 the procedure to be followed by the master or other persons having charge of the ship to report a Noxious Liquid Substances pollution incident, as required in article 8 and Protocol I of the present Convention, based on the Guidelines developed by the Organization**;

.2 the list of authorities or persons to be contacted in the event of a Noxious Liquid Substances pollution incident;

.3 a detailed description of the action to be taken immediately by persons on board to reduce or control the discharge of Noxious Liquid Substances following the incident; and

.4 the procedures and point of contact on the ship for co-ordinating shipboard action with national and local authorities in combating the pollution.

3 In the case of ships to which regulation 37 of Annex I of the Convention also applies, such a plan may be combined with the shipboard oil pollution emergency plan required under regulation 37 of Annex I of the Convention. In this case, the title of such a plan shall be "Shipboard marine pollution emergency plan".

CHAPTER 8

RECEPTION FACILITIES

Regulation 18

Reception facilities and cargo unloading terminal arrangements

1 The Government of each Party to the Convention undertakes to ensure the provision of reception facilities according to the needs of ships using its ports, terminals or repair ports as follows:

.1 ports and terminals involved in ships' cargo handling shall have adequate facilities for the reception of residues and mixtures containing such residues of Noxious Liquid Substances resulting

* Refer to "Guidelines for the development of shipboard marine pollution emergency plans for oil and/or Noxious Liquid Substances" adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.85(44), as amended by resolution MEPC.137(53).

** Refer to General Principles for Ship Reporting Systems and Ship Reporting Requirements, including Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants adopted by the Organization by resolution A.851(20).

from compliance with this Annex, without undue delay for the ships involved.

.2 ship repair ports undertaking repairs to NLS tankers shall provide facilities adequate for the reception of residues and mixtures containing Noxious Liquid Substances for ships calling at that port.

2 The Government of each Party shall determine the types of facilities provided for the purpose of paragraph 1 of this regulation at each cargo loading and unloading port, terminal and ship repair port in its territories and notify the Organization thereof.

2A Small Island Developing States may satisfy the requirements in paragraphs 1, 2 and 4 of this regulation through regional arrangements when, because of those States' unique circumstances, such arrangements are the only practical means to satisfy these requirements. Parties participating in a regional arrangement shall develop a Regional Reception Facilities Plan, taking into account the guidelines developed by the Organization.

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

.1 how the Regional Reception Facilities Plan takes into account the Guidelines;

.2 particulars of the identified Regional Ships Waste Reception Centres; and

.3 particulars of those ports with only limited facilities.

[S 470/2013 wef 01/08/2013]

2B Where regulation 13 of this Annex requires a prewash and the Regional Reception Facility Plan is applicable to the port of unloading, the prewash and subsequent discharge to a reception facility shall be carried out as prescribed in regulation 13 of this Annex or at a Regional Ship Waste Reception Centre specified in the applicable Regional Reception Facility Plan.

[S 470/2013 wef 01/08/2013]

3 The Governments of Parties to the Convention, the coastlines of which border on any given special area, shall collectively agree and establish a date by which time the requirement of paragraph 1 of this regulation will be fulfilled and from which the requirements of the applicable paragraphs of regulation 13 in respect of that area shall take effect and notify the Organization of the date so established at least six months in advance of that date. The Organization shall then promptly notify all Parties of that date.

FIRST SCHEDULE — *continued*

4 The Government of each Party to the Convention shall undertake to ensure that cargo unloading terminals shall provide arrangements to facilitate stripping of cargo tanks of ships unloading Noxious Liquid Substances at these terminals. Cargo hoses and piping systems of the terminal, containing Noxious Liquid Substances received from ships unloading these substances at the terminal, shall not be drained back to the ship.

5 Each Party shall notify the Organization, for transmission to the Parties concerned, of any case where facilities required under paragraph 1 or arrangements required under paragraph 3 of this regulation are alleged to be inadequate.

CHAPTER 9

VERIFICATION OF COMPLIANCE WITH THE PROVISIONS OF THIS CONVENTION

Regulation 19

Application

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

[S 798/2015 wef 01/01/2016]

Regulation 20

Verification of compliance

1 Every Party shall be subject to periodic audits by the Organization in accordance with the Audit Standard to verify compliance with and implementation of this Annex.

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

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

4 Audit of all Parties shall be:

.1 based on an overall schedule developed by the Secretary-General of the Organization, taking into account the guidelines developed by the Organization*; and

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

FIRST SCHEDULE — *continued*

.2 conducted at periodic intervals, taking into account the guidelines developed by the Organization*.

[S 798/2015 wef 01/01/2016]

CHAPTER 10

INTERNATIONAL CODE FOR SHIPS OPERATING IN POLAR WATERS

Regulation 21

Definitions

For the purpose of this Annex,

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

.1 amendments to the environment-related provisions of the introduction and chapter 2 of part II-A of the Polar Code are adopted, brought into force and take effect in accordance with the provisions of article 16 of the present Convention concerning the amendment procedures applicable to an appendix to an annex; and

.2 amendments to part II-B of the Polar Code are adopted by the Marine Environment Protection Committee in accordance with its Rules of Procedure.

2 *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 W and 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.

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

FIRST SCHEDULE — *continued*

3 *Polar waters* means Arctic waters and/or the Antarctic area.

[S 667/2016 wef 01/01/2017]

Regulation 22

Application and requirements

1 This chapter applies to all ships certified to carry noxious liquid substances in bulk and operating in polar waters.

2 Unless expressly provided otherwise, any ship covered by paragraph 1 of this regulation shall comply with the environment-related provisions of the introduction and with chapter 2 of part II-A of the Polar Code, in addition to any other applicable requirements of this Annex.

3 In applying chapter 2 of part II-A of the Polar Code, consideration should be given to the additional guidance in part II-B of the Polar Code.

[S 667/2016 wef 01/01/2017]

FIRST SCHEDULE — *continued*

APPENDIX 1

GUIDELINES FOR THE CATEGORIZATION OF NOXIOUS LIQUID SUBSTANCES*

Products are assigned to Pollution Categories based on an evaluation of their properties as reflected in the resultant GESAMP Hazard Profile as shown in the table below:

Rule	A1 Bio-accumulation	A2 Bio-degradation	B1 Acute toxicity	B2 Chronic toxicity	D3 Long-term health effects	E2 Effects on marine wildlife and on benthic habitats	Cat
1			≥ 5				**X**
2	≥ 4		4				
3		NR	4				
4	≥ 4	NR			CMRTNI		
5			4				**Y**
6			3				
7			2				
8	≥ 4	NR		Not 0			
9				≥ 1			
10						Fp, F or S If not Inorganic	
11					CMRTNI		
12	Any product not meeting the criteria of rules 1 to 11 and 13						**Z**
13	All products identified as: ≤2 in column A1; R in column A2; blank in column D3; not Fp, F or S (if not organic) in column E2; and 0 (zero) in all other columns of the GESAMP Hazard Profile						**OS**

* Reference is made to the Guidelines for provisional assessment of chemicals, MEPC/Circ.265 as amended.

FIRST SCHEDULE — *continued*

Abbreviated legend to the revised GESAMP Hazard Evaluation Procedure

Columns A and B — Aquatic Environment					
	A			**B**	
	Bioaccumulation and Biodegradation			**Aquatic Toxicity**	
Numerical Rating	**A 1[10]* Bioaccumulation**		**A 2* Biodegradation**	**B 1* Acute Toxicity**	**B 2* Chronic Toxicity**
log Pow	**BCF**			**LC/EC/IC$_{50}$ (mg/l)**	**NOEC (mg/l)**
0	<1 or> ca. 7	not measurable	R: readily biodegradable	> 1000	> 1
1	≥ 1 – < 2	> 1 – < 10		>100 – ≤ 1000	> 0.1 – ≤ 1
2	≥ 2 – < 3	> 10 – < 100		>10 – ≤ 100	>0.01 – ≤ 0.1
3	≥ 3 – < 4	> 100 – < 500	NR: not readily biodegradable	>1 – ≤ 10	>0.001 – ≤ 0.01
4	≥ 4 – < 5	> 500 – < 4000		>0.1 – ≤ 1	≤ 0.001
5	≥ 5	> 4000		>0.01 – ≤ 0.1	
6				≤ 0.01	

Columns C and D — Human Health (Toxic effects to mammals)				
		C		**D**
	Acute Mammalian Toxicity			**Irritation, Corrosion & Long term health effects**

FIRST SCHEDULE — *continued*

Numerical Ratings	C 1 Oral Toxicity LD_{50} (mg/kg)	C 2 Percutaneous Toxicity LD_{50} (mg/kg)	C 3 Inhalation Toxicity LC_{50} (mg/l)	D 1 Skin irritation & corrosion	D 2 Eye irritation & corrosion	D3[11]* Long term health effects
0	> 2000	> 2000	> 20	not irritating	not irritating	C — Carcinogen M — Mutagenic R — Reprotoxic S — Sensitizing A — Aspiration haz. T — Target organ systemic toxicity L — Lung injury N — Neurotoxic I — Immunotoxic
1	> 300 − ≤ 2000	> 1000 − ≤ 2000	> 10 − ≤ 20	mildly irritating	mildly irritating	
2	> 50 − ≤ 300	> 200 − ≤ 1000	> 2 − ≤ 10	irritating	irritating	
3	>5 − ≤ 50	> 50 − ≤ 200	> 0.5 − ≤ 2	3 Severely irritating or corrosive 3A Corr. (≤ 4hr) 3B Corr. (≤ 1hr) 3C Corr. (≤ 3m)	severely irritating	
4	≤ 5	≤ 50	≤ 0.5			

Column E — Interferences with other Uses of the Sea		
E 1 Tainting	**E 2[12]*** Physical effects on Wildlife & benthic habitats	**E 3** Interference with Coastal Amenities

FIRST SCHEDULE — *continued*

		Numerical Rating	**Description & Action**
NT: not tainting (tested) T: tainting test positive	Fp: Persistent Floater F: Floater S: Sinking Substances	0	no interference **no warning**
		1	slightly objectionable **warning, no closure of amenity**
		2	moderately objectionable **possible closure of amenity**
		3	highly objectionable **closure of amenity**

FIRST SCHEDULE — *continued*

APPENDIX 2

FORM OF CARGO RECORD BOOK FOR
SHIPS CARRYING NOXIOUS LIQUID SUBSTANCES IN BULK

CARGO RECORD BOOK FOR SHIPS

CARRYING NOXIOUS LIQUID SUBSTANCES IN BULK

Name of ship .....

Distinctive number or letters .....

IMO Number .....

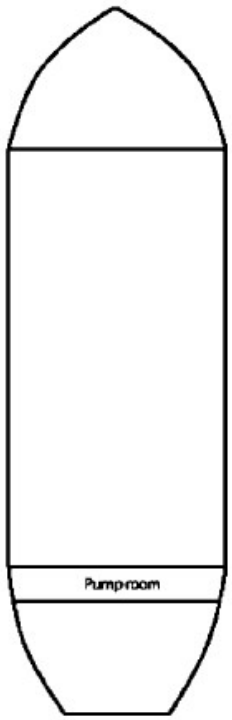
Gross tonnage .....

Period from ..... to .....

PLAN VIEW OF CARGO AND SLOP TANKS

(to be completed on board)

FIRST SCHEDULE — *continued*



Identification of the tanks	Capacity

(Give the capacity of each tank in cubic metres)

INTRODUCTION

The following pages show a comprehensive list of items of cargo and ballast operations which are, when appropriate, to be recorded in the Cargo Record Book on a tank to tank basis in accordance with regulation 15.2 of Annex II of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), as amended. The items have been grouped into operational sections, each of which is denoted by a letter.

When making entries in the Cargo Record Book, 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 and, if applicable, by a surveyor authorized by the competent authority

FIRST SCHEDULE — *continued*

of the State in which the ship is unloading. Each completed page shall be countersigned by the master of the ship.

List of items to be recorded

Entries are required for operations involving all Categories of substances.

(A) Loading of cargo

1 Place of loading.

2 Identify tank(s), name of substance(s) and Category(ies).

(B) Internal transfer of cargo

3 Name and Category of cargo(es) transferred.

4 Identity of tanks:

.1 from:

.2 to :

5 Was (were) tank(s) in 4.1 emptied?

6 If not, quantity remaining in tank(s).

(C) Unloading of cargo

7 Place of unloading.

8 Identity of tank(s) unloaded.

9 Was (were) tank(s) emptied?

.1 If yes, confirm that the procedure for emptying and stripping has been performed in accordance with the ship's Procedures and Arrangements Manual (i.e. list, trim, stripping temperature).

.2 If not, quantity remaining in tank(s).

10 Does the ship's Procedures and Arrangements Manual require a prewash with subsequent disposal to reception facilities?

11 Failure of pumping and/or stripping system:

.1 time and nature of failure;

.2 reasons for failure;

.3 time when system has been made operational.

FIRST SCHEDULE — *continued*

(D) Mandatory prewash in accordance with the ship's Procedures and Arrangements Manual

12 Identify tank(s), substance(s) and Category(ies).

13 Washing method:

.1 number of cleaning machines per tank;

.2 duration of wash/washing cycles;

.3 hot/cold wash.

14 Prewash slops transferred to:

.1 reception facility in unloading port (identify port)*;

.2 reception facility otherwise (identify port)*.

(E) Cleaning of cargo tanks except mandatory prewash (other prewash operations, final wash, ventilation etc.)

15 State time, identify tank(s), substance(s) and Category(ies) and state:

.1 washing procedure used;

.2 cleaning agent(s) (identify agent(s) and quantities);

.3 ventilation procedure used (state number of fans used, duration of ventilation).

16 Tank washings transferred:

.1 into the sea;

.2 to reception facility (identify port)*;

.3 to slops collecting tank (identify tank).

(F) Discharge into the sea of tank washings

17 Identify tank(s):

.1 Were tank washings discharged during cleaning of tank(s)? If so at what rate?

.2 Were tank washing(s) discharged from a slops collecting tank? If so, state quantity and rate of discharge.

18 Time pumping commenced and stopped.

* Ship's masters should obtain from the operator of the reception facilities, which include barges and tank trucks, a receipt or certificate specifying the quantity of tank washings transferred, together with the time and date of the transfer. The receipt or certificate should be kept together with the cargo record book.

FIRST SCHEDULE — *continued*

19 Ship's speed during discharge.

(G) Ballasting of cargo tanks

20 Identity of tank(s) ballasted.

21 Time at start of ballasting.

(H) Discharge of ballast water from cargo tanks

22 Identity of tank(s).

23 Discharge of ballast:

.1 into the sea;

.2 to reception facilities (identify port)*.

24 Time ballast discharge commenced and stopped.

25 Ship's speed during discharge.

(I) Accidental or other exceptional discharge

26 Time of occurrence.

27 Approximate quantity, substance(s) and Category(ies).

28 Circumstances of discharge or escape and general remarks.

(J) Control by authorized surveyors

29 Identify port.

30 Identify tank(s), substance(s), Category(ies) discharged ashore.

31 Have tank(s), pump(s), and piping system(s) been emptied?

32 Has a prewash in accordance with the ship's Procedures and Arrangements Manual been carried out?

33 Have tank washings resulting from the prewash been discharged ashore and is the tank empty?

34 An exemption has been granted from mandatory prewash.

35 Reasons for exemption.

36 Name and signature of authorized surveyor.

37 Organization, company, government agency for which surveyor works.

* Ship's masters should obtain from the operator of the reception facilities, which include barges and tank trucks, a receipt or certificate specifying the quantity of tank washings transferred, together with the time and date of the transfer. The receipt or certificate should be kept together with the cargo record book.

FIRST SCHEDULE — *continued*

(K) Additional operational procedures and remarks

Name of ship .....

Distinctive number or letters .....

IMO Number .....

CARGO/BALLAST OPERATIONS

FIRST SCHEDULE — *continued*

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge/name of and signature of authorized surveyor

FIRST SCHEDULE — *continued*

Signature of master .....

APPENDIX 3

FORM OF INTERNATIONAL POLLUTION PREVENTION CERTIFICATE FOR THE CARRIAGE OF NOXIOUS LIQUID SUBSTANCES IN BULK

INTERNATIONAL POLLUTION PREVENTION CERTIFICATE FOR THE CARRIAGE OF NOXIOUS LIQUID SUBSTANCES IN BULK

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, as amended (hereinafter referred to as "the Convention") under the authority of the Government of:

.....

(full designation of the country)

by .....

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

Particulars of ship*

Name of ship .....

Distinctive number or letters .....

IMO Number .....

Port of registry .....

Gross tonnage .....

THIS IS TO CERTIFY:

1 That the ship has been surveyed in accordance with regulation 8 of Annex II of the Convention.

2 That the survey showed that the structure, equipment, systems, fitting, arrangements and material of the ship and the condition thereof are in all respects satisfactory and that the ship complies with the applicable requirements of Annex II of the Convention.

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

FIRST SCHEDULE — *continued*

3 That the ship has been provided with a Procedures and Arrangements Manual as required by regulation 14 of Annex II of the Convention, and that the arrangements and equipment of the ship prescribed in the Manual are in all respects satisfactory.

4 That the ship complies with the requirements of Annex II to MARPOL 73/78 for the carriage in bulk of the following Noxious Liquid Substances, provided that all relevant provisions of Annex II are observed.

FIRST SCHEDULE — *continued*

Noxious Liquid Substances	Conditions of carriage (tank numbers etc.)	Pollution Category
Continued on additional signed and dated sheets		

FIRST SCHEDULE — *continued*

This certificate is valid until ..... subject to surveys in accordance with regulation 8 of Annex II of the Convention.

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

Issued at .....

(Place of issue of certificate)

....
(Date of issue) (Signature of authorized official issuing the certificate)

(Seal or stamp of the authority, as appropriate)

ENDORSEMENT FOR ANNUAL AND INTERMEDIATE SURVEYS

THIS IS TO CERTIFY that, at a survey required by regulation 8 of Annex II of the Convention, the ship was found to comply with the relevant provisions of the Convention:

Annual survey: Signed .....
(Signature of authorized official)

Place .....

Date .....
(dd/mm/yy)

(Seal or stamp of the authority, as appropriate)

Annual/Intermediate survey: Signed .....
(Signature of authorized official)

Place .....

Date .....
(dd/mm/yy)

(Seal or stamp of the authority, as appropriate)

Annual/Intermediate survey: Signed .....
(Signature of authorized official)

Place .....

Date .....
(dd/mm/yy)

(Seal or stamp of the authority, as appropriate)

FIRST SCHEDULE — *continued*

Annual survey:

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

Place .....

Date .....
(dd/mm/yy)

(Seal or stamp of the authority, as appropriate)

**ANNUAL/INTERMEDIATE SURVEY
IN ACCORDANCE WITH REGULATION 10.8.3**

THIS IS TO CERTIFY that, at an annual/intermediate survey in accordance with regulation 10.8.3 of Annex II of the Convention, the ship was found to comply with the relevant provisions of the Convention:

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

Place .....

Date .....
(dd/mm/yy)

(Seal or stamp of the authority, as appropriate)

**ENDORSEMENT TO EXTEND THE CERTIFICATE IF VALID
FOR LESS THAN 5 YEARS WHERE REGULATION 10.3 APPLIES**

The ship complies with the relevant provisions of the Convention, and this Certificate shall, in accordance with regulation 10.3 of Annex II of the Convention, be accepted as valid until .....

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

Place .....

Date .....
(dd/mm/yy)

(Seal or stamp of the authority, as appropriate)

**ENDORSEMENT WHERE THE RENEWAL SURVEY
HAS BEEN COMPLETED AND REGULATION 10.4 APPLIES**

FIRST SCHEDULE — *continued*

The ship complies with the relevant provisions of the Convention, and this Certificate shall, in accordance with regulation 10.4 of Annex II of the Convention, be accepted as valid until .....

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

Place .....

Date .....
(dd/mm/yy)

(Seal or stamp of the authority, as appropriate)

ENDORSEMENT TO EXTEND THE VALIDITY OF THE CERTIFICATE UNTIL REACHING THE PORT OF SURVEY OR FOR A PERIOD OF GRACE WHERE REGULATION 10.5 OR 10.6 APPLIES

This Certificate shall, in accordance with regulation 10.5 or 10.6 of Annex II of the Convention, be accepted as valid until .....

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

Place .....

Date .....
(dd/mm/yy)

(Seal or stamp of the authority, as appropriate)

ENDORSEMENT FOR ADVANCEMENT OF ANNIVERSARY DATE WHERE REGULATION 10.8 APPLIES

In accordance with regulation 10.8 of Annex II of the Convention, the new anniversary date is .....

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

Place .....

Date .....
(dd/mm/yy)

(Seal or stamp of the authority, as appropriate)

FIRST SCHEDULE — *continued*

In accordance with regulation 10.8 of Annex II of the Convention, the new anniversary date is .....

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

Place .....

Date .....
(dd/mm/yy)

(Seal or stamp of the authority, as appropriate)

FIRST SCHEDULE — *continued*

APPENDIX 4

STANDARD FORMAT FOR
THE PROCEDURES AND ARRANGEMENTS MANUAL

Note 1: The format consists of a standardized introduction and index of the leading paragraphs to each section. This standardized part shall be reproduced in the Manual of each ship. It shall be followed by the contents of each section as prepared for the particular ship. When a section is not applicable, "NA" shall be entered, so as not to lead to any disruption of the numbering as required by the standard format. Where the paragraphs of the standard format are printed in *italics*, the required information shall be described for that particular ship. The contents will vary from ship to ship because of design, trade and intended cargoes. Where the text is not in italics, that text of the standard format shall be copied into the Manual without any modification.

Note 2: If the Administration requires or accepts information and operational instructions in addition to those outlined in this Standard Format, they shall be included in Addendum D of the Manual.

STANDARD FORMAT

MARPOL 73/78 ANNEX II
PROCEDURES AND ARRANGEMENTS MANUAL

Name of ship: .....

Distinctive number or letters: .....

IMO Number .....

Port of registry: .....

Approval stamp of Administration:

FIRST SCHEDULE — *continued*

INTRODUCTION

1 The International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as MARPOL 73/78) was established in order to prevent the pollution of the marine environment by discharges into the sea from ships of harmful substances or effluents containing such substances. In order to achieve its aim, MARPOL 73/78 contains six Annexes in which detailed regulations are given with respect to the handling on board ships and the discharge into the sea or release into the atmosphere of six main groups of harmful substances, i.e. Annex I (Mineral oils), Annex II (Noxious Liquid Substances carried in bulk), Annex III (Harmful substances carried in packaged forms), Annex IV (Sewage), Annex V (Garbage) and Annex VI (Air Pollution).

2 Regulation 13 of Annex II of MARPOL 73/78 (hereinafter referred to as Annex II) prohibits the discharge into the sea of Noxious Liquid Substances of Categories X, Y or Z or of ballast water, tank washings or other residues or mixtures containing such substances, except in compliance with specified conditions including procedures and arrangements based upon standards developed by the International Maritime Organization (IMO) to ensure that the criteria specified for each Category will be met.

3 Annex II requires that each ship which is certified for the carriage of Noxious Liquid Substances in bulk shall be provided with a Procedures and Arrangements Manual, hereinafter referred to as the Manual.

4 This Manual has been written in accordance with Appendix 4 of Annex II and is concerned with the marine environmental aspects of the cleaning of cargo tanks and the discharge of residues and mixtures from these operations. The Manual is not a safety guide and reference shall be made to other publications specifically to evaluate safety hazards.

5 The purpose of the Manual is to identify the arrangements and equipment required to enable compliance with Annex II and to identify for the ship's officers all operational procedures with respect to cargo handling, tank cleaning, slops handling, residue discharging, ballasting and deballasting, which must be followed in order to comply with the requirements of Annex II.

6 In addition, this Manual, together with the ship's Cargo Record Book and the Certificate issued under Annex II*, will be used by Administrations for control purposes in order to ensure full compliance with the requirements of Annex II by this ship.

* Include only the Certificate issued to the particular ship: i.e. The International Pollution Prevention Certificate for the carriage of Noxious Liquid Substances in Bulk or the Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk or the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk.

FIRST SCHEDULE — *continued*

7 The master shall ensure that no discharges into the sea of cargo residues or residue/water mixtures containing Category X, Y or Z substances shall take place, unless such discharges are made in full compliance with the operational procedures contained in this Manual.

8 This Manual has been approved by the Administration and no alteration or revision shall be made to any part of it without the prior approval of the Administration.

INDEX OF SECTIONS

FIRST SCHEDULE — *continued*

SECTION 1 Main features of MARPOL 73/78, Annex II

1.1 The requirements of Annex II apply to all ships carrying Noxious Liquid Substances in bulk. Substances posing a threat of harm to the marine environment are divided into three categories, X, Y and Z. Category X substances are those posing the greatest threat to the marine environment, whilst Category Z substances are those posing the smallest threat.

1.2 Annex II prohibits the discharge into the sea of any effluent containing substances falling under these categories, except when the discharge is made under conditions which are specified in detail for each Category. These conditions include, where applicable, such parameters as:

.1 the maximum quantity of substances per tank which may be discharged into the sea;

.2 the speed of the ship during the discharge;

.3 the minimum distance from the nearest land during discharge;

.4 the minimum depth of water at sea during discharge; and

.5 the need to effect the discharge below the waterline.

1.3 For certain sea areas identified as "special area" more stringent discharge criteria apply. Under Annex II the special area is the Antarctic area. In addition, under chapter 2 of part II-A of the Polar Code, more stringent discharge criteria apply in Arctic waters.

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1.4 Annex II requires that every ship is provided with pumping and piping arrangements to ensure that each tank designated for the carriage of Category X, Y and Z substances does not retain after unloading a quantity of residue in excess of the quantity given in the Annex. For each tank intended for the carriage of such substances an assessment of the residue quantity has to be made. Only when the residue quantity as assessed is less than the quantity prescribed by the Annex may a tank be approved for the carriage of a Category X, Y or Z substances.

1.5 In addition to the conditions referred to above, an important requirement contained in Annex II is that the discharge operations of certain cargo residues and certain tank cleaning and ventilation operations may only be carried out in accordance with approved procedures and arrangements.

1.6 To enable the requirement of paragraph 1.5 to be met, this Manual contains in section 2 all particulars of the ship's equipment and arrangements, in section 3 operational procedures for cargo unloading and tank stripping and in section 4 procedures for discharge of cargo residues, tank washing, slops collection,

ballasting and deballasting as may be applicable to the substances the ship is certified to carry.

1.7 By following the procedures as set out in this Manual, it will be ensured that the ship complies with all relevant requirements of Annex II to MARPOL 73/78.

SECTION 2 Description of the ship's equipment and arrangements

2.1 This section contains all particulars of the ship's equipment and arrangements necessary to enable the crew to follow the operational procedures set out in sections 3 and 4.

2.2 **General arrangement of ship and description of cargo tanks**

This section shall contain a brief description of the cargo area of the ship with the main features of the cargo tanks and their positions.

Line or schematic drawings showing the general arrangement of the ship and indicating the position and numbering of the cargo tanks and heating arrangements shall be included.

2.3 **Description of cargo pumping and piping arrangements and stripping system**

This section shall contain a description of the cargo pumping and piping arrangements and of the stripping system. Line or schematic drawings shall be provided showing the following and be supported by textual explanation where necessary:

.1 cargo piping arrangements with diameters;

.2 cargo pumping arrangements with pump capacities;

.3 piping arrangements of stripping system with diameters;

.4 pumping arrangements of stripping system with pump capacities;

.5 location of suction points of cargo lines and stripping lines inside every cargo tank;

.6 if a suction well is fitted, the location and cubic capacity thereof;

.7 line draining and stripping or blowing arrangements; and

.8 quantity and pressure of nitrogen or air required for line blowing if applicable.

2.4 **Description of ballast tanks and ballast pumping and piping arrangements**

FIRST SCHEDULE — *continued*

This section shall contain a description of the ballast tanks and ballast pumping and piping arrangements.

Line or schematic drawings and tables shall be provided showing the following:

.1 a general arrangement showing the segregated ballast tanks and cargo tanks to be used as ballast tanks together with their capacities (cubic metres);

.2 ballast piping arrangement;

.3 pumping capacity for those cargo tanks which may also be used as ballast tanks; and

.4 any interconnection between the ballast piping arrangements and the underwater outlet system.

2.5 **Description of dedicated slop tanks with associated pumping and piping arrangements**

This section shall contain a description of the dedicated slop tank(s), if any, with the associated pumping and piping arrangements. Line or schematic drawings shall be provided showing the following:

.1 which dedicated slop tanks are provided together with the capacities of such tanks;

.2 pumping and piping arrangements of dedicated slop tanks with piping diameters and their connection with the underwater discharge outlet.

2.6 **Description of underwater discharge outlet for effluents containing Noxious Liquid Substances**

This section shall contain information on position and maximum flow capacity of the underwater discharge outlet (or outlets) and the connections to this outlet from the cargo tanks and slop tanks. Line or schematic drawings shall be provided showing the following:

.1 location and number of underwater discharge outlets;

.2 connections to underwater discharge outlet;

.3 location of all seawater intakes in relation to underwater discharge outlets.

2.7 **Description of flow rate indicating and recording devices**

Deleted

2.8 **Description of cargo tank ventilation system**

FIRST SCHEDULE — *continued*

This section shall contain a description of the cargo tank ventilation system.

Line or schematic drawings and tables shall be provided showing the following and supported by textual explanation if necessary:

.1 *the Noxious Liquid Substances the ship is certified fit to carry having a vapour pressure over 5 kPa at 20°C suitable for cleaning by ventilation to be listed in paragraph 4.4.10 of the Manual;*

.2 *ventilation piping and fans;*

.3 *position of the ventilation openings;*

.4 *the minimum flow rate of the ventilation system to adequately ventilate the bottom and all parts of the cargo tank;*

.5 *the location of structures inside the tank affecting ventilation;*

.6 *the method of ventilating the cargo pipeline system, pumps, filters, etc; and*

.7 *means for ensuring that the tank is dry.*

2.9 **Description of tank washing arrangements and wash water heating system**

This section shall contain a description of the cargo tank washing arrangements, wash water heating system and all necessary tank washing equipment.

Line or schematic drawings and tables or charts showing the following:

.1 *arrangements of piping dedicated for tank washing with pipeline diameters;*

.2 *type of tank cleaning machines with capacities and pressure rating;*

.3 *maximum number of tank cleaning machines which can operate simultaneously;*

.4 *position of deck openings for cargo tank washing;*

.5 *the number of cleaning machines and their location required for ensuring complete coverage of the cargo tank walls;*

.6 *maximum capacity of wash water which can be heated to 60°C by the installed heating equipment; and*

.7 *maximum number of tank cleaning machines which can be operated simultaneously at 60°C.*

SECTION 3 Cargo unloading procedures and tank stripping

FIRST SCHEDULE — *continued*

3.1 This section contains operational procedures in respect of cargo unloading and tank stripping which must be followed in order to ensure compliance with the requirements of Annex II.

3.2 **Cargo unloading**

This section shall contain procedures to be followed including the pump and cargo unloading and suction line to be used for each tank. Alternative methods may be given.

The method of operation of the pump or pumps and the sequence of operation of all valves shall be given.

The basic requirement is to unload the cargo to the maximum extent.

3.3 **Cargo tank stripping**

This section shall contain procedures to be followed during the stripping of each cargo tank.

The procedures shall include the following:

.1 operation of stripping system;

.2 list and trim requirements;

.3 line draining and stripping or blowing arrangements if applicable; and

.4 duration of the stripping time of the water test.

3.4 **Cargo temperature**

This section shall contain information on the heating requirements of cargoes which have been identified as being required to be at a certain minimum temperature during unloading.

Information shall be given on control of the heating system and the method of temperature measurement.

3.5 **Procedures to be followed when a cargo tank cannot be unloaded in accordance with the required procedures**

This section shall contain information on the procedures to be followed in the event that the requirements contained in sections 3.3 and/or 3.4 cannot be met due to circumstances such as the following:

.1 failure of cargo tank stripping system; and

.2 failure of cargo tank heating system.

3.6 **Cargo Record Book**

FIRST SCHEDULE — *continued*

The Cargo Record Book shall be completed in the appropriate places on completion of any cargo operation.

SECTION 4 Procedures relating to the cleaning of cargo tanks, the discharge of residues, ballasting and deballasting

4.1 This section contains operational procedures in respect of tank cleaning, ballast and slops handling which must be followed in order to ensure compliance with the requirements of Annex II.

4.2 The following paragraphs outline the sequence of actions to be taken and contain the information essential to ensure that Noxious Liquid Substances are discharged without posing a threat of harm to the marine environment.

4.3 Deleted

4.4 The information necessary to establish the procedures for discharging the residue of the cargo, cleaning, ballasting and deballasting the tank, shall take into account the following:

.1 Category of substance

The Category of the substance should be obtained from the relevant Certificate.

.2 Stripping efficiency of tank pumping system

The contents of this section will depend on the design of the ship and whether it is a new ship or existing ship (See flow diagram and pumping/stripping requirements).

.3 Vessel within or outside Special Area

This section shall contain instructions on whether the tank washings can be discharged into the sea within a special area (as defined in section 1.3) or outside a special area. The different requirements shall be made clear and will depend on the design and trade of the ship.

No discharges into the sea of residues of Noxious Liquid Substances, or mixtures containing such substances, are allowed within the polar waters.

[S 667/2016 wef 01/01/2017]

.4 Solidifying or High-Viscosity Substance

The properties of the substance should be obtained from the shipping document.

.5 Miscibility with water

FIRST SCHEDULE — *continued*

Deleted

.6 Compatibility with slops containing other substances

This section shall contain instructions on the permissible and non-permissible mixing of cargo slops. Reference should be made to compatibility guides.

.7 Discharge to reception facility

This section shall identify those substances the residues of which are required to be prewashed and discharged to a reception facility.

.8 Discharging into the sea

This section shall contain information on the factors to be considered in order to identify whether the residue/water mixtures are permitted to be discharged into the sea.

.9 Use of cleaning agents or additives

This section shall contain information on the use and disposal of cleaning agents (e.g. solvents used for tank cleaning) and additives to tank washing water (e.g. detergents).*

.10 Use of ventilation procedures for tank cleaning

This section shall make reference to all substances suitable for the use of ventilation procedures.

4.5 Having assessed the above information, the correct operational procedures to be followed should be identified using the instructions and flow diagram of section 5. Appropriate entries shall be made in the Cargo Record Book indicating the procedure adopted.

SECTION 5 Information and procedures

This section shall contain procedures, which will depend on the age of the ship and pumping efficiency. Examples of flow diagram referred to in this section are given at addendum A and incorporate comprehensive requirements applicable to both new and existing ships. The Manual for a particular ship shall only contain those requirements specifically applicable to that ship.

Information relating to melting point and viscosity, for those substances which have a melting point equal to or greater than 0°C or a viscosity equal or greater than 50 mPa.s at 20°C, shall be obtained from the shipping document.

* See the latest edition of MEPC.2 circular (issued annually in December).

FIRST SCHEDULE — *continued*

For substances allowed to be carried, reference is made to the relevant Certificate.

The Manual shall contain:

Table 1	:	Deleted
Table 2	:	Cargo tank information.
Addendum A	:	Flow diagram.
Addendum B	:	Prewash procedures.
Addendum C	:	Ventilation procedures.
Addendum D	:	Additional information and operational instructions when required or accepted by the Administration.

Outlines of the above table and addenda are shown below.

Table 2 — Cargo tank information

FIRST SCHEDULE — *continued*

Tank no.	Capacity (m^3)	Stripping quantity (litres)

FIRST SCHEDULE — *continued*

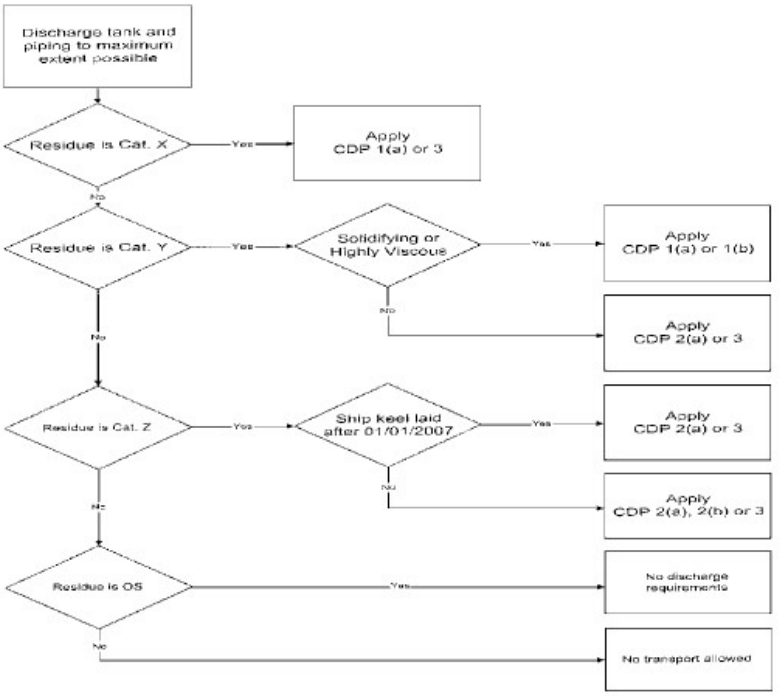
ADDENDUM A

FLOW DIAGRAMS — CLEANING OF CARGO TANKS AND DISPOSAL OF TANK WASHINGS/BALLAST CONTAINING RESIDUES OF CATEGORY X, Y AND Z SUBSTANCES

Note 1 : This flow diagram shows the basic requirements applicable to all age groups of ships and is for guidance only.

Note 2 : All discharges into the sea are regulated by Annex II.

Note 3 : Within the Antarctic area, any discharge into the sea of Noxious Liquid Substances or mixtures containing such substances is prohibited.



FIRST SCHEDULE — *continued*

Ship details	**Stripping requirements (in litres)**		
	Category X	**Category Y**	**Category Z**
New Ships: keel laid after 01/01/2007	75	75	75
IBC ships until 01/01/2007	100 +50 tolerance	100 + 50 tolerance	300 + 50 tolerance
BCH ships	300 + 50 tolerance	300 + 50 tolerance	900 + 50 tolerance
Other ships: keel-laid before 01/01/2007	N/A	N/A	Empty to the most possible extent

FIRST SCHEDULE — *continued*

CLEANING AND DISPOSAL PROCEDURES (CDP) (Start at the top of the column under the CDP number specified and complete each item procedure in the sequence where marked)						
No.	**Operation**	**Procedure Number**				
		1 (*a*)	1 (*b*)	2 (*a*)	2 (*b*)	3
1	Strip tank and piping to maximum extent, at least in compliance with the procedures in section 3 of this Manual	X	X	X	X	X
2	Apply prewash in accordance with Addendum B of this Manual and discharge residue to reception facility	X	X			
3	Apply subsequent wash, additional to the prewash, with: a complete cycle of the cleaning machine(s) *for ships built before 1 July 1994* a water quantity not less than calculated with "k" = 1.0 *for ships built on or after 1 July 1994*		X			
4	Apply ventilation procedure in accordance with Addendum C of this Manual					X
5	Ballast tanks or wash tank to commercial standards	X		X	X	X
6	Ballast added to tank		X			
7	Conditions for discharge of ballast/residue/water mixtures other than prewash:					
	.1 distance from land> 12 nautical miles	X		X	X	
	.2 ship's speed> 7 knots	X		X	X	
	.3 water depth> 25 metres	X		X	X	

FIRST SCHEDULE — *continued*

	.4 Using underwater discharge (not exceeding permissible discharge rate)	X		X		
8	Conditions for discharge of ballast:					
	.1 distance from land> 12 nautical miles		X			
	.2 water depth> 25 metres		X			
9	Any water subsequently introduced into a tank may be discharged into the sea without restrictions	X	X	X	X	X

FIRST SCHEDULE — *continued*

ADDENDUM B

PREWASH PROCEDURES

This addendum to the Manual shall contain prewash procedures based on appendix 6 of Annex II. These procedures shall contain specific requirements for the use of the tank washing arrangements and equipment provided on the particular ship and include the following:

.1 cleaning machine positions to be used;

.2 slops pumping out procedure;

.3 requirements for hot washing;

.4 number of cycles of cleaning machine (or time); and

.5 minimum operating pressures.

ADDENDUM C

VENTILATION PROCEDURES

This addendum to the Manual shall contain ventilation procedures based on appendix 7 of Annex II. The procedures shall contain specific requirements for the use of the cargo tank ventilation system, or equipment, fitted on the particular ship and shall include the following:

.1 ventilation positions to be used;

.2 minimum flow or speed of fans;

.3 procedures for ventilating cargo pipeline, pumps, filters, etc.; and

.4 procedures for ensuring that tanks are dry on completion.

ADDENDUM D

ADDITIONAL INFORMATION AND OPERATIONAL INSTRUCTIONS REQUIRED OR ACCEPTED BY THE ADMINISTRATION

APPENDIX 5

ASSESSMENT OF RESIDUE QUANTITIES IN CARGO TANKS, PUMPS AND ASSOCIATED PIPING

1 Introduction

FIRST SCHEDULE — *continued*

1.1 Purpose

1.1.1 The purpose of this appendix is to provide the procedure for testing the efficiency of cargo pumping systems.

1.2 Background

1.2.1 The ability of the pumping system of a tank to comply with regulation 12.1, 12.2 or 12.3 is determined by performing a test in accordance with the procedure set out in section 3 of this appendix. The quantity measured is termed the "stripping quantity". The stripping quantity of each tank shall be recorded in the ship's Manual.

1.2.2 After having determined the stripping quantity of one tank, the Administration may use the determined quantities for a similar tank, provided the Administration is satisfied that the pumping system in that tank is similar and operating properly.

2 Design criteria and performance test

2.1 The cargo pumping systems should be designed to meet the required maximum amount of residue per tank and associated piping as specified in regulation 12 of Annex II to the satisfaction of the Administration.

2.2 In accordance with regulation 12.5 the cargo pumping systems shall be tested with water to prove their performance. Such water tests shall, by measurement, show that the system meets the requirements of regulation 12. In respect of regulations 12.1 and 12.2 a tolerance of 50 litres per tank is acceptable.

3 Water performance test

3.1 Test condition

3.1.1 The ship's trim and list shall be such as to provide favourable drainage to the suction point. During the water test the ship's trim shall not exceed 3° by the stern, and the ship's list shall not exceed 1°.

3.1.2 The trim and list chosen for the water test shall be recorded. This shall be the minimum favourable trim and list used during the water test.

3.1.3 During the water test means shall be provided to maintain a back-pressure of not less than 100 kPa at the cargo tank's unloading manifold (see figures 5−1 and 5−2).

FIRST SCHEDULE — *continued*

3.1.4 The time taken to complete the water test shall be recorded for each tank, recognizing that this may need to be amended as a result of subsequent tests.

3.2 Test procedure

3.2.1 Ensure that the cargo tank to be tested and its associated piping have been cleaned and that the cargo tank is safe for entry.

3.2.2 Fill the cargo tank with water to a depth necessary to carry out normal end of unloading procedures.

3.2.3 Discharge and strip water from the cargo tank and its associated piping in accordance with the proposed procedures.

3.2.4 Collect all water remaining in the cargo tank and its associated piping into a calibrated container for measurement. Water residues shall be collected, *inter alia*, from the following points:

.1 the cargo tank suction and its vicinity;

.2 any entrapped areas on the cargo tank bottom;

.3 the low point drain of the cargo pump; and

.4 all low point drains of piping associated with the cargo tank up to the manifold valve.

3.2.5 The total water volumes collected above determine the stripping quantity for the cargo tank.

3.2.6 Where a group of tanks is served by a common pump or piping, the water test residues associated with the common system(s) may be apportioned equally among the tanks provided that the following operational restriction is included in the ship's approved Manual: "For sequential unloading of tanks in this group, the pump or piping is not to be washed until all tanks in the group have been unloaded."

FIRST SCHEDULE — *continued*

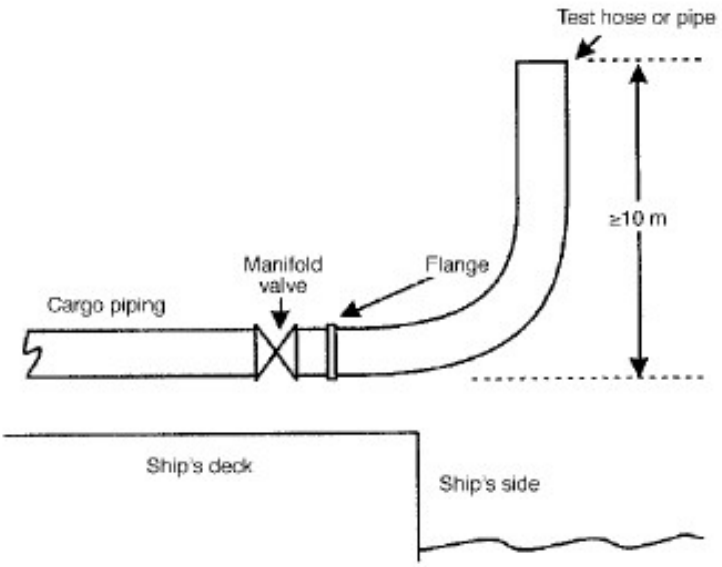


Figure 5–1

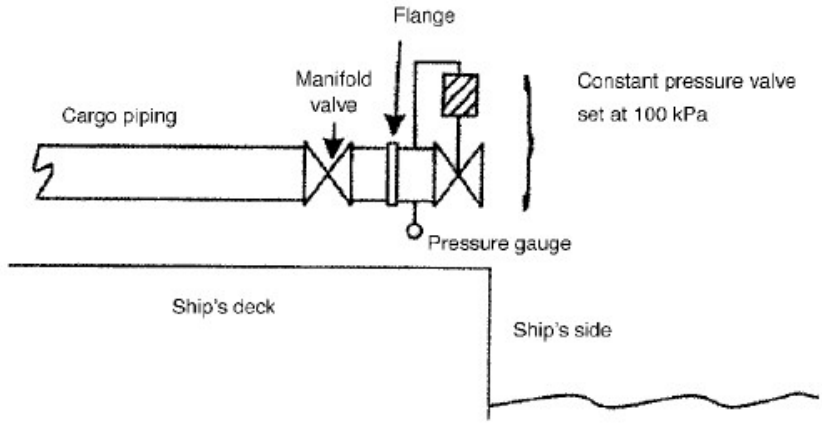


Figure 5–2

FIRST SCHEDULE — *continued*

The above figures illustrate test arrangements that would provide a backpressure of not less than 100 kPa at the cargo tank's unloading manifold.

APPENDIX 6

PREWASH PROCEDURES

A For ships built before 1 July 1994

A prewash procedure is required in order to meet certain Annex II requirements. This appendix explains how these prewash procedures shall be performed.

Prewash procedures for non-Solidifying Substances

1 Tanks shall be washed by means of a rotary water jet, operated at sufficiently high water pressure. In the case of Category X substances cleaning machines shall be operated in such locations that all tank surfaces are washed. In the case of Category Y substances only one location need be used.

2 During washing the amount of water in the tank shall be minimized by continuously pumping out slops and promoting flow to the suction point (positive list and trim). If this condition cannot be met the washing procedure shall be repeated three times, with thorough stripping of the tank between washings.

3 Those substances which have a viscosity equal to or greater than 50 mPa.s at 20°C shall be washed with hot water (temperature at least 60°C), unless the properties of such substances make the washing less effective.

4 The number of cycles of the cleaning machine used shall not be less than that specified in table 6−1. A cleaning machine cycle is defined as the period between two consecutive identical orientations of the tank cleaning machine (rotation through 360°).

5 After washing, the tank cleaning machine(s) shall be kept operating long enough to flush the pipeline, pump and filter, and discharge to shore reception facilities shall be continued until the tank is empty.

Prewash procedures for Solidifying Substances

1 Tanks shall be washed as soon as possible after unloading. If possible tanks shall be heated prior to washing.

2 Residues in hatches and manholes shall preferably be removed prior to the prewash.

FIRST SCHEDULE — *continued*

3 Tanks shall be washed by means of a rotary water jet operated at sufficiently high water pressure and in locations to ensure that all tank surfaces are washed.

4 During washing the amount of water in the tank shall be minimized by pumping out slops continuously and promoting flow to the suction point (positive list and trim). If this condition cannot be met, the washing procedure shall be repeated three times with thorough stripping of the tank between washings.

5 Tanks shall be washed with hot water (temperature at least 60°C) unless the properties of such substances make the washing less effective.

6 The number of cycles of the cleaning machine used shall not be less than that specified in table 6−1. A cleaning machine cycle is defined as the period between two consecutive identical orientations of the machine (rotation through 360°).

7 After washing, the cleaning machine(s) shall be kept operating long enough to flush the pipeline, pump and filter, and discharge to shore reception facilities shall be continued until the tank is empty.

Table 6 - 1 — Number of cleaning machine cycles to be used in each location

FIRST SCHEDULE — *continued*

Category of substance	Number of cleaning machine cycles	
	Non-Solidifying Substances	Solidifying Substances
Category X	1	2
Category Y	1/2	1

FIRST SCHEDULE — *continued*

B For ships built on or after 1 July 1994 and recommendatory for ships built before 1 July 1994

A prewash procedure is required in order to meet certain Annex II requirements. This appendix explains how these prewash procedures shall be performed and how the minimum volumes of washing media to be used shall be determined. Smaller volumes of washing media may be used based on actual verification testing to the satisfaction of the Administration. Where reduced volumes are approved an entry to that effect must be recorded in the Manual.

If a medium other than water is used for the prewash, the provisions of regulation 13.5.1 apply.

Prewash procedures for non-Solidifying Substances without recycling

1 Tanks shall be washed by means of a rotary jet(s), operated at sufficiently high water pressure. In the case of Category X substances cleaning machines shall be operated in such locations that all tank surfaces are washed. In the case of Category Y substances only one location need be used.

2 During washing the amount of liquid in the tank shall be minimized by continuously pumping out slops and promoting flow to the suction point. If this condition cannot be met, the washing procedure shall be repeated three times, with thorough stripping of the tank between washings.

3 Those substances which have a viscosity equal to or greater than 50 mPa.s at 20°C shall be washed with hot water (temperature at least 60°C), unless the properties of such substances make the washing less effective.

4 The quantities of wash water used shall not be less than those specified in paragraph 20 or determined according to paragraph 21.

5 After prewashing the tanks and lines shall be thoroughly stripped.

Prewash procedures for Solidifying Substances without recycling

6 Tanks shall be washed as soon as possible after unloading. If possible, tanks should be heated prior to washing.

7 Residues in hatches and manholes should preferably be removed prior to the prewash.

8 Tanks shall be washed by means of a rotary jet(s) operated at sufficiently high water pressure and in locations to ensure that all tank surfaces are washed.

FIRST SCHEDULE — *continued*

9 During washing the amount of liquid in the tank shall be minimized by pumping out slops continuously and promoting flow to the suction point. If this condition cannot be met, the washing procedure shall be repeated three times with thorough stripping of the tank between washings.

10 Tanks shall be washed with hot water (temperature at least 60°C), unless the properties of such substances make the washing less effective.

11 The quantities of wash water used shall not be less than those specified in paragraph 20 or determined according to paragraph 21.

12 After prewashing the tanks and lines shall be thoroughly stripped.

Prewash procedures with recycling of washing medium

13 Washing with a recycled washing medium may be adopted for the purpose of washing more than one cargo tank. In determining the quantity, due regard must be given to the expected amount of residues in the tanks and the properties of the washing medium and whether any initial rinse or flushing is employed. Unless sufficient data are provided, the calculated end concentration of cargo residues in the washing medium shall not exceed 5% based on nominal stripping quantities.

14 The recycled washing medium shall only be used for washing tanks having contained the same or similar substance.

15 A quantity of washing medium sufficient to allow continuous washing shall be added to the tank or tanks to be washed.

16 All tank surfaces shall be washed by means of a rotary jet(s) operated at sufficiently high pressure. The recycling of the washing medium may either be within the tank to be washed or via another tank, e.g. a slop tank.

17 The washing shall be continued until the accumulated throughput is not less than that corresponding to the relevant quantities given in paragraph 20 or determined according to paragraph 21.

18 Solidifying Substances and substances with viscosity equal to or greater than 50 mPa.s at 20°C shall be washed with hot water (temperature at least 60°C) when water is used as the washing medium, unless the properties of such substances make the washing less effective.

19 After completing the tank washing with recycling to the extent specified in paragraph 17, the washing medium shall be discharged and the tank thoroughly stripped. Thereafter, the tank shall be subjected to a rinse, using clean washing medium, with continuous drainage and discharged to a reception facility. The

FIRST SCHEDULE — *continued*

rinse shall as a minimum cover the tank bottom and be sufficient to flush the pipelines, pump and filter.

Minimum quantity of water to be used in a prewash

20 The minimum quantity of water to be used in a prewash is determined by the residual quantity of noxious liquid substance in the tank, the tank size, the cargo properties, the permitted concentration in any subsequent wash water effluent, and the area of operation. The minimum quantity is given by the following formula:

$$Q = k\,(15r^{0.8} + 5r^{0.7} \times V/1000)$$

where

Q = the required minimum quantity in m^3

r = the residual quantity per tank in m^3. The value of r shall be the value demonstrated in the actual stripping efficiency test, but shall not be taken lower than 0.100 m^3 for a tank volume of 500 m^3 and above and 0.040 m^3 for a tank volume of 100 m^3 and below. For tank sizes between 100 m^3 and 500 m^3 the minimum value of r allowed to be used in the calculations is obtained by linear interpolation.

For Category X substances the value of r shall either be determined based on stripping tests according to the Manual, observing the lower limits as given above, or be taken to be 0.9 m^3.

V = tank volume in m3

k = a factor having values as follows:

Category X, non-Solidifying, Low-Viscosity Substance,	k = 1.2
Category X, Solidifying or High-Viscosity Substance,	k = 2.4
Category Y, non-Solidifying, Low-Viscosity Substance	k = 0.5
Category Y, Solidifying or High-Viscosity Substance	k = 1.0

The table below is calculated using the formula with a k factor of 1 and may be used as an easy reference.

FIRST SCHEDULE — *continued*

Stripping quantity (m^3)	**Tank volume (m^3)**		
	100	**500**	**3000**
≤ 0.04	1.2	2.9	5.4
.10	2.5	2.9	5.4
.30	5.9	6.8	12.2
.90	14.3	16.1	27.7

FIRST SCHEDULE — *continued*

21 Verification testing for approval of prewash volumes lower than those given in paragraph 20 may be carried out to the satisfaction of the Administration to prove that the requirements of regulation 13 are met, taking into account the substances the ship is certified to carry. The prewash volume so verified shall be adjusted for other prewash conditions by application of the factor k as defined in paragraph 20.

APPENDIX 7

VENTILATION PROCEDURES

1 Cargo residues of substances with a vapour pressure greater than 5 KPa at 20° C may be removed from a cargo tank by ventilation.

2 Before residues of Noxious Liquid Substances are ventilated from a tank the safety hazards relating to cargo flammability and toxicity shall be considered. With regard to safety aspects, the operational requirements for openings in cargo tanks in SOLAS 74, as amended, the International Bulk Chemical Code, the Bulk Chemical Code, and the ventilation procedures in the International Chamber of Shipping (ICS) Tanker Safety Guide (Chemicals) should be consulted.

3 Port authorities may also have regulations on cargo tank ventilation.

4 The procedures for ventilation of cargo residues from a tank are as follows:

.1 the pipelines shall be drained and further cleared of liquid by means of ventilation equipment;

.2 the list and trim shall be adjusted to the minimum levels possible so that evaporation of residues in the tank is enhanced;

.3 ventilation equipment producing an airjet which can reach the tank bottom shall be used. Figure 7-1 could be used to evaluate the adequacy of ventilation equipment used for ventilating a tank of a given depth;

.4 ventilation equipment shall be placed in the tank opening closest to the tank sump or suction point;

.5 ventilation equipment shall, when practicable, be positioned so that the airjet is directed at the tank sump or suction point and impingement of the airjet on tank structural members is to be avoided as much as possible; and

.6 ventilation shall continue until no visible remains of liquid can be observed in the tank. This shall be verified by a visual examination or an equivalent method.

FIRST SCHEDULE — *continued*

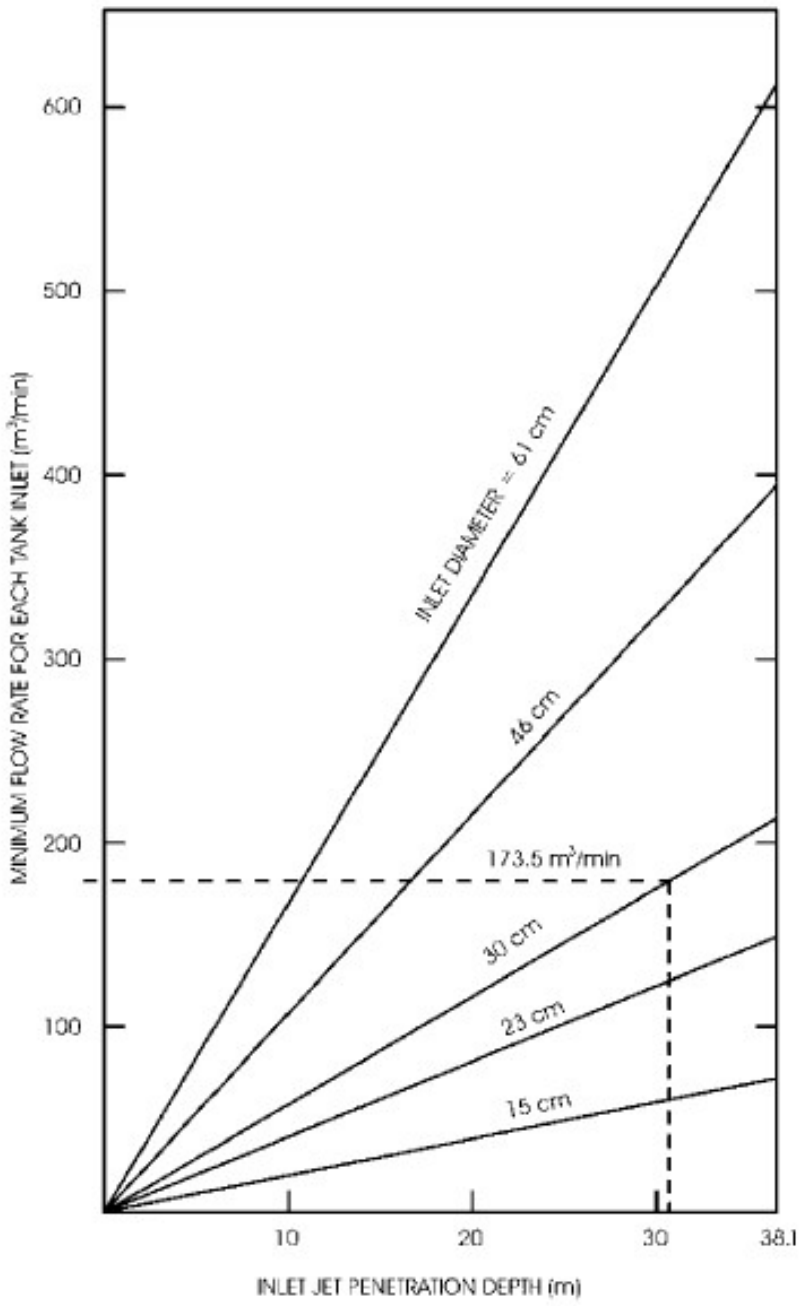


Figure 7−1. Minimum flow rate as a function of jet penetration depth. Jet penetration depth shall be compared against tank height.

SECOND SCHEDULE

Regulation 11

PREVENTION OF POLLUTION OF THE SEA ACT
(CHAPTER 243)

ADVANCE NOTICE OF IMPORT/EXPORT OF NOXIOUS LIQUID SUBSTANCE

[This form must be completed neatly and submitted to the Port Master's Office]

To: The Port Master
Maritime and Port Authority of Singapore

SECOND SCHEDULE — *continued*

Name of Vessel	Voy. No.	Type	ETA:	Last Port	Licensed Harbour Craft No. (if applicable)			
			BTR:				Discharge/Load/Transit	
S/No.	Correct Technical Names of Substance (Trade Name shall not be used)	Quantity In Tonnes	Cargo Tank No.	UN No.	FP (°C)	Pollution Category	Site	Date/Time

SECOND SCHEDULE — *continued*

Name of Person Signing: .....

Designation: .....

Name and Address of [18]*Owner/Agent: .....

Tel. No.: ..... Date: .....

I/We declare that the information provided is correct and undertake to fulfill and comply with all the regulations made and directions given in respect of import/export of the noxious liquid substances from time to time.

.....

Signature of Owner/Agent/Master

(With Firm's/Company's stamp)

Remarks:

THIRD SCHEDULE

Regulation 12

FEES

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

THIRD SCHEDULE — *continued*

	(*a*) first 24 hours or part thereof during which the surveyor is absent from Singapore on account of such survey or inspection	$600
	(*b*) each subsequent hour or part thereof after the first 24 hours, subject to a maximum charge of $600 for each period of 24 hours	$60
	(*c*) travelling, taxation, fee for a visa if required and any expenses incurred arising from the survey abroad	Actual cost
	(*d*) board, lodging, insurance coverage and reasonable subsistence for the surveyor	Sum to be determined by the Director in accordance with Government Instruction Manual
4.	Issue of a certificate or a report or a new certificate on strength of an existing certificate	$65
5.	Amendment of any particulars on any certificate (if any inspection or survey is required, charges in accordance with item 1 shall be added)	$14
6.	Type approval/acceptance certificate on strength of certificate/report issued by other Convention countries (per model)	$180
7.	Registration of MARPOL Surveyor	$145.

Made this 22nd day of December 2006.

PETER ONG
Chairman,
Maritime and Port Authority of Singapore.

[MPA 46/0.6.002.V2/MM; AG/LEG/SL/243/2003/1 Vol. 4]