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International Convention for the Prevention of Pollution from Ships, 1973

THE PARTIES TO THE CONVENTION,

BEING CONSCIOUS of the need to preserve the human environment in general and the marine environment in particular,

RECOGNIZING that deliberate, negligent or accidental release of oil and other harmful substances from ships constitutes a serious source of pollution,

RECOGNIZING ALSO the importance of the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as being the first multilateral instrument to be concluded with the prime objective of protecting the environment, and appreciating the significant contribution which this Convention has made in preserving the seas and coastal environment from pollution,

DESIRING to achieve the complete elimination of intentional pollution of the marine environment by oil and other harmful substances and the minimization of accidental discharge of such substances,

CONSIDERING that this object may best be achieved by establishing rules not limited to oil pollution having a universal purport,

HAVE AGREED as follows:

Article 1

General obligations under the Convention

- (1) The Parties to the Convention undertake to give effect to the provisions of the present Convention and those Annexes thereto by which they are bound, in order to prevent the pollution of the marine environment by the discharge of harmful substances or effluents containing such substances in contravention of the Convention.
- (2) Unless expressly provided otherwise, a reference to the present Convention constitutes at the same time a reference to its Protocols and to the Annexes.

- (7) Any amendment to a Protocol or to an Annex shall relate to the substance of that Protocol or Annex and shall be consistent with the articles of the present Convention.
- (8) The Secretary-General of the Organization shall inform all Parties of any amendments which enter into force under the present article, together with the date on which each such amendment enters into force.
- (9) Any declaration of acceptance or of objection to an amendment under the present article shall be notified in writing to the Secretary-General of the Organization. The latter shall bring such notification and the date of its receipt to the notice of the Parties to the Convention.

Article 17

Promotion of technical co-operation

The Parties to the Convention shall promote, in consultation with the Organization and other international bodies, with assistance and coordination by the Executive Director of the United Nations Environment Programme, support to those Parties which request technical assistance for:

- (a) the training of scientific and technical personnel;
- (b) the supply of necessary equipment and facilities for reception and monitoring;
- (c) the facilitation of other measures and arrangements to prevent or mitigate pollution of the marine environment by ships; and
- (d) the encouragement of research;

preferably within the countries concerned, so furthering the aims and purposes of the present Convention.

Article 18

Denunciation

- (1) The present Convention or any Optional Annex may be denounced by any Parties to the Convention at any time after the expiry of five years from the date on which the Convention or such Annex enters into force for that Party.
- (2) Denunciation shall be effected by notification in writing to the Secretary-General of the Organization who shall inform all the other Parties of any such notification received and of the date of its receipt as well as the date on which such denunciation takes effect.
- (3) A denunciation shall take effect 12 months after receipt of the notification of denunciation by the Secretary-General of the

MARPOL 73

Organization or after the expiry of any other longer period which may be indicated in the notification.

Article 19*Deposit and registration*

- (1) The present Convention shall be deposited with the Secretary-General of the Organization who shall transmit certified true copies thereof to all States which have signed the present Convention or acceded to it.
- (2) As soon as the present Convention enters into force, the text shall be transmitted by the Secretary-General of the Organization to the Secretary-General of the United Nations for registration and publication, in accordance with Article 102 of the Charter of the United Nations.

Article 20*Languages*

The present Convention is established in a single copy in the English, French, Russian and Spanish languages, each text being equally authentic. Official translations in the Arabic, German, Italian and Japanese languages shall be prepared and deposited with the signed original.

IN WITNESS WHEREOF the undersigned* being duly authorized by their respective Governments for that purpose have signed the present Convention.

DONE AT LONDON this second day of November, one thousand nine hundred and seventy-three.

* Signatures omitted.

Protocol I

(including amendments)

*Provisions concerning
Reports on Incidents*

Involving Harmful Substances

Preview from Notesale.co
page 43 of 514

- (c) damage, failure or breakdown of a ship of 15 metres in length or above which:
 - (i) affects the safety of the ship; including but not limited to collision, grounding, fire, explosion, structural failure, flooding and cargo shifting; or
 - (ii) results in impairment of the safety of navigation; including but not limited to, failure or breakdown of steering gear, propulsion plant, electrical generating system, and essential shipborne navigational aids; or
 - (d) a discharge during the operation of the ship of oil or noxious liquid substances in excess of the quantity or instantaneous rate permitted under the present Convention.
- (2) For the purposes of this Protocol:
- (a) Oil referred to in subparagraph 1(a) of this article means oil as defined in regulation 1(1) of Annex I of the Convention.
 - (b) *Noxious liquid substances* referred to in subparagraph 1(a) of this article means noxious liquid substances as defined in regulation 1(6) of Annex II of the Convention.
 - (c) *Harmful substances in packaged form* referred to in subparagraph 1(b) of this article means substances which are identified as marine pollutants in the International Maritime Dangerous Goods Code (IMDG Code).

Article III

Contents of report

Reports shall in any case include:

- (a) identity of ships involved;
- (b) time, type and location of incident;
- (c) quantity and type of harmful substance involved;
- (d) assistance and salvage measures.

Article IV

Supplementary report

Any person who is obliged under the provisions of this Protocol to send a report shall, when possible:

- (a) supplement the initial report, as necessary, and provide information concerning further developments; and
- (b) comply as fully as possible with requests from affected States for additional information.

notice to the Parties which have originally initiated the procedure, join in the arbitration procedure with the consent of the Tribunal.

Article VIII

Any Arbitration Tribunal established under the provisions of the present Protocol shall decide its own rules of procedure.

Article IX

- (1) Decisions of the Tribunal both as to its procedure and its place of meeting and as to any question laid before it, shall be taken by majority votes of its members; the absence or abstention of one of the members of the Tribunal for whose nomination the Parties were responsible, shall not constitute an impediment to the Tribunal reaching a decision. In cases of equal voting, the vote of the Chairman shall be decisive.
- (2) The Parties shall facilitate the work of the Tribunal and in particular, in accordance with their legislation, and using all means at their disposal:
 - (a) provide the Tribunal with the necessary documents and information;
 - (b) enable the Tribunal to enter their territory, to hear witnesses or experts, and to visit the scene.
- (3) Absence or default of one Party shall not constitute an impediment to the procedure.

Article X

- (1) The Tribunal shall render its award within a period of five months from the time it is established unless it decides, in the case of necessity, to extend the time limit for a further period not exceeding three months. The award of the Tribunal shall be accompanied by a statement of reasons. It shall be final and without appeal and shall be communicated to the Secretary-General of the Organization. The Parties shall immediately comply with the award.
- (2) Any controversy which may arise between the Parties as regards interpretation or execution of the award may be submitted by either Party for judgment to the Tribunal which made the award, or, if it is not available to another Tribunal constituted for this purpose, in the same manner as the original Tribunal.

Regulation 4

Surveys

- (1) Every oil tanker of 150 tons gross tonnage and above, and every other ship of 400 tons gross tonnage and above shall be subject to the surveys specified below:
 - (a) An initial survey before the ship is put in service or before the Certificate required under regulation 5 of this Annex is issued for the first time, 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 and material fully comply with the applicable requirements of this Annex.
 - (b) A renewal survey at intervals specified by the Administration, but not exceeding five years, except where regulation 8(2), 8(5), 8(6) or 8(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.
 - (c) An intermediate survey within three months before or after the second anniversary date or within three months before or after the third anniversary date of the Certificate which shall take the place of one of the annual surveys specified in paragraph (1)(d) of this regulation. The intermediate survey shall be such as to ensure that the equipment and associated pump and piping systems, including oil discharge monitoring and control systems, crude oil washing systems, oily-water separating equipment and oil filtering systems, fully comply with the applicable requirements of this Annex and are in good working order. Such intermediate surveys shall be endorsed on the Certificate issued under regulation 5 or 6 of this Annex.

[SEE INTERPRETATION 1A.1](#)

- (d) An annual survey within three 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)(a) of this regulation to ensure that they have been maintained in accordance with paragraph (4) of this regulation and that they remain satisfactory for the service for which the ship is intended. Such annual surveys shall be endorsed on the Certificate issued under regulation 5 or 6 of this Annex.

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.

- (d) In every case, the Administration concerned shall fully guarantee the completeness and efficiency of the survey and shall undertake to ensure the necessary arrangements to satisfy this obligation.
- (4) (a) 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.
- (b) After any survey of the ship under paragraph (1) of this regulation has been completed, nothing shall be made in its 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.
- (c) 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 5

Issue or endorsement of Certificate

[SEE INTERPRETATIONS 2.0 and 2.1](#)

- (1) An International Oil Pollution Prevention Certificate shall be issued, after an initial or renewal survey in accordance with the provisions of regulation 4 of this Annex, to any oil tanker of 150 tons gross tonnage and above and any other ships of 400 tons gross tonnage and above

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

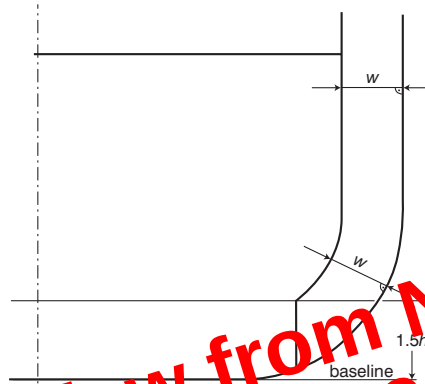


Figure 2 - Cargo tank boundary line for the purpose of paragraph (4)

- (5) Other methods of design and construction of oil tankers may also be accepted as alternatives to the requirements prescribed in paragraph (3), provided that such methods ensure at least the same level of protection against oil pollution in the event of collision or stranding and are approved in principle by the Marine Environment Protection Committee based on guidelines developed by the Organization.*
- (6) For oil tankers of 20,000 tons deadweight and above the damage assumptions prescribed in regulation 25(2)(b) shall be supplemented by the following assumed bottom raking damage:
- (a) longitudinal extent:
 - (i) ships of 75,000 tons deadweight and above:
 $0.6L$ measured from the forward perpendicular;
 - (ii) ships of less than 75,000 tons deadweight:
 $0.4L$ measured from the forward perpendicular;
 - (b) transverse extent: $B/3$ anywhere in the bottom;
 - (c) vertical extent: breach of the outer hull.

* Refer to the Interim guidelines for the approval of alternative methods of design and construction of oil tankers under regulation 13F(5) of Annex I of MARPOL 73/78 adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.66(37); see [appendix 7 to Unified Interpretations of Annex I](#).

Regulation 18*Pumping, piping and discharge arrangements
of oil tankers*

- (1) In every oil tanker, a discharge manifold for connection to reception facilities for the discharge of dirty ballast water or oil contaminated water shall be located on the open deck on both sides of the ship.
- (2) In every oil tanker, pipelines for the discharge to the sea of ballast water or oil contaminated water from cargo tank areas which may be permitted under regulation 9 or regulation 10 of this Annex shall be led to the open deck or to the ship's side above the waterline in the deepest ballast condition. Different piping arrangements to permit operation in the manner permitted in subparagraphs (6)(a) to (e) of this regulation may be accepted.

SEE INTERPRETATION 9.1

- (3) In new oil tankers means shall be provided for stopping the discharge into the sea of ballast water or oil contaminated water from cargo tank areas other than those permitted below the waterline permitted under paragraph (6) of this regulation, from a position on the upper deck or above located so that the manifold in use referred to in paragraph (1) of this regulation and the discharge to the sea from the pipelines referred to in paragraph (2) of this regulation may be visually observed. Means for stopping the discharge need not be provided at the observation position if a positive communication system such as a telephone or radio system is provided between the observation position and the discharge control position.
- (4) Every new oil tanker required to be provided with segregated ballast tanks or fitted with a crude oil washing system shall comply with the following requirements:
 - (a) it shall be equipped with oil piping so designed and installed that oil retention in the lines is minimized; and
 - (b) means shall be provided to drain all cargo pumps and all oil lines at the completion of cargo discharge, where necessary by connection to a stripping device. The line and pump drainings shall be capable of being discharged both ashore and to a cargo tank or a slop tank. For discharge ashore a special small diameter line shall be provided and shall be connected outboard of the ship's manifold valves.

SEE INTERPRETATIONS 9.2 AND 9.3

Whenever symbols given in this paragraph appear in this chapter, they have the meaning as defined in this regulation.

SEE INTERPRETATION 11.3

- (2) If a void space or segregated ballast tank of a length less than l_c as defined in regulation 22 of this Annex is located between wing oil tanks, O_c in formula (I) may be calculated on the basis of volume W_i being the actual volume of one such tank (where they are of equal capacity) or the smaller of the two tanks (if they differ in capacity) adjacent to such space, multiplied by S_i as defined below and taking for all other wing tanks involved in such a collision the value of the actual full volume.

$$S_i = 1 - \frac{l_i}{l_c}$$

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

- (3) (a) Credit shall only be given in respect of double bottom tanks which are either empty or carrying clean water when cargo is carried in the tanks above.
- (b) Where the double bottom does not extend for the full length and width of the tank involved, the double bottom is considered non-existent and the volume of the tanks above the area of the bottom damage shall be included in formula (II) even if the tank is not considered breached because of the installation of such a partial double bottom.
- (c) Suction wells may be neglected in the determination of the value h_i provided such wells are not excessive in area and extend below the tank for a minimum distance and in no case more than half the height of the double bottom. If the depth of such a well exceeds half the height of the double bottom, h_i shall be taken equal to the double bottom height minus the well height.
- Piping serving such wells if installed within the double bottom shall be fitted with valves or other closing arrangements located at the point of connection to the tank served to prevent oil outflow in the event of damage to the piping. Such piping shall be installed as high from the bottom shell as possible. These valves shall be kept closed at sea at any time when the tank contains oil cargo, except that they may be opened only for cargo transfer needed for the purpose of trimming of the ship.
- (4) In the case where bottom damage simultaneously involves four centre tanks, the value of O_s may be calculated according to the formula:

$$O_s = \frac{1}{4}(\sum Z_i W_i + \sum Z_i C_i) \quad \text{(III)}$$

- | | | |
|-------|--|--|
| (ii) | Transverse extent
(inboard from the ship's side at
right angles to the centreline at
the level of the summer load
line): | $\frac{B}{5}$ or 11.5 metres,
whichever is less |
| (iii) | Vertical extent: | From the moulded
line of the bottom
shell plating at centre-
line, upwards without
limit |
- (b) Bottom damage
- | | | |
|-------|---|---|
| | <i>For 0.3L from
the forward
perpendicular
of the ship</i> | <i>Any other part
of the ship</i> |
| (i) | Longitudinal
extent: $\frac{1}{3}L^{\frac{2}{3}}$ or
14.5 metres,
whichever is less | $\frac{1}{3}L^{\frac{2}{3}}$ or 5 metres,
whichever is less |
| (ii) | Transverse
extent: $\frac{L}{6}$ or 10 metres,
whichever is less | $\frac{B}{6}$ or 5 metres,
whichever is less |
| (iii) | Vertical
extent: $\frac{B}{15}$ or 6 metres,
whichever is less,
measured from
the moulded line
of the bottom
shell plating at
centreline | $\frac{B}{15}$ or 6 metres,
whichever is less,
measured from
the moulded line
of the bottom
shell plating at
centreline |
- (c) If any damage of a lesser extent than the maximum extent of damage specified in subparagraphs (a) and (b) of this paragraph would result in a more severe condition, such damage shall be considered.
- (d) Where the damage involving transverse bulkheads is envisaged as specified in subparagraphs (1)(a) and (b) of this regulation, transverse watertight bulkheads shall be spaced at least at a distance equal to the longitudinal extent of assumed damage specified in subparagraph (a) of this paragraph in order to be considered effective. Where transverse bulkheads are spaced at a lesser distance, one or more of these bulkheads within such extent of damage shall be assumed as non-existent for the purpose of determining flooded compartments.

Annex I: Regulations for the Prevention of Pollution by Oil

- (e) Where the damage between adjacent transverse watertight bulkheads is envisaged as specified in subparagraph (1)(c) of this regulation, no main transverse bulkhead or a transverse bulkhead bounding side tanks or double bottom tanks shall be assumed damaged, unless:
 - (i) the spacing of the adjacent bulkheads is less than the longitudinal extent of assumed damage specified in subparagraph (a) of this paragraph; or
 - (ii) there is a step or recess in a transverse bulkhead of more than 3.05 m in length, located within the extent of penetration of assumed damage. The step formed by the after peak bulkhead and after peak tank top shall not be regarded as a step for the purpose of this regulation.
- (f) If pipes, ducts or tunnels are situated within the assumed extent of damage, arrangements shall be made so that progressive flooding cannot thereby extend to compartments other than those assumed to be floodable on each side of damage.

SEE INTERPRETATION 11.5

- (3) Oil tankers shall be regarded as complying with the damage stability criteria if the following requirements are met:
 - (a) The final waterline, taking into account sinkage, heel and trim, shall be below the lower edge of any opening through which progressive flooding may take place. Such openings shall include air-pipes and those which are closed by means of weathertight doors or hatch covers and may exclude those openings closed by means of watertight manhole covers and flush scuttles, small watertight cargo tank hatch covers which maintain the high integrity of the deck, remotely operated watertight sliding doors, and sidescuttles of the non-opening type.
 - (b) In the final stage of flooding, the angle of heel due to unsymmetrical flooding shall not exceed 25°, provided that this angle may be increased up to 30° if no deck edge immersion occurs.
 - (c) The stability in the final stage of flooding shall be investigated and may be regarded as sufficient if the righting lever curve has at least a range of 20° beyond the position of equilibrium in association with a maximum residual righting lever of at least 0.1 m within the 20° range; the area under the curve within this range shall not be less than 0.0175 metre radian. Unprotected openings shall not be immersed within this range unless the space concerned is assumed to be flooded. Within this range, the

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

SEE INTERPRETATION 11A.1

- (a) In port, the initial metacentric height GM_0 , corrected for free surface measured at 0° heel, shall be not less than 0.15 m;
- (b) At sea, the following criteria shall be applicable:
 - (i) the area under the righting lever curve (GZ curve) shall be not less than 0.055 m·rad up to $\theta = 30^\circ$ angle of heel and not less than 0.09 m·rad up to $\theta = 40^\circ$ or other angle of flooding θ_f^* if this angle is less than 40° . Additionally, the area under the righting lever curve (GZ curve) between the angles of heel of 30° and 40° or between 30° and θ_f if this angle is less than 40° shall be not less than 0.03 m·rad;
 - (ii) the righting lever GZ shall be at least 0.20 m at an angle of heel greater than 30° ;
 - (iii) the maximum righting arm shall occur at an angle of heel preferably exceeding 30° but not less than 25° ; and
 - (iv) the initial metacentric height GM_0 , corrected for free surface measured at 0° heel, shall be not less than 0.15 m.
- (3) The requirements of paragraph (2) shall be met through design measures. For combination carriers simple supplementary operational procedures may be allowed.
- (4) Simple supplementary operational procedures for liquid transfer operations referred to in paragraph (3) shall mean written procedures made available to the master which:
 - (i) are approved by the Administration;
 - (ii) indicate those cargo and ballast tanks which may, under any specific condition of liquid transfer and possible range of cargo densities, be slack and still allow the stability criteria to be met. The slack tanks may vary during the liquid transfer operations and be of any combination provided they satisfy the criteria;
 - (iii) will be readily understandable to the officer-in-charge of liquid transfer operations;

* θ_f is the angle of heel at which the openings in the hull, superstructures or deck-houses, which cannot be closed weathertight, immerse. In applying this criterion, small openings through which progressive flooding cannot take place need not be considered as open.

Appendices to Annex I

Appendix I

List of oils*

Asphalt solutions
Blending stocks
Roofers flux
Straight run residue

Gasoline blending stocks
Alkylates – fuel
Reformats
Polymer – fuel

Oils

Clarified
Crude oil
Mixtures containing crude oil
Diesel oil
Fuel oil no. 4
Fuel oil no. 5
Fuel oil no. 6
Residual fuel oil
Road oil
Transformer oil
Aromatic oil (excluding vegetable oil)
Lubricating oils and blending stocks
Mineral oil
Motor oil
Penetrating oil
Spindle oil
Turbine oil

Distillates

Straight run
Flashed feed stocks

Gas oil

Cracked

Gasolines

Casinghead (natural)
Automotive
Aviation
Straight run
Fuel oil no. 1 (kerosene)
Fuel oil no. 1-D
Fuel oil no. 2
Fuel oil no. 2-D

Jet fuels

JP-1 (kerosene)
JP-3
JP-4
JP-5 (kerosene, heavy)
Turbo fuel
Kerosene
Mineral spirit

Naphtha

Solvent
Petroleum
Heartcut distillate oil

* This list of oils shall not necessarily be considered as comprehensive.

ENDORSEMENT FOR ANNUAL AND INTERMEDIATE SURVEYS

THIS IS TO CERTIFY that at a survey required by [regulation 4 of Annex I](#) 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

(Seal or stamp of the authority, as appropriate)

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

Place

Date

(Seal or stamp of the authority, as appropriate)

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

Place

Date

(Seal or stamp of the authority, as appropriate)

Annual survey: Signed
(Signature of authorized official)

Place

Date

(Seal or stamp of the authority, as appropriate)

* Delete as appropriate.

5 Construction (regulations 13, 24 and 25)

5.1 In accordance with the requirements of regulation 13, the ship is:

- 5.1.1 Required to be provided with SBT, PL and COW ☐
- 5.1.2 Required to be provided with SBT and PL ☐
- 5.1.3 Required to be provided with SBT ☐
- 5.1.4 Required to be provided with SBT or COW ☐
- 5.1.5 Required to be provided with SBT or CBT ☐
- 5.1.6 Not required to comply with the requirements of regulation 13 ☐

5.2 Segregated ballast tanks (SBT):

- 5.2.1 The ship is provided with SBT in compliance with regulation 13 ☐
- 5.2.2 The ship is provided with SBT, in compliance with regulation 13, which are arranged in protective location (PL) in compliance with regulation 13E ☐
- 5.2.3 SBT are distributed as follows:

Tank	Volume (m ³)	Tank	Volume (m ³)
		Total volume m³	

5.3 Dedicated clean ballast tanks (CBT):

- 5.3.1 The ship is provided with CBT in compliance with regulation 13A, and may operate as a product carrier ☐
- 5.3.2 CBT are distributed as follows:

Tank	Volume (m ³)	Tank	Volume (m ³)
		Total volume m³	

- 5.3.3 The ship has been supplied with a valid Dedicated Clean Ballast Tank Operation Manual, which is dated ☐

Appendices to Annex I

5.7 Subdivision and stability ([regulation 25](#)):

- 5.7.1 The ship is required to be constructed according to, and complies with, the requirements of [regulation 25](#) ☐
- 5.7.2 Information and data required under [regulation 25\(5\)](#) have been supplied to the ship in an approved form ☐
- 5.7.3 The ship is required to be constructed according to, and complies with the requirements of, [regulation 25A](#) ☐
- 5.7.4 Information and data required under [regulation 25A](#) for combination carriers have been supplied to the ship in a written procedure approved by the Administration ☐

5.8 Double-hull construction:

- 5.8.1 The ship is required to be constructed according to [regulation 13F](#) and complies with the requirements of:
- .1 [paragraph \(3\)](#) (double-hull construction) ☐
 - .2 [paragraph \(4\)](#) (mid-height deck tanker with double side construction) ☐
 - .3 [paragraph \(5\)](#) (alternative method approved by the Marine Environment Protection Committee) ☐
- 5.8.2 The ship is required to be constructed according to and complies with the requirements of [regulation 13F\(7\)](#) (double bottom requirements) ☐
- 5.8.3 The ship is not required to comply with the requirements of [regulation 13F](#) ☐
- 5.8.4 The ship is subject to [regulation 13G](#) and:
- .1 is required to comply with [regulation 13F](#) not later than ☐
 - .2 is so arranged that the following tanks or spaces are not used for the carriage of oil ☐
 - .3 has been accepted in accordance with [regulation 13G\(7\)](#) and resolution MEPC.64(36) ☐
 - .4 is provided with the operational manual approved on in accordance with resolution MEPC.64(36) ☐
- 5.8.5 The ship is not subject to [regulation 13G](#) ☐

Appendix II: Form of IOPP Certificate

7.3 The overboard discharge outlets, other than the discharge manifold, for dirty ballast water or oil-contaminated water from cargo tank areas are located:*

- 7.3.1 Above the waterline ☐
- 7.3.2 Below the waterline in conjunction with the part flow arrangements in compliance with [regulation 18\(6\)\(e\)](#) ☐
- 7.3.3 Below the waterline ☐

7.4 Discharge of oil from cargo pumps and oil lines (regulation [18\(4\)](#) and [\(5\)](#)):

- 7.4.1 Means to drain all cargo pumps and oil lines at the completion of cargo discharge:
- .1 drainings capable of being discharged to a cargo tank or slop tank ☐
- .2 for discharge ashore a special small diameter line is provided ☐

8 Shipboard oil pollution emergency plan ([regulation 26](#))

- 8.1 The ship is provided with a shipboard oil pollution emergency plan in compliance with [regulation 26](#) ☐

9 Equivalent arrangements for chemical tankers carrying oil

9.1 As equivalent arrangements for the carriage of oil by a chemical tanker, the ship is fitted with the following equipment in lieu of slop tanks (paragraph 6.2 above) and oil/water interface detectors (paragraph 6.3 above):

- 9.1.1 Oily-water separating equipment capable of producing effluent with oil content less than 100 ppm, with the capacity of m³/h ☐
- 9.1.2 A holding tank with the capacity of m³ ☐
- 9.1.3 A tank for collecting tank washings which is:
- .1 a dedicated tank ☐
- .2 a cargo tank designated as a collecting tank ☐

* Only those outlets which can be monitored are to be indicated.

LIST OF ITEMS TO BE RECORDED

(A) Ballasting or cleaning of oil fuel tanks

1. Identity of tank(s) ballasted.
2. Whether cleaned since they last contained oil and, if not, type of oil previously carried.
3. Cleaning process:
 - .1 position of ship and time at the start and completion of cleaning;
 - .2 identify tank(s) in which one or another method has been employed (rinsing through, steaming, cleaning with chemicals; type and quantity of chemicals used);
 - .3 identity of tank(s) into which cleaning water was transferred.
4. Ballasting:
 - .1 position of ship and time at start and end of ballasting;
 - .2 quantity of ballast if tanks are not cleaned.

(B) Discharges of dirty ballast or cleaning water from oil fuel tanks referred to under section (A)

5. Identity of tank(s).
6. Position of ship at start of discharge.
7. Position of ship on completion of discharge.
8. Ship's speed(s) during discharge.
9. Method of discharge:
 - .1 through 15 ppm equipment;
 - .2 to reception facilities.
10. Quantity discharged.

(C) Collection and disposal of oil residues (sludge)

11. Collection of oil residues.
Quantities of oil residues (sludge) retained on board at the end of a voyage, but not more frequently than once a week. When ships are on short voyages, the quantity should be recorded weekly:¹

¹ Only in tanks listed in item 3 of Forms A and B of the Supplement to the IOPP Certificate.

Appendices to Annex I

- .1 separated sludge (sludge resulting from purification of fuel and lubricating oils) and other residues, if applicable:
 - identity of tank(s)
 - capacity of tank(s) m³
 - total quantity of retention m³;
 - .2 other residues (such as oils residues resulting from drainages, leakages, exhausted oil, etc., in the machinery spaces), if applicable due to tank arrangement in addition to .1:
 - identity of tank(s)
 - capacity of tank(s) m³
 - total quantity of retention m³.
12. Methods of disposal of residue.
- State quantity of oil residues disposed of, the tank(s) emptied and the quantity of contents retained:
- .1 to reception facilities (identify port);²
 - .2 transferred to another (other) tank(s) (indicate tank(s) and the total content of tank(s));
 - .3 incinerated (indicate total time of operation);
 - .4 other method (state which).

(D) Non-automatic discharge overboard or disposal otherwise of bilge water which has accumulated in machinery spaces

13. Quantity discharged or disposed of.
14. Time of discharge or disposal (start and stop).
15. Method of discharge or disposal:
 - .1 through 15 ppm equipment (state position at start and end);
 - .2 to reception facilities (identify port);²
 - .3 transfer to slop tank or holding tank (indicate tank(s); state quantity transferred and the total quantity retained in tank(s)).

² Ships' masters should obtain from the operator of the reception facilities, which include barges and tank trucks, a receipt or certificate detailing the quantity of tank washings, dirty ballast, residues or oily mixtures transferred, together with the time and date of the transfer. This receipt or certificate, if attached to the Oil Record Book, may aid the master of the ship in proving that his ship was not involved in an alleged pollution incident. The receipt or certificate should be kept together with the Oil Record Book.

Appendices to Annex I

Name of ship

Distinctive number or letters

PLAN VIEW OF CARGO AND SLOP TANKS
(to be completed on board)



96037

Identification of the tanks	Capacity
Depth of slop tank(s):	

(Give the capacity of each tank and the depth of slop tank(s))

Introduction

The following pages of this section show a comprehensive list of items of cargo and ballast operations which are, when appropriate, to be recorded in the Oil Record Book in accordance with [regulation 20 of Annex I](#) of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78). The items have been grouped into operational sections, each of which is denoted by a code letter.

When making entries in the Oil 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.

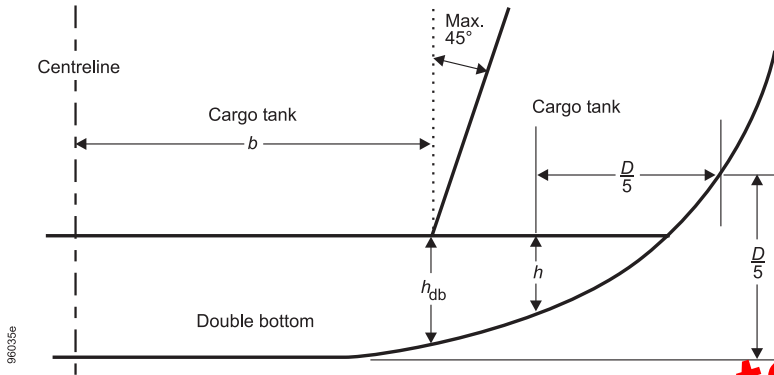
Each completed operation shall be signed for and dated by the officer or officers in charge. Each completed page shall be countersigned by the master of the ship. In respect of the oil tankers engaged in specific trades in accordance with [regulation 13C of Annex I](#) of MARPOL 73/78, appropriate entry in the Oil Record Book shall be endorsed by the competent port State authority.*

The Oil Record Book contains many references to oil quantity. The limited accuracy of the measurement devices, temperature variations and clingage will affect the accuracy of these readings. The entries in the Oil Record Book should be considered accordingly.

* This sentence should only be inserted for the Oil Record Book of a tanker engaged in a specific trade.

Appendices to Unified Interpretations of Annex I

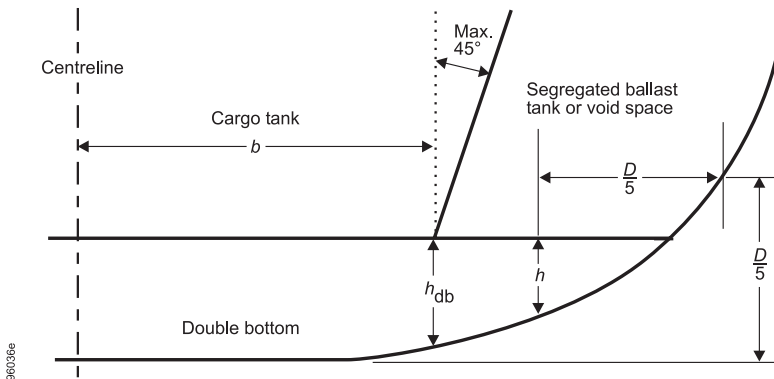
Figure 9 – Calculation of PA_s for double bottom tank without clearly defined turn of bilge area – when wing tank is cargo tank



If h is less than 2 metres or $\frac{B}{15}$, whichever is less, anywhere along the tank length, but h_{db} is at least 2 metres or $\frac{B}{15}$, whichever is less, along the entire tank length within the width of $2b$, then:

$$PA_s = 2b \times \text{cargo tank length}$$

Figure 10 – Calculation of PA_s for double bottom tank without clearly defined turn of bilge area – when wing tank is segregated ballast tank or void space



If h is less than 2 metres or $\frac{B}{15}$, whichever is less, anywhere along the tank length, but h_{db} is at least 2 metres or $\frac{B}{15}$, whichever is less, along the entire tank length within the width of $2b$, then:

$$PA_s = B \times \text{cargo tank length}$$

Appendix 5

Specifications for the design, installation and operation of a part flow system for control of overboard discharges

1 Purpose

1.1 The purpose of these Specifications is to provide specific design criteria and installation and operational requirements for the part flow system referred to in regulation 18(6)(e) of Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78).

2 Application

2.1 Existing oil tankers may, in accordance with regulation 18(6)(e) of Annex I of MARPOL 73/78, discharge dirty ballast water and oil-contaminated water from cargo tank areas below the waterline, provided that a part of the flow is sent through permanent piping to a readily accessible location on the upper deck or above where it may be visually observed during the discharge operation and provided that the arrangements comply with the requirements set forth in the Administration which shall at least contain all the provisions of these Specifications.

2.2 The part flow concept is based on the principle that the observation of a representative part flow of the overboard effluent is equivalent to observing the entire effluent stream. These specifications provide the details of the design, installation and operation of a part flow system.

3 General provisions

3.1 The part flow system shall be so fitted that it can effectively provide a representative sample of the overboard effluent for visual display under all normal operating conditions.

3.2 The part flow system is in many respects similar to the sampling system for an oil discharge monitoring and control system but shall have pumping and piping arrangements separate from such a system, or combined equivalent arrangements acceptable to the Administration.

3.3 The display of the part flow shall be arranged in a sheltered and readily accessible location on the upper deck or above, approved by the Administration (e.g. the entrance to the pump-room). Regard should be given to effective communication between the location of the part flow display and the discharge control position.

3.4 Samples shall be taken from relevant sections of the overboard discharge piping and be passed to the display arrangement through a permanent piping system.

3.5 The part flow system shall include the following components:

- .1 sampling probes;

Appendices to Unified Interpretations of Annex I

5.3 On those systems that are fitted with flushing arrangements, the sample piping should be flushed after contamination has been observed and, additionally, it is recommended that the sample piping be flushed after each period of usage.

5.4 The ship's cargo and ballast handling manuals and, where applicable, those manuals required for crude oil washing systems or dedicated clean ballast tanks operation shall clearly describe the use of the part flow system in conjunction with the ballast discharge and the slop tank decanting procedures.

Preview from Notesale.co
Page 198 of 514

Appendix 7: Approval of alternative methods of design and construction

the event of collision or stranding as specified in paragraph (5) of regulation 13F of Annex I of MARPOL 73/78.

1.3 For any alternative design of an oil tanker not satisfying regulation 13F(3) or (4), a study of the cargo oil outflow performance should be carried out as specified in sections 4 through 6 of these Guidelines.

1.4 This study should cover the full range of ship sizes with a minimum of four different ship sizes, unless the approval is requested for only a limited range of vessel sizes. Data for four reference double-hull designs are given in section 7.

1.5 Evaluation of the cargo oil outflow performance of the proposed alternative design should be made by calculating the pollution-prevention index E as outlined in section 4 of these Guidelines.

1.6 The probabilistic methodology for the calculation of oil outflow according to these Guidelines is based on available tanker casualty statistics. With the collection of additional statistical material, the damage density distribution functions specified in 5.2 should be periodically reviewed.

1.7 In principle, and as far as applicable, the requirements of paragraphs (3)(d), (4), (6) and (8) of regulation 13F apply also to alternative designs. The requirement of paragraph (9) of regulation 13F also applies to alternative designs. In addition, it should be demonstrated by means of a risk analysis that the new design under consideration provides an adequate safety level. Such analysis should address any specific risks associated with the alternative design, and if there are any, it should be demonstrated that safe solutions exist to cope with them.

2 Applicability

2.1 These Guidelines apply to the assessment of alternative designs of oil tankers to be constructed of steel or other equivalent material as required by regulation 42 of chapter II-2 of the 1974 SOLAS Convention as amended. Designs for tankers intended to be constructed of other materials or incorporating novel features (e.g. non-metallic materials) or designs which use impact-absorbing devices should be specially considered.

2.2 The approval procedure of these Guidelines applies to oil tankers of sizes up to 350,000 tdw. For larger sizes the approval procedure should be specially considered.

3 Approval procedure for alternative tanker designs

3.1 An Administration of a Party to MARPOL 73/78 which receives a request for approval of an alternative tanker design for the purpose of complying with regulation 13F should first evaluate the proposed design and satisfy itself that the design complies with these Guidelines and other applicable regulations of Annex I of MARPOL 73/78. That Administration should then submit the proposal and the supporting documentation, together with its own evaluation report, to the Organization for evaluation and approval of the design concept by the Marine Environment Protection Committee (MEPC) as an alternative to the requirements of regulation 13F(3). Only design concepts which have been approved in principle by the MEPC are allowed for the construction of tankers to which regulation 13F(5) applies.

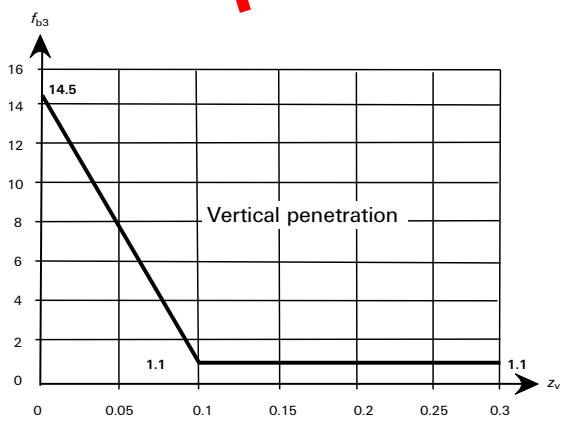
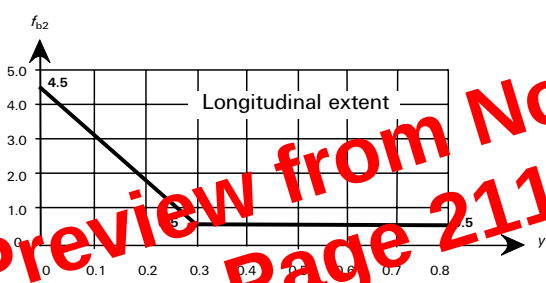
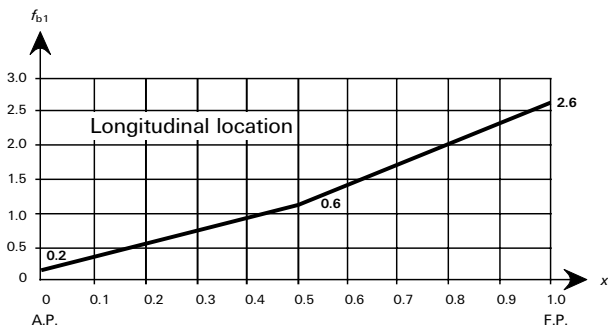


Figure 3 – Bottom damage due to stranding: density distribution functions f_{b1} , f_{b2} , f_{b3}

Damage and outflow criteria

4 The oil outflow should be calculated for the damage cases identified in subparagraph 5.1 of these guidelines. The hypothetical outflow should be calculated for the conditions specified in subparagraphs 4.1, 4.2 and 4.3 below and in accordance with the procedures defined in subparagraphs 5.2, 5.3 and 5.4. The hypothetical outflows so calculated, divided by the volume of the cargo being carried by the ship in its original configuration, and expressed as a percentage, constitute the equivalent oil spill number (the EOS number) for the ship under each of the conditions detailed in subparagraphs 4.1, 4.2 and 4.3.

4.1 The EOS number should be calculated for the existing ship, with the ship loaded to the maximum assigned load line with zero trim and with cargo having a uniform density, allowing all cargo tanks to be loaded to 98% full. This calculation establishes the base EOS number and also the nominal cargo oil density, which should be applied in the calculations required by subparagraphs 4.2 and 4.3.

4.2 A second EOS number should be calculated for the ship arranged with cargo side tanks as referred to in regulation 13G(4).

4.3 A third EOS number should be calculated for the selected alternative method and should not exceed the EOS number calculated according to subparagraph 4.1 and should furthermore not be greater than 85% of the EOS number calculated according to subparagraph 4.2.

4.4 Fuel oil tanks located within the cargo tank length should be considered as cargo oil tanks for the purpose of calculating the EOS numbers.

Methodology for calculation of the hypothetical oil outflow

5 The methodology detailed in this paragraph should be used for calculating the EOS number as required by paragraph 4.

5.1 Damage assumptions

The damage assumptions identified below should be applied to all oil tanks when calculating the EOS number.

5.1.1 Side damage

Longitudinal extent	$l_c = \sqrt[3]{L^2/3}$ or 14.5 m whichever is less
Transverse extent	$t_c = B/5$ or 11.5 m whichever is less
Vertical extent	$v_c =$ from the baseline upwards without limit

5.1.2 Bottom damage

Longitudinal extent	$l_s = 0.2L$
Transverse extent	$b_s = B/6$ or 10 m whichever is less, but not less than 5 m
Vertical extent from the baseline	$v_s = B/15$

Appendix 9

Interpretation of requirements for application of hydrostatic balance loading in cargo tanks (resolution MEPC.64(36))*

1 The Marine Environment Protection Committee, at its forty-first session (30 March to 3 April 1998), noted that a large number of tankers of 25 years of age and over would potentially use the hydrostatic balance loading operational alternative which is permitted by MARPOL regulation I/13G(7), in order to continue to trade for another five years, and recognized that there was a need to develop a unified interpretation with the purpose of avoiding any potential problems which might arise with the hydrostatic balance loading.

2 Subsequently, the Committee, at its forty-second session (2 to 6 November 1998), having considered the recommendation made by the Sub-Committee on Bulk Liquids and Gases, at its third session, regarding IACS Unified Interpretation MPC 7 "Hydrostatic Balance Loading", agreed to circulate this Unified Interpretation to Member Governments, as set out in the annex, subject to the following clarifications:

- .1 all ballast tanks should be assumed empty when calculating EOS1 and EOS2, whereas ballast water allocation may be considered when calculating EOS3; and
- .2 it is understood that ballast water may be taken on board during the voyage in order to maintain the draughts necessary for compliance and to satisfy trim, stability, strength and other requirements.

3 At its forty-third session (28 June to 2 July 1999), the Committee approved an IACS proposal to make a number of minor corrections to the original interpretations.

4 As a result, this Circular includes these corrections and replaces MEPC/Circ.347.

5 Member Governments are invited to use the annexed Interpretation together with the above clarifications when applying the provisions of the Guidelines for approval of alternative structural or operational arrangements, as called for in regulation 13G(7) of Annex I of MARPOL 73/78 (resolution MEPC.64(36)), to tankers of 25 years of age and over referred to in regulation 13G(4) of Annex I to MARPOL 73/78.

* This is MEPC Circular 365 of 26 July 1999.

Annex

IACS Unified Interpretation MPC 7 – Hydrostatic Balance Loading

(May 1998)

(Annex I, Regulation 13G(7) – Guidelines for approval of alternative structural or operational method, IMO resolution MEPC.64(36))

Damage and outflow criteria (as per 4 of the IMO Guidelines)

- .1 The original configuration is the configuration of the vessel, as covered by the IOPP Certificate and the current G.A. plan prior to the application of MARPOL regulation 13G(7).

In the case of a product/crude oil carrier which operates alternatively with CBT when trading as product tanker or with COW when trading as a crude oil tanker, the assessment in accordance with MEPC.64(36) should be done for each mode separately.

Calculation of base EOS number as per 4.1 of the IMO Guidelines (EOS1)

- .2 When calculating first EOS number (EOS1) as defined in 4.1 of the Guidelines, the ship is assumed to be loaded at Summer Water Line with zero trim, without consumable or ballast.
- .3 For the purpose of calculating EOS1, the volume of the cargo being carried by the ship is 98% of the volume of cargo and fuel oil tanks within L_t as per the original configuration of the ship.

Refer to the annex.

- .4 Nominal density of the cargo, ρ_c :

The nominal density of the cargo to be used in the calculation of EOS1, EOS2 and EOS3 is given by the following formula:

$$\rho_c = \frac{\Delta(\text{summer}) - LSW}{V_{98\% \text{ (original cargo and fuel oil tanks configuration within } L_t \text{)}}}$$

where:

$\Delta(\text{summer})$ = Displacement of the ship corresponding to the maximum assigned summer load line with zero trim

LSW = Light ship weight

$V_{98\% \text{ (original cargo and fuel oil tanks configuration within } L_t \text{)}} = 98\% \text{ of the cargo and fuel oil tanks volume within } L_t \text{ in ship's original configuration}$

Footnote: Written applications for evaluation of tanker arrangements under MEPC.64(36) received on or after 8 May 1998 will be evaluated in accordance with this unified interpretation unless advised otherwise by the flag Administration.

- (a) the ship is constructed before 1 July 1986; and
- (b) the ship is certified under the Bulk Chemical Code to carry only those products identified by the Code as substances with pollution hazards only.

SEE INTERPRETATION 1.1

- (13) *Similar stage of construction* means the stage at which:
 - (a) construction identifiable with a specific ship begins; and
 - (b) assembly of that ship has commenced comprising at least 50 tons or 1% of the estimated mass of all structural material, whichever is less.
- (14) *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.

Regulation 2

Application

- (1) Unless expressly provided otherwise the provisions of this Annex shall apply to all ships carrying 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 a chemical tanker, the appropriate requirements of Annex I of the present Convention shall also apply.
- (3) Regulation 13 of this Annex shall apply only to ships carrying substances which are categorized for discharge control purposes in Category A, B or C.
- (4) For ships constructed before 1 July 1986, the provisions of regulation 5 of this Annex in respect of the requirement to discharge below the waterline and maximum concentration in the wake astern of the ship shall apply as from 1 January 1988.
- (5) 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.

[SEE INTERPRETATION 2.1](#)

- (6) The Administration which allows a fitting, material, appliance or apparatus as alternative to that required by this Annex, under paragraph (5) 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.
-

[SEE INTERPRETATION 2.1](#)

- (7) (a) Where an amendment to this Annex and the International Bulk Chemical and Bulk Chemical Codes 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, having regard to the guidelines developed by the Organization.*
- (b) 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 carried, the trade in which each ship is engaged and the justification for the relaxation, for circulation to the Parties to the Convention for their information and appropriate action, if any.

Regulation 3

Categorization and listing of noxious liquid substances

- (1) For the purpose of the regulations of this Annex, noxious liquid substances shall be divided into four categories as follows:
- (a) *Category A*: Noxious liquid substances which if discharged into the sea from tank cleaning or deballasting operations would present a major hazard to either marine resources or human

* Refer to the Guidelines for the Application of Amendments to the List of Substances in Annex II of MARPOL 73/78 and in the IBC Code and the BCH Code with Respect to Pollution Hazards, approved by the Marine Environment Protection Committee at its thirty-first session; see the [Appendix to Unified Interpretations of Annex II](#).

- (7) The discharge into the sea of substances in Category A as defined in regulation 3(1)(a) of this Annex or of those provisionally assessed as such, or ballast water, tank washings, or other residues or mixtures containing such substances shall be prohibited. If tanks containing such substances or mixtures are to be washed, the resulting residues shall be discharged to a reception facility which the States bordering the special area shall provide in accordance with regulation 7 of this Annex, until the concentration of the substance in the effluent to such facility is at or below 0.05% by weight and until the tank is empty, with the exception of phosphorus, yellow or white, for which the residual concentration shall be 0.005% by weight. Any water subsequently added to the tank may be discharged into the sea when all the following conditions are satisfied:

- (a) 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;

SEE INTERPRETATION 3.1

- (b) the discharge is made below the waterline, taking into account the location of the seawater intakes; and
- (c) the discharge is made at a distance of not less than 12 nautical miles from the nearest land and in a depth of water of not less than 25 m.

- (8) The discharge into the sea of substances in Category B as defined in regulation (3)(1)(b) of this Annex or of those provisionally assessed as such, or ballast water, tank washings, or other residues or mixtures containing such substances shall be prohibited except when all the following conditions are satisfied:

- (a) the tank has been prewashed in accordance with the procedure approved by the Administration and based on standards developed by the Organization and the resulting tank washings have been discharged to a reception facility;
- (b) 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;
- (c) the procedures and arrangements for discharge and washings are approved by the Administration. Such procedures and arrangements shall be based upon standards developed by the Organization and shall ensure that the concentration and rate of discharge of the effluent is such that the concentration of the substance in the wake astern of the ship does not exceed 1 part per million;

Regulation 7

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:
 - (a) cargo loading and unloading ports and terminals shall have facilities adequate for reception without undue delay to ships of such residues and mixtures containing noxious liquid substances as would remain for disposal from ships carrying them as a consequence of application of this Annex; and
 - (b) ship repair ports undertaking repairs to chemical tankers shall have facilities adequate for the reception of residues and mixtures containing noxious liquid substances.

SEE INTERPRETATION 5.1

- (2) The Government of each Party shall determine the types of facilities provided for the purposes 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.
- (3) 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.
- (4) 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.

Regulation 8

*Measures of control**

- (1) (a) The Government of each Party to the Convention shall appoint or authorize surveyors for the purpose of implementing this

* For reference to "standards developed by the Organization" as used in this regulation, refer to the [Standards for procedures and arrangements for the discharge of noxious liquid substances](#), adopted by resolution MEPC.18(22), as amended by resolution MEPC.62(35).

Appendices to Annex II

Appendix I

Guidelines for the categorization of noxious liquid substances

- Category A** Substances which are bioaccumulated and liable to produce a hazard to aquatic life or human health, or which are highly toxic to aquatic life (as expressed by a Hazard Rating 4, defined by a TL_m less than 1 ppm); and additionally, certain substances which are moderately toxic to aquatic life (as expressed by a Hazard Rating 3, defined by a TL_m of 1 ppm or more, but less than 10 ppm) when particular weight is given to additional factors in the hazard profile or to special characteristics of the substance.
- Category B** Substances which are bioaccumulated with a short retention of the order of one week or less, or which are liable to produce tainting of the sea food, or which are moderately toxic to aquatic life (as expressed by a Hazard Rating 3, defined by a TL_m of 1 ppm or more, but less than 10 ppm); and additionally certain substances which are slightly toxic to aquatic life (as expressed by a Hazard Rating 2, defined by a TL_m of 10 ppm or more, but less than 100 ppm) when particular weight is given to additional factors in the hazard profile or to special characteristics of the substance.
- Category C** Substances which are slightly toxic to aquatic life (as expressed by a Hazard Rating 2, defined by a TL_m of 10 ppm or more, but less than 100 ppm); and additionally certain substances which are practically non-toxic to aquatic life (as expressed by a Hazard Rating 1, defined by a TL_m of 100 ppm or more, but less than 1,000 ppm) when particular weight is given to additional factors in the hazard profile or to special characteristics of the substance.
- Category D** Substances which are practically non-toxic to aquatic life (as expressed by a Hazard Rating 1, defined by a TL_m of 100 ppm or more, but less than 1,000 ppm); or causing deposits blanketing the sea floor with a high biochemical oxygen demand (BOD); or which are highly hazardous to human

health, with an LD₅₀ of less than 5 mg/kg; or which produce moderate reduction of amenities because of persistency, smell or poisonous or irritant characteristics, possibly interfering with use of beaches; or which are moderately hazardous to human health, with an LD₅₀ of 5 mg/kg or more, but less than 50 mg/kg, and produce slight reduction of amenities.

Other Liquid Substances (for the purposes of regulation 4 of this Annex)
Substances other than those categorized in Categories A, B, C, and D above.

Appendix II

List of noxious liquid substances carried in bulk

Noxious liquid substances carried in bulk and which are presently categorized as Category A, B, C or D and subject to the provisions of this Annex, are so indicated in the Pollution Category column of chapters 17 or 18 of the International Bulk Chemical Code.

Appendix III

List of other liquid substances

Liquid substances carried in bulk which are identified as falling outside Categories A, B, C and D and not subject to the provisions of this Annex and indicated as 'III' in the Pollution Category column of chapters 17 or 18 of the International Bulk Chemical Code.

Appendix V

Form of NLS Certificate

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, and as amended by resolution MEPC.39(29) (hereinafter referred to as "the Convention") under the authority of the Government of:

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

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

Particulars of ship*

Name of ship
Distinctive number or letters
Port of registry
Gross tonnage
IMO Number†

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

† In accordance with [resolution A.600\(15\)](#), IMO Ship Identification Number Scheme, this information may be included voluntarily.

ENDORSEMENT FOR ANNUAL AND INTERMEDIATE SURVEYS

THIS IS TO CERTIFY that, at a survey required by regulation 10 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

(Seal or stamp of the authority, as appropriate)

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

Place

Date

(Seal or stamp of the authority, as appropriate)

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

Place

Date

(Seal or stamp of the authority, as appropriate)

Annual survey: Signed
(Signature of authorized official)

Place

Date

(Seal or stamp of the authority, as appropriate)

* Delete as appropriate.

**ANNUAL/INTERMEDIATE SURVEY IN ACCORDANCE
WITH REGULATION 12(8)(c)**

THIS IS TO CERTIFY that, at an annual/intermediate* survey in accordance with regulation 12(8)(c) 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

(Seal or stamp of the authority, as appropriate)

**ENDORSEMENT TO EXTEND THE CERTIFICATE IN VALIDITY
FOR LESS THAN 5 YEARS WHERE REGULATION 12(8) APPLIES**

The ship complies with the relevant provisions of the Convention, and this Certificate shall, in accordance with regulation 12(8) of Annex II of the Convention, be accepted as valid until

Signed
(Signature of authorized official)

Place

Date

(Seal or stamp of the authority, as appropriate)

**ENDORSEMENT WHERE THE RENEWAL SURVEY HAS BEEN
COMPLETED AND REGULATION 12(4) APPLIES**

The ship complies with the relevant provisions of the Convention, and this Certificate shall, in accordance with regulation 12(4) of Annex II of the Convention, be accepted as valid until

Signed
(Signature of authorized official)

Place

Date

(Seal or stamp of the authority, as appropriate)

* Delete as appropriate.

Appendix to Unified Interpretations of Annex II

Guidelines for the application of amendments to the list of substances in Annex II of MARPOL 73/78 and in the IBC Code and the BCH Code with respect to pollution hazards

1 General

1.1 The present guidelines apply to amendments to the list of substances set out in appendices II and III to Annex II of MARPOL 73/78, in chapters 17 and 18 of the IBC Code and in chapters VI and VII of the BCH Code, namely the addition or deletion of substances, and changes of the pollution category or the ship type requirements on existing substances.

1.2 Regulation 2(7)(a) of Annex II of MARPOL 73/78 stipulates that where an amendment to this Annex and the International Bulk Chemical Code and the 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, having regard to the Guidelines developed by the Organization. The present Guidelines have been developed to ensure uniform application of that regulation.

1.3 With respect to the preparation and circulation of proposed amendments to the list of substances, paragraphs 1 to 4 of the Guidelines for future amendments to the IBC Code and the BCH Code (MEPC 25/20, annex 7) should apply.

2 Definitions

For the purposes of the present Guidelines, the following definitions apply:

- 2.1 *New ship* means a ship the keel of which is laid or which is at a stage at which:
- .1 construction identifiable with the ship begins; and
 - .2 assembly has commenced comprising at least 50 tonnes or 1% of the estimated mass of all structural material, whichever is less;

on or after the date of entry into force of the relevant amendment.

1.2.4 Regulation 13 requires, *inter alia*, chemical tankers carrying Category A, B or C noxious liquid substances to comply with the *International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk** (hereinafter referred to as the IBC Code) or the *Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk** (hereinafter referred to as the BCH Code), as may be amended. All constructions, materials and equipment fitted as a requirement of Annex II and of the Standards shall therefore comply with the IBC Code or the BCH Code for all substances of Category A, B or C the chemical tanker is certified fit to carry in accordance with its Certificate of Fitness under that Code.

1.3 Definitions

1.3.1 *New ship* means a ship constructed on or after 1 July 1986.

1.3.2 *Existing ship* means a ship that is not a new ship.

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

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

1.3.5 *Miscible* means soluble with water in all proportions at washwater temperatures.

1.3.6 *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.

1.3.7 *Solidifying substance* means a noxious liquid substance which:

- .1 in the case of substances with melting points less than 15°C, is at a temperature, at the time of unloading, of less than 5°C above its melting point; or
- .2 in the case of substances with melting points equal to or greater than 15°C, is at a temperature, at the time of unloading, of less than 10°C above its melting point.

1.3.8 *Non-solidifying substance* means a noxious liquid substance which is not a solidifying substance.

* The IBC and BCH Codes, extended to cover marine pollution aspects, were adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.19(22) and MEPC.20(22) respectively on 5 December 1985; see IMO sales publications IMO-100E and IMO-772E, respectively.

1.3.9 *High-viscosity substance* means:

- .1 in the case of Category A and B substances and in the case of Category C substances within special areas, a substance with a viscosity equal to or greater than 25 mPa·s at the unloading temperature; and
- .2 in the case of Category C substances outside special areas, a substance with a viscosity equal to or greater than 60 mPa·s at the unloading temperature.

1.3.10 *Low-viscosity substance* means a noxious liquid substance which is not a high-viscosity substance.

1.3.11 *Regulation* means a regulation of Annex II to MARPOL 73/78.

1.4 *Equivalents*

1.4.1 The equivalent provisions in regulation 2(b) and (c) are also applicable to the Standards.

1.5 *Certification*

1.5.1 Prior to issuing the appropriate Certificate referred to in section 1.1, the Administration should examine, and, if satisfied, approve:

- .1 the Manual for compliance with Annex II and the Standards; and
- .2 the equipment and arrangements provided for compliance with the Standards.

1.5.2 Reference to the approved Manual should be made by the Administration in the appropriate Certificate issued to the ship.

1.6 *Responsibilities of the master*

1.6.1 The master must ensure that no discharges into the sea of cargo residues or residue/water mixtures containing Category A, B, C or D substances shall take place, unless such discharges are made in full compliance with the operational procedures contained in the Manual and that the arrangements required by the Manual and needed for such discharges are used.

1.7 *Safety considerations*

1.7.1 The Standards are concerned with the marine environmental aspects of the cleaning of cargo tanks which have contained noxious liquid substances, and the discharge of residues and residue/water mixtures from

- .5.2 methods of draining cargo pumps, cargo lines and stripping lines;
- .5.3 cargo tank prewash programmes;
- .5.4 procedures for cargo tank ballasting and deballasting;
- .5.5 procedures for discharge of residue/water mixtures; and
- .5.6 procedures to be followed when a cargo tank cannot be unloaded in accordance with the required procedure;
- .6 for existing ships operating under the provisions of regulation 5A(2)(b) or 5A(4)(b) a residue table developed in accordance with [appendix A](#), which indicates for each tank in which Category B or C substances are to be carried the quantities of residue which will remain in the tank and associated piping system after unloading and stripping;
- .7 a table which indicates the quantities measured at a vessel of carrying out the water test performed for assessing the "stripping quantity" referred to in paragraph 1.2.1 of [appendix A](#); and
- .8 the responsibility of the master in respect of operational procedures to be followed and the use of the arrangements. The master must ensure that no residues or residue/water mixtures are discharged into the sea, unless the arrangements listed in the Manual and needed for the discharge are used.

2.5 In the case of a ship engaged in international voyages, the Manual should be produced in the standard format as outlined in the attached appendix D. If the language used is neither English nor French, the text should include a translation into one of these languages.

2.6 The Administration may approve a Manual containing only those parts applicable to the substances the ship is certified fit to carry.

2.7 For a ship referred to in regulation 5A(6) or 5A(7), the format and the content of the Manual should be to the satisfaction of the Administration.

2.8 For a ship carrying only Category D substances, the format and the content of the Manual should be to the satisfaction of the Administration.

Chapter 7

Operational standards for new ships carrying Category D substances

7.1 General

7.1.1 This chapter applies to any new ship certified fit to carry Category D substances.

7.2 Discharge of Category D residues

7.2.1 Although residue(s) of Category D substances is(are) required to be discharged within and outside special areas in a diluted form in accordance with regulation 5(4), such residue(s) may also be discharged in accordance with the operational standards for low-viscosity, non-solidifying Category C substances as specified in chapter 6.

7.3 Ventilation of Category D substances from cargo tanks

7.3.1 When ventilation procedures are used to remove residue from cargo tanks the requirements set out in section 4.4 apply.

8.7.2 When in accordance with chapter 10 it is necessary to record the rate at which residue/water mixtures are discharged, means should be provided for measuring such flow rates. The accuracy of the flow recording unit should be within 15% of the actual flow.

8.7.3 If the recording units described in paragraphs 8.7.1 or 8.7.2 become defective, a manual alternative method should be used. The master should record such a defect in the Cargo Record Book. The defective unit should be made operable as soon as possible but at least within a period of 60 days.

8.8 *Slop tanks*

8.8.1 Although Annex II 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.

8.9 *Ventilation equipment*

8.9.1 If residues from cargo tanks are removed by means of ventilation, ventilation equipment meeting the requirements of [appendix C](#) should be provided.

should, by measurement, show that the system meets the requirements of regulation 5A with the tolerance of 50 l per tank.

3 Water test procedure

3.1 Test condition

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

3.1.2 The trim and list chosen for the water test should be the minimum favourable trim and list as given in the ship's Manual for the stripping of the cargo tanks.

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

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 Pump and strip the cargo tank and its associated piping in accordance with the ship's approved Manual.

3.2.4 Collect water remaining in the cargo tank and its associated piping into a calibrated container for measurement. Water residues should be collected 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."

- 5 After prewashing the tanks and lines should be thoroughly stripped.

Prewash procedures for solidifying substances without recycling

- 6 Tanks should 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 should 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.
- 9 During washing the amount of liquid in the tank should be minimized by pumping out slops continuously and promoting flow at the suction point. If this condition cannot be met, the washing procedure should be repeated three times with thorough stripping of the tank between washings.
- 10 Tanks should be washed with hot water (temperature at least 60°C), unless the properties of such substances make the washing less effective.
- 11 The quantity of wash water used should not be less than those specified in paragraph 20 or determined according to paragraph 21.
- 12 After prewashing the tanks and lines should 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 should not exceed 5% based on nominal stripping quantities.
- 14 The recycled washing medium should only be used for washing tanks having contained the same or similar substance.
- 15 A quantity of washing medium sufficient to allow continuous washing should be added to the tank or tanks to be washed.
- 16 All tank surfaces should 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 should 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.

Substances in Bulk/Certificate of Fitness issued under the International Bulk Chemical Code/Certificate of Fitness issued under the Bulk Chemical Code],* will be used by Administrations for control purposes in order to ensure full compliance with the requirements of Annex II by this ship.

7. The master shall ensure that no discharges into the sea of cargo residues or residue/water mixtures containing Category A, B, C or D substances shall take place, unless such discharges are made in full compliance with the operational procedures contained in this Manual and that the equipment required by this Manual and needed for such discharge is used.

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.

Preview from Notesale.co
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* Include only the certificate issued to the particular ship.

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

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

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

- a general arrangement showing the segregated ballast tanks and cargo tanks to be used as ballast tanks together with their capacities (cubic metres);
- ballast piping arrangement;
- pumping capacity for those cargo tanks which may also be used as ballast tanks; and
- 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 should contain a description of the dedicated slop tanks with the associated pumping and piping arrangements. Line or schematic drawings should be provided showing the following:

- which dedicated slop tanks are provided together with the capacities of such tanks;
- 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 should 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 should be provided showing the following:

- location and number of underwater discharge outlets;
- connections to underwater discharge outlet;
- location of all seawater intakes in relation to underwater discharge outlets.

2.7 *Description of flow rate indicating and recording devices*

This section, which applies only to ships operating under regulation 5A(2)(b), should contain a description of the means of measuring the flow rate, and if required also the means of recording the flow rate and time, and the methods of operation.

A line or schematic drawing showing the position and connections of these devices should be provided.

3.2 *Cargo unloading*

This section should 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 should be given.

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

3.3 *Cargo tank stripping*

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

The procedures should include the following:

- operation of stripping system;
- list and trim requirements;
- line draining and stripping or blowing arrangements, if applicable.

3.4 *Cargo temperature*

This section should 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 should 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 should 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:

- failure of cargo tank stripping system; and
- failure of cargo tank heating system.

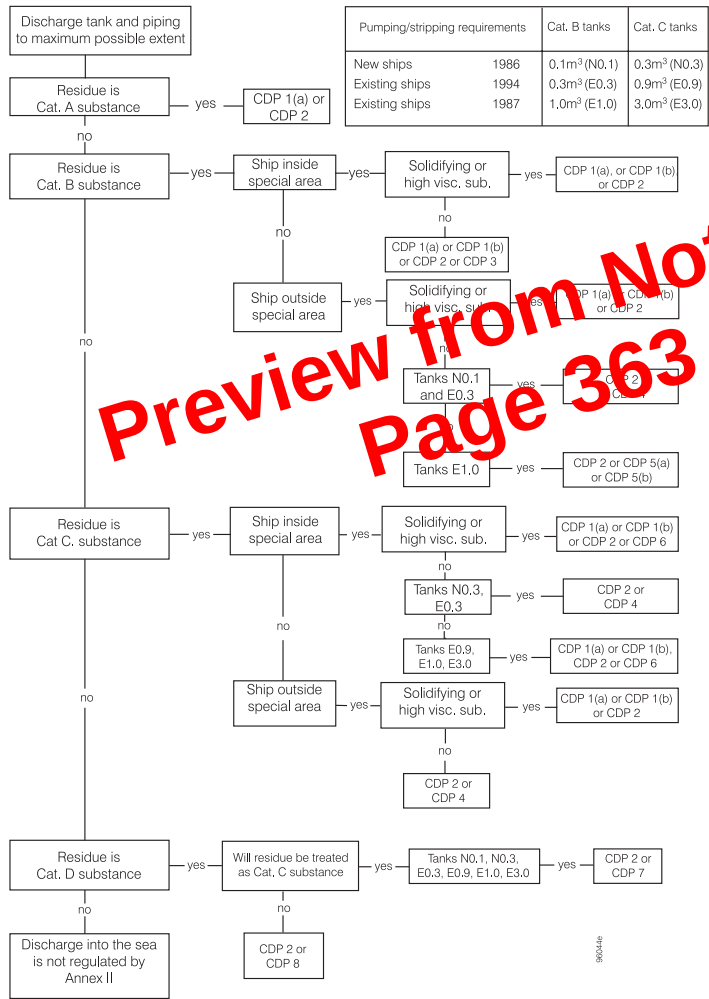
3.6 *Cargo Record Book*

The Cargo Record Book should be completed in the appropriate places on completion of cargo unloading.

ADDENDUM A

Flow diagrams – Cleaning of cargo tanks and disposal of tank washings/ballast containing residues of Category A, B, C and D substances

Annex II



Preview from Notesale.com
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Note: This is a flow diagram giving comprehensive requirements applicable to new and existing ships. The flow diagram for a specific ship should only include parts applicable to that ship.

- (i) when the ship is fitted with a sewage treatment plant the plant shall meet operational requirements based on standards and the test methods developed by the Organization*;
- (ii) when the ship is fitted with a system to comminute and disinfect the sewage, such a system shall be of a type approved by the Administration;
- (iii) when the ship is equipped with a holding tank the capacity of such tank shall be to the satisfaction of the Administration for the retention of all sewage having regard to the operation of the ship, the number of persons on board and other relevant factors. The holding tank shall have a means to indicate visually the amount of its contents; and
- (iv) that the ship is equipped with a pipeline leading to the exterior convenient for the discharge of sewage to a reception facility and that such a pipeline is fitted with a standard shore connection in compliance with regulation 11 of this Annex.

This survey shall be such as to ensure that the equipment, fittings, arrangements and material fully comply with the applicable requirements of this Annex.

- (b) Periodical surveys at intervals specified by the Administration but not exceeding five years which shall be such as to ensure that the equipment, fittings, arrangements and material fully comply with the applicable requirements of this Annex. However, where the duration of the International Sewage Pollution Prevention Certificate (1973) is extended as specified in regulation 7(2) or (4) of this Annex, the interval of the periodical survey may be extended correspondingly.
- (2) The Administration shall establish appropriate measures for ships which are not subject to the provisions of paragraph (1) of this regulation in order to ensure that the provisions of this Annex are complied with.
- (3) Surveys of the ship as regards 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. In every case the Administration concerned fully guarantees the completeness and efficiency of the surveys.

* Refer to the Recommendation on international effluent standards and guidelines for performance tests for sewage treatment plants adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.2(VI); see IMO sales publication IMO-592E.

Regulation 10*Reception facilities*

- (1) The Government of each Party to the Convention undertakes to ensure the provision of facilities at ports and terminals for the reception of sewage, without causing undue delay to ships, adequate to meet the needs of the ships using them.
- (2) The Government of each Party shall notify the Organization for transmission to the Contracting Governments concerned of all cases where the facilities provided under this regulation are alleged to be inadequate.

Regulation 11*Standard discharge connections*

To enable pipes of reception facilities to be connected with the ship's discharge pipeline, both lines shall be fitted with a standard discharge connection in accordance with the following table:

Standard dimensions of flanges for discharge connections

<i>Description</i>	<i>Dimension</i>
Outside diameter	210 mm
Inner diameter	According to pipe outside diameter
Bolt circle diameter	170 mm
Slots in flange	4 holes 18 mm in diameter equidistantly placed on a bolt circle of the above diameter, slotted to the flange periphery. The slot width to be 18 mm
Flange thickness	16 mm
Bolts and nuts: quantity and diameter	4, each of 16 mm in diameter and of suitable length
The flange is designed to accept pipes up to a maximum internal diameter of 100 mm and shall be of steel or other equivalent material having a flat face. This flange, together with a suitable gasket, shall be suitable for a service pressure of 6 kg/cm ²	

For ships having a moulded depth of 5 m and less, the inner diameter of the discharge connection may be 38 mm.

Annex V of MARPOL 73/78
(including amendments)

*Regulations for the Prevention
of Pollution by Garbage
from Ships*

- (2) The disposal into the sea of food wastes may be permitted when they have been passed through a comminuter or grinder from such fixed or floating platforms located more than 12 nautical miles from land and all other ships when alongside or within 500 m of such platforms. Such comminuted or ground food wastes shall be capable of passing through a screen with openings no greater than 25 mm.

Regulation 5

Disposal of garbage within special areas

- (1) For the purposes of this Annex the special areas are the Mediterranean Sea area, the Baltic Sea area, the Black Sea area, the Red Sea area, the “Gulfs area”, the North Sea area, the Antarctic area and the Wider Caribbean Region, including the Gulf of Mexico and the Caribbean Sea, which are defined as follows:
- (a) The *Mediterranean Sea area* means the Mediterranean Sea proper including the gulfs and straits therein with the boundary between the Mediterranean and the Black Sea constituted by the 41° N parallel and bounded to the west by the Strait of Gibraltar at the meridian 5°36' W.
 - (b) The *Baltic Sea area* means the Baltic Sea proper with the Gulf of Bothnia and the Gulf of Finland and the entrance to the Baltic Sea bounded by the parallel of the Skaw in the Skagerrak at 57°44.8' N.
 - (c) The *Black Sea area* means the Black Sea proper with the boundary between the Mediterranean and the Black Sea constituted by the parallel 41° N.
 - (d) The *Red Sea area* means the Red Sea proper including the Gulfs of Suez and Aqaba bounded at the south by the rhumb line between Ras si Ane (12°28.5' N, 43°19.6' E) and Husn Murad (12°40.4' N, 43°30.2' E).
 - (e) The *Gulfs area* means the sea area located north-west of the rhumb line between Ras al Hadd (22°30' N, 59°48' E) and Ras al Fasteh (25°04' N, 61°25' E).
 - (f) The *North Sea area* means the North Sea proper including seas therein with the boundary between:
 - (i) the North Sea southwards of latitude 62° N and eastwards of longitude 4° W;
 - (ii) the Skagerrak, the southern limit of which is determined east of the Skaw by latitude 57°44.8' N; and
 - (iii) the English Channel and its approaches eastwards of longitude 5° W and northwards of latitude 48°30' N.

Annex VI of MARPOL 73/78

*Regulations for the Prevention of
Air Pollution from Ships*

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- (5) The Administration shall institute arrangements for unscheduled inspections to be carried out during the period of validity of the certificate. Such inspections shall ensure that the equipment remains in all respects satisfactory for the service for which the equipment is intended. These inspections may be carried out by their own inspection service, nominated surveyors, recognized organizations, or by other Parties upon request of the Administration. Where the Administration, under the provisions of paragraph (1) of this regulation, establishes mandatory annual surveys, the above unscheduled inspections shall not be obligatory.
- (6) When a nominated surveyor or recognized organization determines that the condition of the equipment does not correspond substantially with the particulars of the certificate, they shall ensure that corrective action is taken and shall in due course notify the Administration. If such corrective action is not taken, the certificate should be withdrawn from the Administration. If the ship is in a port of another Party, the appropriate authorities of the port State shall also be notified immediately. When an officer of the Administration, a nominated surveyor or recognized organization has notified the appropriate authorities of the port State, the Government of the port State concerned shall give such officer, surveyor or organization any necessary assistance to carry out their obligations under this regulation.
- (7) The equipment shall be maintained to conform with the provisions of this Annex and no changes shall be made in the equipment, systems, fittings, arrangements, or material covered by the survey, without the express approval of the Administration. The direct replacement of such equipment and fittings with equipment and fittings that conform with the provisions of this Annex is permitted.
- (8) Whenever an accident occurs to a ship or a defect is discovered, which substantially affects the efficiency or completeness of its equipment covered by this Annex, the master or owner of the ship shall report at the earliest opportunity to the Administration, a nominated surveyor, or recognized organization responsible for issuing the relevant certificate.

Regulation 6

Issue of International Air Pollution Prevention Certificate

- (1) An International Air Pollution Prevention Certificate shall be issued, after survey in accordance with the provisions of regulation 5 of this Annex, to:
 - (a) any ship of 400 gross tonnage or above engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties; and

Regulation 9

Duration and validity of Certificate

- (1) An International Air Pollution Prevention Certificate shall be issued for a period specified by the Administration, which shall not exceed five years from the date of issue.
- (2) No extension of the five-year period of validity of the International Air Pollution Prevention Certificate shall be permitted, except in accordance with paragraph (3).
- (3) If the ship, at the time when the International Air Pollution Prevention Certificate expires, is not in a port of the State whose flag it is entitled to fly or in which it is to be surveyed, the Administration may extend the Certificate for a period of no more than five months. Such extension shall be granted only for the purpose of allowing the ship to complete its voyage to the State whose flag it is entitled to fly or in which it is to be surveyed, and then only in cases where it appears proper and reasonable to do so. After arrival in the State whose flag it is entitled to fly or in which it is to be surveyed, the ship shall not be entitled by virtue of such extension to leave the port or State without having obtained a new International Air Pollution Prevention Certificate.
- (4) An International Air Pollution Prevention Certificate shall cease to be valid in any of the following circumstances:
 - (a) if the inspections and surveys are not carried out within the periods specified under regulation 5 of this Annex;
 - (b) if significant alterations have taken place to the equipment, systems, fittings, arrangements or material to which this Annex applies without the express approval of the Administration, except the direct replacement of such equipment or fittings with equipment or fittings that conform with the requirements of this Annex. For the purpose of regulation 13, significant alteration shall include any change or adjustment to the system, fittings, or arrangement of a diesel engine which results in the nitrogen oxide limits applied to that engine no longer being complied with; or
 - (c) upon transfer of the ship to the flag of another State. A new Certificate shall be issued only when the Government issuing the new Certificate is fully satisfied that the ship is in full compliance with the requirements of regulation 5 of this Annex. In the case of a transfer between Parties, if requested within three months after the transfer has taken place, the Government of the Party whose flag the ship was formerly entitled to fly shall, as soon as possible, transmit to the Administration of the other

- (c) Notwithstanding the provisions of sub-paragraph (a) of this paragraph, the Administration may allow exclusion from the application of this regulation to any diesel engine which is installed on a ship constructed, or on a ship which undergoes a major conversion, before the date of entry into force of the present Protocol, provided that the ship is solely engaged in voyages to ports or offshore terminals within the State the flag of which the ship is entitled to fly.
- (2) (a) For the purpose of this regulation, *major conversion* means a modification of an engine where:
- (i) the engine is replaced by a new engine built on or after 1 January 2000, or
 - (ii) any substantial modification, as defined in the NO_x Technical Code, is made to the engine, or
 - (iii) the maximum continuous rating of the engine is increased by more than 10%.
- (b) The NO_x emission resulting from modifications referred to in the sub-paragraph (a) of this paragraph shall be documented in accordance with the NO_x Technical Code for approval by the Administration.
- (3) (a) Subject to the provision of regulation 3 of this Annex, the operation of each diesel engine to which this regulation applies is prohibited, except when the emission of nitrogen oxides (calculated as the total weighted emission of NO₂) from the engine is within the following limits:
- (i) 17.0 g/kW h when n is less than 130 rpm
 - (ii) $45.0 \times n^{-0.2}$ g/kW h when n is 130 or more but less than 2000 rpm
 - (iii) 9.8 g/kW h when n is 2000 rpm or more
- where n = rated engine speed (crankshaft revolutions per minute).
- When using fuel composed of blends from hydrocarbons derived from petroleum refining, test procedure and measurement methods shall be in accordance with the NO_x Technical Code, taking into consideration the test cycles and weighting factors outlined in [appendix II to this Annex](#).
- (b) Notwithstanding the provisions of sub-paragraph (a) of this paragraph, the operation of a diesel engine is permitted when:
- (i) an exhaust gas cleaning system, approved by the Administration in accordance with the NO_x Technical Code, is applied to the engine to reduce onboard NO_x emissions at least to the limits specified in sub-paragraph (a), or

- (3) Nothing in this regulation affects the prohibition in, or other requirements of, the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, as amended, and the 1996 Protocol thereto.
- (4) Shipboard incineration of the following substances shall be prohibited:
 - (a) Annex I, II and III cargo residues of the present Convention and related contaminated packing materials;
 - (b) polychlorinated biphenyls (PCBs);
 - (c) garbage, as defined in Annex V of the present Convention, containing more than traces of heavy metals; and
 - (d) refined petroleum products containing halogen compounds.
- (5) Shipboard incineration of sewage sludge and sludge oil generated during the normal operation of a ship may also take place in the main or auxiliary power plant or boilers, but in those cases, shall not take place inside ports, harbours and estuaries.
- (6) Shipboard incineration of polyvinyl chlorides (PVC) shall be prohibited, except in shipboard incinerators for which IMO Type Approval Certificates have been issued.
- (7) All ships with incinerators subject to this regulation shall possess a manufacturer's operating manual which shall specify how to operate the incinerator within the limits described in paragraph (2) of [appendix IV to this Annex](#).
- (8) Personnel responsible for operation of any incinerator shall be trained and capable of implementing the guidance provided in the manufacturer's operating manual.
- (9) Monitoring of combustion flue gas outlet temperature shall be required at all times and waste shall not be fed into a continuous-feed shipboard incinerator when the temperature is below the minimum allowed temperature of 850°C. For batch-loaded shipboard incinerators, the unit shall be designed so that the temperature in the combustion chamber shall reach 600°C within five minutes after start-up.
- (10) Nothing in this regulation precludes the development, installation and operation of alternative design shipboard thermal waste treatment devices that meet or exceed the requirements of this regulation.

Regulation 17

Reception facilities

- (1) The Government of each Party to the Protocol of 1997 undertakes to ensure the provision of facilities adequate to meet the:

- burning of cuttings, muds, and/or stimulation fluids during well completion and testing operations, and flaring arising from upset conditions;
- (b) the release of gases and volatile compounds entrained in drilling fluids and cuttings;
 - (c) emissions associated solely and directly with the treatment, handling, or storage of sea-bed minerals; and
 - (d) emissions from diesel engines that are solely dedicated to the exploration, exploitation and associated offshore processing of sea-bed mineral resources.
- (3) The requirements of regulation 18 of this Annex shall not apply to the use of hydrocarbons which are produced and subsequently used on site as fuel, when approved by the Administration.

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Appendices to Annex VI

Appendix I

Form of IAPP Certificate (Regulation 8)

INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE

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

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

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

Name of ship	Distinctive number or letters	IMO number	Port of registry	Gross tonnage

Type of ship: ☐ tanker
☐ ships other than a tanker

Appendices to Annex VI

THIS IS TO CERTIFY:

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

This certificate is valid until subject to surveys in accordance with [regulation 5 of Annex VI](#) of the Convention.

Issued at

(Place of issue of certificate)

.....

(Date of issue)

.....

*(Signature of duly 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 5 of Annex VI](#) of the Convention the ship was found to comply with the relevant provisions of the Convention:

Annual survey: Signed

(Signature of duly authorized official)

Place

Date

(Seal or stamp of the authority, as appropriate)

Annual*/Intermediate* survey: Signed

(Signature of duly authorized official)

Place

Date

(Seal or stamp of the authority, as appropriate)

Annual*/Intermediate* survey: Signed

(Signature of duly authorized official)

Place

Date

(Seal or stamp of the authority, as appropriate)

Annual survey: Signed

(Signature of duly authorized official)

Place

Date

(Seal or stamp of the authority, as appropriate)

* Delete as appropriate.

Appendices to Annex VI

2.2.2 The following diesel engines with power output greater than 130 kW, and which underwent major conversion per regulation 13(2) on or after 1 January 2000, comply with the emission standards of regulation 13(3)(a) in accordance with the NO_x Technical Code: ☐

Manufacturer and model	Serial number	Use	Power output (kW)	Rated speed (rpm)

2.2.3 The following diesel engines with a power output greater than 130 kW and installed on a ship constructed on or after 1 January 2000, or with a power output greater than 130 kW and which underwent major conversion per regulation 13(2) on or after 1 January 2000, are fitted with an exhaust gas cleaning system or other equivalent methods in accordance with regulation 13(3), and the NO_x Technical Code: ☐

Manufacturer and model	Serial number	Use	Power output (kW)	Rated speed (rpm)

2.2.4 The following diesel engines from 2.2.1, 2.2.2 and 2.2.3 above are fitted with NO_x emission monitoring and recording devices in accordance with the NO_x Technical Code: ☐

Manufacturer and model	Serial number	Use	Power output (kW)	Rated speed (rpm)

2.3 Sulphur oxides (SO_x) (regulation 14)

2.3.1 When the ship operates within an SO_x emission control area specified in regulation 14(3), the ship uses:

- .1 fuel oil with a sulphur content that does not exceed 1.5% m/m as documented by bunker delivery notes; or ☐

Appendix IV

Type approval and operating limits for shipboard incinerators (Regulation 16)

(1) Shipboard incinerators described in regulation 16(2) shall possess an IMO type approval certificate for each incinerator. In order to obtain such certificate, the incinerator shall be designed and built to an approved standard as described in regulation 16(2). Each model shall be subject to a specified type approval test operation at the factory or an approved test facility, and under the responsibility of the Administration, using the following standard fuel/waste specification for the type approval test for determining whether the incinerator operates within the limits specified in paragraph (2) of this appendix:

Sludge oil consisting of:

70% sludge oil from HFO;
5% waste lubricating oil and
20% emulsified water

Solid waste consisting of:

50% food waste
50% rubbish containing
approx. 30% paper,
approx. 40% cardboard,
approx. 10% rags,
approx. 20% plastic

The mixture will have up to 50% moisture and 7% incombustible solids.

(2) Incinerators described in regulation 16(2) shall operate within the following limits:

O₂ in combustion chamber: 6–12%

CO in flue gas maximum
average: 200 mg/MJ

Soot number maximum
average: Bacharach 3 or
Ringelman 1 (20% opacity)
(A higher soot number is acceptable
only during very short periods such as
starting up)

Unburned components in
ash residues: maximum 10% by weight

Combustion chamber flue gas
outlet temperature range: 850–1200°C

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List of unified interpretations of Annexes I, II and III of MARPOL 73/78

1 List of unified interpretations of Annex I of MARPOL 73/78

MEPC/Circ.97, annex 2 and Corr. 1	Uniform interpretation of provisions of Annex I
MEPC 17/21, paragraph 5.17	Revision of unified interpretation of regulation 10(3)(b)(vi)
MEPC 18/18, annex 5	Unified interpretations of regulations 1(2), 3, 16(1) and 16(2)(b), 25(1) and 25(2)
MEPC 19/18, annex 3	Unified interpretations of regulations 1(4) and 8
MEPC 20/19, annex 5	Unified interpretations of regulations 4, 5 and others, 15(5) and 16(3)(a) and 21
MEPC 21/11, annex 11	Unified interpretation of regulations 9(1) and 10(3) of Annex I and interpretation of Assembly resolution A.541(13)
MEPC 25/20, paragraph 5.7	Uniform interpretation of “all oily mixtures” in regulations 15(5)(a) and 15(5)(b)(ii)(3)
MEPC 26/25, annex 5	Agreed amendment to and interpretation of regulation 17 of Annex I
MEPC 27/16, annex 7	Unified interpretation of regulation 17 of Annex I
MEPC 30/24, annex 7	Unified interpretation of regulation 1(1) of Annex I
MEPC 31/21, annex 5	Unified interpretation of regulation 1(17) of Annex I
MEPC 32/20, paragraph 5.2 and annex 3	Unified interpretation of regulation 26 of Annex I
MEPC 33/20, paragraph 4.5 and annex 5	Unified interpretations of regulations 9(4), 10(3), 16(1) and 16(2) of Annex I
MEPC 34/23, paragraph 7.2.2 and annex 6	Unified interpretations of regulations 7, 12(2), 13, 13G, 13F(3)(d), 13G(4), 15(7), 16(6) and 21 of Annex I

Additional information

MEPC.72(38)	Revision of the list of substances to be annexed to the Protocol relating to the Intervention on the High Seas in Cases of Marine Pollution by Substances other than Oil	–
MEPC.73(39)	Amendments to the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) (Vague expressions)	–
MEPC.74(40)	Identification of the Archipelago of Sabana-Camagüey as a particularly sensitive sea area	–
MEPC.75(40)	Amendments to Annex I of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973	–
MEPC.76(40)	Standard specification for ships and incinerators	–
MEPC.77(41)	Establishment of the date on which the amendments to regulation 10 of Annex I of MARPOL 73/78 in respect of the North-West European Waters special area shall take effect	–
MEPC.78(43)	Amendments to the annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973	–
MEPC.79(43)	Amendments to the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)	–
MEPC.80(43)	Amendments to the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH Code)	–
MEPC.81(43)	Amendments to section 9 of the Standard Format for the COW Manual (resolution MEPC.3(XII))	IMO-617E

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Text of the revised Annex IV of MARPOL 73/78

Regulations for the Prevention of Pollution by Sewage from Ships

Chapter I – General

Regulation 1

Definitions

For the purposes of this Annex:

- 1 *New ship* means a ship:
 - .1 for which the building contract is placed, or in the absence of a building contract, the keel of which is laid, or which is at a similar stage of construction, on or after the date of entry into force of this Annex; or
 - .2 the delivery of which is three years or more after the date of entry into force of this Annex.
- 2 *Existing ship* means a ship which is not a new ship.
- 3 *Sewage* means:
 - .1 drainage and other wastes from any form of toilets and urinals;
 - .2 drainage from medical premises (dispensary, sick bay, etc.) via wash basins, wash tubs and scuppers located in such premises;
 - .3 drainage from spaces containing living animals; or
 - .4 other waste waters when mixed with the drainages defined above.
- 4 *Holding tank* means a tank used for the collection and storage of sewage.
- 5 *Nearest land*. The term “from the nearest land” means from the baseline from which the territorial sea of the territory 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

Regulation 3

Exceptions

- 1 Regulation 11 of this Annex shall not apply to:
 - .1 the discharge of sewage from a ship necessary for the purpose of securing the safety of a ship and those on board or saving life at sea; or
 - .2 the discharge of sewage resulting from damage to a ship or its equipment if all reasonable precautions have been taken before and after the occurrence of the damage, for the purpose of preventing or minimizing the discharge.

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 5

Issue or endorsement of Certificate

1 An international Sewage Pollution Prevention Certificate shall be issued, after an initial or renewal survey in accordance with the provisions of regulation 4 of this Annex, to any ship which is engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to the Convention. In the case of existing ships this requirement shall apply five years after the date of entry into force of this Annex.

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

Regulation 6

Issue or endorsement of a Certificate by another

Government

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 Sewage Pollution Prevention Certificate to the ship, and where appropriate, endorse or authorize the endorsement of that Certificate on the ship in accordance with this Annex.

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

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

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

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

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

7 In special circumstances as determined by the Administration, a new Certificate need not be dated from the date of expiry of the existing Certificate as required by paragraph 2.5 of 5 of this regulation. In these special circumstances, the new Certificate shall be valid to a date not exceeding five years from the date of completion of the renewal survey.

8 A Certificate issued under regulation 5 or 6 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 4.1 of this Annex.
- .2 Upon transfer of the ship to the flag of another State. A new Certificate shall only be issued when the Government issuing the new Certificate is fully satisfied that the ship is in compliance with the requirements of regulations 4.4.1 and 4.4.2 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.

Standard dimensions of flanges for discharge connections

Description	Dimension
Outside diameter	210 mm
Inner diameter	According to pipe outside diameter
Bolt circle diameter	170 mm
Slots in flange	4 holes, 18 mm in diameter, equidistantly placed on a bolt circle of the above diameter, slotted to the flange periphery. The slot width to be 18 mm
Flange thickness	16 mm
Bolts and nuts: quantity and diameter	4, each of 16 mm in diameter and of suitable length
The flange is designed to accept pipes up to a maximum internal diameter of 100 mm and shall be of steel or other equivalent material having a flat face. This flange, together with a suitable gasket, shall be suitable for a service pressure of 6 kg/cm ² .	

For ships in a moulded depth of 5 m and less, the inner diameter of the discharge connection may be 33 mm.

2 For ships in dedicated trades, i.e. passenger ferries, alternatively the ship's discharge pipeline may be fitted with a discharge connection which can be accepted by the Administration, such as quick-connection couplings.

Regulation 11

Discharge of sewage

1 Subject to the provisions of regulation 3 of this Annex, the discharge of sewage into the sea is prohibited, except when:

- .1 the ship is discharging comminuted and disinfected sewage using a system approved by the Administration in accordance with regulation 9, paragraph 1.2 of this Annex at a distance of more than 3 nautical miles from the nearest land, or sewage which is not comminuted or disinfected at a distance of more than 12 nautical miles from the nearest land, provided that, in any case, the sewage that has been stored in holding tanks shall not be discharged instantaneously but at a moderate rate when the ship is *en route* and proceeding at not less than 4 knots; the rate of discharge shall be approved by the Administration based upon standards developed by the Organization; or

Appendix to Annex IV

Form of Certificate

INTERNATIONAL SEWAGE POLLUTION PREVENTION CERTIFICATE

Issued under the provisions of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, and as amended by resolution MEPC. . .(. . .), (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 ship¹

Name of ship

Distinctive number or letters

Port of registry

Gross tonnage

Number of persons which the ship is certified to carry

IMO Number²

New/existing ship*

Date on which keel was laid or ship was at a similar stage of construction or, where applicable, date on which work for a conversion or an alteration or modification of a major character was commenced.

* Delete as appropriate.

Prospective amendments to Annex I

Resolution MEPC.95(46)

Amendments to the Annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973

(Amendments to regulation 13G of Annex I to MARPOL 73/78 and to the Supplement to the IOPP Certificate)

adopted on 27 April 2001

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

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

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the “1973 Convention”) and article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the “1978 Protocol”) which together specify the amendment procedure of the 1978 Protocol and confer upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 Protocol (MARPOL 73/78),

HAVING CONSIDERED the proposed amendments to regulation 13G of Annex I to MARPOL 73/38, which were approved by the forty-fifth session of the Committee and circulated in accordance with article 16(2)(a) of the 1973 Convention,

HAVING ALSO CONSIDERED the proposed amendments to the Supplement to the IOPP Certificate which are consequential amendments to the proposed amendments to regulation 13G of Annex I to MARPOL 73/78,

1. ADOPTS, in accordance with article 16(2)(d) of the 1973 Convention, the amendments to regulation 13G of Annex I to MARPOL 73/78 and to

Category of oil tanker	Year
Category 1	2003 for ships delivered in 1973 or earlier 2004 for ships delivered in 1974 and 1975 2005* for ships delivered in 1976 and 1977 2006* for ships delivered in 1978, 1979 and 1980 2007* for ships delivered in 1981 or later
Category 2	2003 for ships delivered in 1973 or earlier 2004 for ships delivered in 1974 and 1975 2005 for ships delivered in 1976 and 1977 2006 for ships delivered in 1978 and 1979 2007 for ships delivered in 1980 and 1981 2008 for ships delivered in 1982 2009 for ships delivered in 1983 2010* for ships delivered in 1984 2011* for ships delivered in 1985 2012* for ships delivered in 1986 2013* for ships delivered in 1987 2014 for ships delivered in 1988 2015 for ships delivered in 1989 or later
Category 3	2003 for ships delivered in 1973 or earlier 2004 for ships delivered in 1974 and 1975 2005 for ships delivered in 1976 and 1977 2006 for ships delivered in 1978 and 1979 2007 for ships delivered in 1980 and 1981 2008 for ships delivered in 1982 2009 for ships delivered in 1983 2010 for ships delivered in 1984 2011 for ships delivered in 1985 2012 for ships delivered in 1986 2013 for ships delivered in 1987 2014 for ships delivered in 1988 2015 for ships delivered in 1989 or later

* Subject to compliance with the provisions of paragraph (7).

- (5) Notwithstanding the provisions of paragraph (4) of this regulation:
- (a) in the case of a Category 2 or 3 oil tanker fitted with only double bottoms or double sides not used for the carriage of oil and extending to the entire cargo tank length or double hull spaces which are not used for the carriage of oil and extend to the entire cargo tank length, but which does not fulfil conditions for being exempted from the provisions of paragraph (1)(c) of this

6.1.1.3 Upon receipt of such notification the RO shall:

- .1 issue to the Company the Survey Planning Questionnaire (see appendix 2) not later than 7 months prior to the planned commencement of the CAS survey; and
- .2 advise the Company whether there have been any changes to the maximum acceptable structural corrosion diminution levels applicable to the ship.

6.1.1.4 The Company shall complete and return the Survey Planning Questionnaire to the RO not less than 5 months prior to the planned commencement of the CAS survey. A copy of the completed questionnaire shall be forwarded by the Company to the Administration.

6.1.1.5 The Survey Plan for the CAS shall be completed and submitted in signed order by the Company to the RO not less than 2 months prior to the planned commencement of the CAS survey. A copy of the Survey Plan for the CAS shall be forwarded by the Company to the Administration.

6.1.1.6 In special circumstances, such as deactivation from lay-up or unexpected events such as an extended stoppage period or hull or machinery damage, the Administration may, on a case-by-case basis, relax the timeframe, outlined in 6.1.1.2 to 6.1.1.5 for commencement of CAS procedures.

6.1.1.7 Such relaxation shall, at all times, be subject to the RO having sufficient time to complete the CAS survey and for the Administration to review the CAS Final Report and issue the Statement of Compliance prior to the dates referred to in 5.1.

6.1.2 Survey Plan for the CAS

6.1.2.1 The Survey Plan for the CAS shall be developed by the Company in co-operation with the RO. The Administration may participate in the development of the Survey Plan, if it deems necessary. The RO shall be fully satisfied that the Survey Plan complies with the requirements of 6.2.2 prior to the CAS survey being commenced. The CAS survey shall not commence unless and until the Survey Plan has been agreed.

6.1.2.2 The Survey Planning Questionnaire shall be drawn up based on the format set out in appendix 2.

6.2 Survey Plan documentation

6.2.1 In developing the Survey Plan, the following documentation shall be collected and reviewed with a view to identifying tanks, areas and structural elements to be examined:

- .1 basic ship information and survey status;

- .2 main structural plans of cargo and ballast tanks (scantling drawings), including information regarding use of high-tensile steels (HTS);
- .3 Condition Evaluation Report, according to [annex 9 of Annex B of resolution A.744\(18\)](#), as amended, and, where relevant, any previous CAS Final Reports;
- .4 thickness measurement reports;
- .5 relevant previous damage and repair history;
- .6 relevant previous survey and inspection reports from both the RO and the Company;
- .7 cargo and ballast history for the last 3 years, including carriage of cargo under heated conditions;
- .8 details of the inert-gas plant and tank cleaning procedures as indicated in the Survey Planning Questionnaire;
- .9 information and other relevant data regarding conversion or modification of the ship's cargo and ballast tanks since the date of construction;
- .10 description and history of the coating and corrosion protection system (including anodes and protective class notations), if any;
- .11 inspections by the Company's personnel during the last 3 years with reference to:
 - .1 structural deterioration in general;
 - .2 leakages in tank boundaries and piping;
 - .3 condition of the coating and corrosion protection system (including anodes), if any;
- .12 information regarding the relevant maintenance level during operation, including:
 - .1 port State control reports of inspection containing hull-related deficiencies;
 - .2 Safety Management System non-conformities relating to hull maintenance, including the associated corrective action(s); and
- .13 any other information that will help identify suspect areas and critical structural areas.

6.2.2 The Survey Plan shall include relevant information so as to enable the successful and efficient execution of the CAS survey and shall set out the requirements with respect to close-up surveys and thickness measurements. The Survey Plan shall include:

- .1 basic ship information and particulars;

- .2 main structural plans of cargo and ballast tanks (scantling drawings), including information regarding use of high-tensile steels (HTS);
- .3 arrangement of tanks;
- .4 list of tanks with information on their use, extent of coatings and corrosion protection systems;
- .5 conditions for survey (e.g. information regarding tank cleaning, gas-freeing, ventilation, lighting, etc.);
- .6 provisions and methods for access to structures;
- .7 equipment for surveys;
- .8 identification of tanks and areas for the close-up survey;
- .9 identification of tanks for tank testing, as per [annex 3 of Annex B of resolution A.744\(18\)](#), as amended;
- .10 identification of areas and sections for thickness measurement;
- .11 identification of the Thickness Measurement (TM) Firms;
- .12 damage experience related to the ship in question; and
- .13 Critical structural areas and support areas, where relevant.

6.3 Documentation on board

6.3.1 The Company shall ensure that, in addition to the agreed Survey Plan, all other documents used in the development of the Survey Plan referred to in 6.2.1 are available on board at the time of the CAS survey.

6.3.2 Prior to the commencement of any part of the CAS survey, the attending surveyor(s) shall examine and ascertain the completeness of the on-board documentation and shall review its contents with a view to ensuring that the Survey Plan remains relevant.

7 CAS SURVEY REQUIREMENTS

7.1 General

7.1.1 Prior to the commencement of any part of the CAS survey, a meeting shall be held between the attending surveyor(s), the Company's representative(s) in attendance, the TM Firm operator (as applicable) and the master of the ship for the purpose of ascertaining that all the arrangements envisaged in the Survey Plan are in place, so as to ensure the safe and efficient execution of the survey work to be carried out.

8 ACCEPTANCE CRITERIA

The acceptance criteria for the CAS shall be those set out in resolution A.744(18), as amended.

9 CAS SURVEY REPORTS

9.1 A survey report shall be completed for the CAS survey. The report shall indicate the date, location (place), and where relevant, whether or not the CAS survey was carried out in dry-dock, afloat or at sea. When the CAS survey is split between different survey stations, a report shall be made for each portion of the CAS survey.

9.2 Survey records relating to the CAS survey, including actions taken, shall form an auditable documentary trail, which shall be made available to the Administration, if requested.

9.3 In addition, the following shall be included in each CAS survey report:

- .1 Extent of the survey:
 - .1 identification of the spaces where an overall survey has been carried out;
 - .2 identification of location, in each space, where a close-up survey has been carried out, together with the means of access used; and
 - .3 identification of the spaces, and locations in each space, where thickness measurements have been carried out; and
- .2 Results of the survey:
 - .1 extent and condition of coating in each space. Identification of spaces fitted with anodes and the overall condition of the anodes;
 - .2 structural condition reporting for each space, which shall include information on the following, as applicable:
 - .1 corrosion (location and type of corrosion, such as grooving, pitting, etc.);
 - .2 cracks (location, description and extent);
 - .3 buckling (location, description and extent);
 - .4 indents (location, description and extent); and
 - .5 areas of substantial corrosion; and
- .3 Actions taken with respect to findings:
 - .1 details of repairs completed on structural members in identified spaces, including the repair method and extent; and

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