



Transport Operations (Marine Pollution) Act 1995

Transport Operations (Marine Pollution) Regulation 2008

Reprinted as in force on 1 July 2009

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The reprint includes a reference to the law by which each amendment was made—see list of legislation and list of annotations in endnotes. Also see list of legislation for any uncommenced amendments.

See also the editor's note to Schedule 1 (MARPOL).

This page is specific to this reprint. See previous reprints for information about earlier changes made under the Reprints Act 1992. A table of reprints is included in the endnotes.

Also see endnotes for information about—

- **when provisions commenced**
- **editorial changes made in earlier reprints.**

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Queensland

Transport Operations (Marine Pollution) Regulation 2008

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Transport Operations (Marine Pollution) Regulation 2008

[as amended by all amendments that commenced on or before 1 July 2009]

Part 1 Preliminary

1 Short title

This regulation may be cited as the *Transport Operations (Marine Pollution) Regulation 2008*.

2 Commencement

The regulation commences on 1 September 2008.

3 Definitions

The dictionary in schedule 9 defines particular words used in this regulation.

Editor's note—

See section 5 of the Act about words and expressions used in MARPOL (other than in an annex) and the Act.

4 MARPOL

For section 6(3) of the Act, the English text of the provisions of MARPOL is set out in schedule 1.

Note—

The footnotes set out in schedule 1 are part of the text of the provisions of MARPOL.

Part 2 Oil

Division 1 Purpose and interpretation

5 Purpose of pt 2

- (1) The purpose of this part is to provide for matters for part 4 of the Act.
- (2) Division 2 sets out discharges that, if made under the division, are, for section 29(1) of the Act, exempt from the operation of the discharge offences in sections 26(1) and 27(1) of the Act.

Editor's note—

See sections 26 (Discharge of oil into coastal waters prohibited), 27 (Oil residues) and 29 (Certain discharges permissible) of the Act.

- (3) Division 3 sets out matters relating to shipboard oil pollution emergency plans.
- (4) Division 4 sets out matters relating to oil record books.

6 Meaning of words and expressions in pt 2

For the application of the *Statutory Instruments Act 1992*, section 37 to words and expressions used in this part, the provisions of part 4 of the Act are the relevant provisions.

Notes—

- 1 Instantaneous rate of discharge of oil content, nearest land, oily mixture and slop tank are some of the expressions defined in Annex I.
- 2 Effluent, oil content, oil cargo residue, oil discharge monitoring and control system, oil record book and proceeding en route are some of the expressions used in Annex I.

Editor's note—

See sections 24 (Definitions for part) and 25 (Words and expressions used in Annex I to MARPOL and this part) of the Act.

7 Definitions for pt 2

In this part—

gt, of a ship, means the gross tonnage of the ship calculated in the way authorised in the Tonnage Measurement Convention.

Tonnage Measurement Convention see the Commonwealth Navigation Act, section 405B.

Division 2 Exemptions

Subdivision 1 Oil tankers

8 Definition for sdiv 1

In this subdivision—

Commonwealth prescribed means prescribed under regulations made under the Commonwealth Navigation Act, section 267A.

9 Conditions for discharge of oil other than oil from machinery space bilges

If a discharge is a discharge from an oil tanker of oil, other than oil discharged as mentioned in section 10, the discharge may be made if the following conditions are satisfied—

- (a) the oil tanker is more than 50n miles from the nearest land;
- (b) the oil tanker is proceeding en route;
- (c) the instantaneous rate of discharge of oil content of the effluent that is discharged is not more than 30L/n mile;
- (d) the total quantity of oil discharged into coastal waters is not more than the total quantity mentioned in Annex I, regulation 34.1.5 for the oil tanker;

[s 10]

- (e) the oil tanker has in operation a Commonwealth prescribed oil discharge monitoring and control system and a Commonwealth prescribed slop tank arrangement.

Note—

See Annex I, chapter 4, part C, regulation 34A.

10 Conditions for discharge of oil from particular machinery space bilges

If a discharge is a discharge from an oil tanker of oil from its machinery space bilges, other than its cargo pump room bilges, the discharge may be made if the following conditions are satisfied—

- (a) the oil does not include oil cargo residue;
- (b) the oil tanker is proceeding en route;
- (c) the oil content of the effluent that is discharged is less than 15 parts in 1000000 parts;
- (d) the oil tanker has in operation Commonwealth prescribed oil filtering equipment.

Note—

See Annex I, chapter 3, part C, regulation 15.

Subdivision 2 Particular ships of 400gt or more

11 Application of sdiv 2

This subdivision applies to a ship of 400gt or more other than ship that is an oil tanker.

12 Conditions for discharge of oil

If a discharge is a discharge of oil from the ship, the discharge may be made if the following conditions are satisfied—

- (a) the ship is proceeding en route;

- (b) the oil content of the effluent that is discharged is less than 15 parts in 1000000 parts;
- (c) the ship has in operation Commonwealth prescribed oil filtering equipment.

Note—

See Annex I, chapter 3, part C, regulation 15.

Division 3 Shipboard oil pollution emergency plan

13 Shipboard oil pollution emergency plan

(1) A ship's shipboard oil pollution emergency plan (the *plan*) must be in the approved form, in the English language and include the following particulars—

- (a) the procedure to be followed by the ship's master, or someone else having charge of the ship, in notifying a reportable incident that is a discharge or probable discharge of oil involving the ship;

Editor's note—

See part 8 (Reporting requirements) for things that the procedure must include.

- (b) a list of the entities to be notified by persons on board if the reportable incident happens;
- (c) the procedure to be followed for coordinating with entities notified about the reportable incident;
- (d) the name of the person on board through whom all communications about the reportable incident are to be made;
- (e) a detailed description of the action to be taken, immediately after the reportable incident, by persons on board to minimise or control any discharge of oil from the ship resulting from the reportable incident.

[s 14]

- (2) The ship's owner may apply to the general manager for an approval of the plan.
- (3) The application must be accompanied by a fee of \$62.15 for the approval.

Division 4 Oil record book

14 Application of div 4

- (1) This division applies to—
 - (a) a ship that is an oil tanker of 150gt or more; or
 - (b) a ship, other than an oil tanker, of 150gt or more that carries oil in a portable tank with a capacity of 400L or more; or
 - (c) a ship, other than an oil tanker, of 400gt or more.

- (2) In this section—

Australian fishing vessel means a fishing vessel that is registered or entitled to be registered in Australia or in relation to which an instrument under the *Fisheries Management Act 1991* (Cwlth), section 4(2) is in force.

pleasure vessel means a vessel used wholly for recreational or sporting activities and not for hire or reward.

ship means—

- (a) a trading ship proceeding en route on an intrastate voyage; or
- (b) an Australian fishing vessel proceeding en route on a voyage other than an overseas voyage; or
- (c) a pleasure vessel.

15 Oil record book must be carried on ship or retained

- (1) The ship must carry a current oil record book that is readily available for inspection at all reasonable times.

Note—

See Annex I, chapter 4, part C, regulation 36.7.

- (2) If the ship does not carry a current oil record book as required under subsection (1), the ship's owner and master each commit an offence.

Maximum penalty—350 penalty units.

- (3) Also, the ship's owner and master must ensure any previous oil record book for the ship—

- (a) is kept on board for 3 years from the day when the last entry was made in the book; and
(b) while kept as required under paragraph (a), is readily available for inspection at all reasonable times.

- (4) If the previous oil record book is not kept and readily available for inspection as required under subsection (3), the ship's owner and master each commit an offence.

Maximum penalty—350 penalty units.

16 Form of oil record book

An oil record book must—

- (a) contain the particulars set out in Annex I, Appendices to Annex I, Appendix III; and
(b) make provision for a signature for each entry made in it and for each page of it.

17 Entries in oil record book

- (1) If a recordable operation or recordable event is carried out or happens in or in relation to the ship, the ship's master must make an appropriate entry under subsection (2) about the operation or event in the ship's oil record book without delay.

Maximum penalty—350 penalty units.

- (2) The entry must be—

- (a) made in the English language; and

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- (b) signed by—
 - (i) if a recordable operation is carried out or happens in or in relation to the ship—the officer or other person in charge of the operation; and
 - (ii) if a recordable event is carried out or happens in or in relation to the ship—the person in control of the ship.
- (3) When a page of the ship's oil record book is completed, the ship's master must sign the page without delay.

Maximum penalty—350 penalty units.

- (4) In this section—

recordable event means a recordable event mentioned in schedule 2, part 1, section 3.

recordable operation means a recordable operation mentioned in schedule 2, part 1, section 1 or 2.

Part 3 Noxious liquid substances in bulk

Division 1 Purpose and interpretation

18 Purpose of pt 3

- (1) The purpose of this part is to provide for matters for part 5 of the Act.
- (2) Division 2 sets out discharges that, if made under the division, are, for section 37(1) of the Act, exempt from the operation of the discharge offence in section 35(1) of the Act.

Editor's note—

See sections 35 (Discharge of noxious liquid substances into coastal waters prohibited) and 37 (Certain discharges permissible) of the Act.

- (3) Division 3 sets out matters relating to cargo record books.
- (4) Division 4 sets out other matters relating to ships carrying noxious liquid substances in bulk.

19 Meaning of words and expressions in pt 3

For the application of the *Statutory Instruments Act 1992*, section 37 to words and expressions used in this part, the provisions of part 5 of the Act are the relevant provisions.

Notes—

- 1 Bulk Chemical Code, chemical tanker, en route, International Bulk Chemical Code, liquid substances, nearest land and residue are some of the expressions defined in Annex II.
- 2 Cargo record book, carriage requirements, conditions, effluent, oil content meter, reception facility and upgrading are some of the expressions used in Annex II.

Editor's note—

See sections 33 (Definitions for part) and 34 (Words and expressions used in Annex II to MARPOL and this part) of the Act.

20 Definition for pt 3

In this part—

authorised officer includes a marine surveyor appointed or authorised by the government of a country that is a party to MARPOL for the purpose of implementing Annex II, regulation 8.

Division 2 Exemptions

Subdivision 1 Category X substances

21 Definition for sdiv 1

In this subdivision—

[s 22]

tank means an enclosed space formed by the permanent structure of a ship and designed for the carriage of liquid in bulk.

22 Discharge of water involving category X substances is exempt

- (1) This section applies if—
 - (a) a ship's tank that held a category X substance has been washed under the procedure stated in section 24; and
 - (b) the resulting residues in the tank have been discharged to a reception facility until—
 - (i) the concentration of the category X substance in the effluent that is discharged to the facility is at or below the residual concentration declared for the substance under section 26; and
 - (ii) the tank is empty; and
 - (c) the residue remaining in the tank has been subsequently diluted by the addition of a volume of water.
- (2) For section 37(1) of the Act, the discharge of water containing residue mentioned in subsection (1)(c) is exempted from the operation of the discharge offence if the other conditions stated in section 31 are complied with.

23 Tank washing required for category X substances

- (1) For category X substances, a ship's tank that has been unloaded must, before the ship leaves the port of unloading, be washed under the procedure stated in section 24.

Editor's note—

The requirement under this section to tank wash is part of the exemption under section 22.

- (2) However, if the ship's master applies in the approved form, the general manager may exempt the ship from subsection (1) if the general manager is reasonably satisfied—

-
- (a) the tank unloaded is to be reloaded with the same substance or another substance compatible with the substance unloaded and the tank will not be washed or ballasted before loading; or
 - (b) the tank unloaded is not to be washed or ballasted at sea and an alternative washing procedure allowed under section 25 will be carried out at another port; or
 - (c) the cargo residues will be removed by a ventilation procedure approved by the general manager and based on standards developed by IMO.

Note—

For the ventilation procedures, see Annex II, Appendix 7.

- (3) For subsection (2)(b), the general manager is taken to be reasonably satisfied that an alternative washing procedure will be carried out at another port if the ship's master—
 - (a) undertakes, in writing, to have the procedure carried out at the other port; and
 - (b) provides confirmation, in writing, from an officer or employee of the other port that the port has a reception facility available and adequate for the purpose.

Note—

See Annex II, regulation 16.

24 Approved tank washing procedure

- (1) For section 23(1), the tank must be washed under the supervision of an authorised officer.
- (2) The effluent that is discharged from the tank washing must be discharged to a reception facility until the concentration of the category X substance in the discharge, as indicated by analyses of samples of the effluent taken by the authorised officer, has fallen to the residual concentration declared for the substance under section 26.

[s 25]

- (3) When the required residual concentration is achieved, remaining tank washings must continue to be discharged to the reception facility until the tank is empty.
- (4) The authorised officer must sign an entry in the cargo record book recording the carrying out of the procedure.

Note—

See Annex II, regulation 13.6.

25 Alternative tank washing procedure

The general manager may approve an alternative procedure proposed by the ship's master as being equivalent to the approved procedure under section 24 (*alternative procedure*) if—

- (a) the general manager is reasonably satisfied it is impracticable to measure the concentration of the category X substance in the effluent that is discharged from the tank washing without causing undue delay to the ship; and
- (b) the ship's master applies, in the approved form, for the general manager to approve an alternative procedure; and
- (c) the general manager approves the alternative procedure; and
- (d) the tank is prewashed in accordance with a procedure approved by the general manager and based on standards developed by IMO; and

Note—

For the prewash procedures, see Annex II, Appendix 6.

- (e) an authorised officer certifies in the cargo record book that—
 - (i) the tank, its pump and piping systems have been emptied; and

- (ii) the prewash has been carried out in accordance with the prewash procedure mentioned in paragraph (d) for the tank and substance; and
- (iii) the tank washings resulting from the prewash have been discharged to a reception facility and the tank is empty.

Note—

See Annex II, regulation 13.6.

26 Declaration about residual concentration

For section 133(3)(c) of the Act, the residual concentration of 0.1% by weight is taken to be the residual concentration prescribed for each category X substance in Annex II, Appendix 1.

Subdivision 2 Category Y substances and category Z substances

27 Discharge of water involving category Y substances or category Z substances is exempt

- (1) This section applies if—
 - (a) a ship's tank that held a category Y substance (the *relevant substance*) or category Z substance (also the *relevant substance*)—
 - (i) is unloaded in accordance with the ship's procedures and arrangements manual; or
 - (ii) is not unloaded in accordance with the ship's procedures and arrangements manual but the ship's tank has been washed in accordance with section 28; and
 - (b) the discharge of water from the ship's tank in the wake astern of the ship does not contain more than 1 part in 1000000 parts of the substance.

[s 28]

- (2) For section 37(1) of the Act, the discharge of water containing the relevant substance is exempted from the operation of the discharge offence if the other conditions stated in section 31(c) and (d) are complied with.
- (3) However, if a relevant ship's tank held a category Z substance and the ship's master applies in the approved form, the general manager may exempt the ship from the condition under section 31(c).

Note—

See Annex II, regulation 13.2.3.

- (4) In this section—

relevant ship means a ship is registered in Queensland and on an intrastate voyage.

28 Tank washing required for category Y substances or category Z substances

- (1) For category Y substances or category Z substances, a ship's tank that has not been unloaded in accordance with the ship's procedures and arrangements manual must, before the ship leaves the port of unloading, be prewashed under the procedure stated in section 29.

Editor's note—

The requirement under this section to tank wash is part of the exemption under section 27.

- (2) However, if the ship's master applies in the approved form, the general manager may exempt the ship from the requirements of subsection (1) if the general manager is reasonably satisfied—
 - (a) the tank unloaded is to be reloaded with the same substance or another substance compatible with the substance unloaded and the tank will not be washed or ballasted before loading; or
 - (b) the tank unloaded is not to be washed or ballasted at sea and a prewashing procedure allowed under section 30 will be carried out at another port; or

- (c) the cargo residues will be removed by a ventilation procedure approved by the general manager and based on standards developed by IMO.

Note—

For the ventilation procedures, see Annex II, regulation 13.3.

29 Approved prewash procedure

- (1) For section 28(1), the prewash procedure used must be approved by the general manager and based on standards developed by IMO and the resulting tank washings must be discharged to a reception facility at the port where the tank is prewashed.

Note—

See Annex II, Appendix 6.

- (2) The ship's master may apply to the general manager in the approved form for approval of the prewash procedure.

30 Prewash procedure at another port

For section 28(2)(b), the general manager is taken to be reasonably satisfied that a prewash procedure approved by the general manager and based on standards developed by IMO will be carried out at another port if the ship's master—

- (a) undertakes, in writing, to have the procedure carried out at the other port; and
- (b) provides confirmation, in writing, from an officer or employee of the other port that the port has a reception facility available and adequate for the purpose.

Note—

See Annex II, regulation 13.

[s 31]

Subdivision 3 Other conditions applying to all discharges

31 Other conditions applying to all discharges

The other conditions for a discharge to be an exempted discharge are—

- (a) the discharge is made when the ship is proceeding en route at a speed of—
 - (i) if the ship is self-propelled—at least 7kn; or
 - (ii) if the ship is not self-propelled—at least 4kn; and
- (b) the discharge is made below the water line of the ship taking into account the location of the ship's seawater intakes; and
- (c) the discharge is made when the ship is at least 12n miles from the nearest land; and
- (d) the discharge is made in water at least 25m deep.

Note—

See Annex II, regulation 13.

Division 3 Cargo record book

32 Application of div 3

This division applies to a trading ship—

- (a) carrying liquid substances in bulk; and
- (b) proceeding en route on an intrastate voyage.

33 Cargo record book must be carried on ship or retained

- (1) The ship must carry a current cargo record book that is readily available for inspection at all reasonable times.

Note—

See Annex II, regulation 15.

- (2) If the ship does not carry a current cargo record book as required under subsection (1), the ship's owner and master each commit an offence.

Maximum penalty—350 penalty units.

- (3) Also, the ship's owner and master must ensure any previous cargo record book for the ship—

- (a) is kept on board for 3 years from the day when the last entry was made in the book; and
(b) while kept as required under paragraph (a), is readily available for inspection at all reasonable times.

- (4) If the previous cargo record book is not kept and readily available for inspection as required under subsection (3), the ship's owner and master each commit an offence.

Maximum penalty—350 penalty units.

34 Form of cargo record book

A cargo record book must—

- (a) contain the particulars set out in Annex II, Appendix 2; and
(b) make provision for a signature for each entry made in it and for each page of it.

35 Entries in cargo record book

- (1) If a recordable operation or recordable event is carried out or happens in or in relation to the ship, the ship's master must make an appropriate entry under subsection (2) about the operation or event in the ship's cargo record book without delay.

Maximum penalty—350 penalty units.

- (2) The entry must be—

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- (a) made in the English language; and
 - (b) signed by—
 - (i) if a recordable operation is carried out or happens in or in relation to the ship—the officer or other person in charge of the operation; and
 - (ii) if a recordable event is carried out or happens in or in relation to the ship—the person in control of the ship.
- (3) When a page of the ship's cargo record book is completed, the ship's master must sign the page without delay.
- Maximum penalty—350 penalty units.
- (4) In this section—

recordable event means a recordable event mentioned in schedule 2, part 2, section 5.

recordable operation means a recordable operation mentioned in schedule 2, part 2, section 4.

Division 4 Other matters

36 Carriage requirements of particular ships

- (1) This section applies if—
- (a) a change to Annex II, the International Bulk Chemical Code and Bulk Chemical Code (a *relevant amendment*) involves changes to the structure or equipment and fittings of a relevant ship due to the upgrading of the requirements for the carriage of particular noxious liquid substances; and
 - (b) the general manager considers the immediate application of the relevant amendment to the relevant ship is unreasonable or impracticable having regard to—
 - (i) the ship's design; and
 - (ii) the cargo proposed to be carried on the ship; and

(iii) the area proposed for the ship's operation.

- (2) If the ship's owner applies in the approved form, the general manager may, having regard to the category of the substance, exempt the relevant ship from the application of the relevant amendment by modifying or delaying for a stated period the application of the relevant amendment to the relevant ship.

Note—

See Annex II, regulation 4.1.

- (3) However, if a relevant ship is certified to carry individually identified vegetable oils, identified by the relevant footnote in the International Bulk Chemical Code, chapter 17, the general manager may exempt the ship from the carriage requirements under Annex II, regulation 11.

Note—

See Annex II, regulation 4.1.3.

- (4) In this section—

relevant footnote means the footnote in the International Bulk Chemical Code, chapter 17, about vegetable oils.

Note—

The International Bulk Chemical Code is published by the IMO. Schedule 3 includes the International Bulk Chemical Code, chapter 17, for information purposes only. The relevant footnote is footnote 'm'.

relevant ship, in relation to a relevant amendment, means a ship constructed before the date the relevant amendment came into force.

37 Equipment at least equivalent to Annex II equipment may be used in ship

If the ship's owner applies in the approved form, the general manager may approve the use, in a ship, of a fitting, material, appliance or apparatus (the ***equipment***) as an alternative to a fitting, material, appliance or apparatus required under Annex II (the ***Annex II equipment***) if the general manager is satisfied on reasonable grounds the equipment is at least as effective as the Annex II equipment.

[s 38]

Note—

See Annex II, regulation 5.1.

Part 4 Packaged harmful substances

38 Purpose of pt 4

The purpose of this part is to provide for matters for part 6 of the Act.

39 Meaning of words and expressions in pt 4

For the application of the *Statutory Instruments Act 1992*, section 37 to words and expressions used in this part, the provisions of part 6 of the Act are the relevant provisions.

Editor's note—

See sections 40 (Definitions for part) and 41 (Words and expressions used in Annex III to MARPOL and this part) of the Act.

40 Procedures for washing leakages overboard

- (1) For section 43(b) of the Act, the procedures prescribed are the procedures provided under the IMDG Code, chapter 7.3 that are appropriate for the leakage.

Note—

See Annex III to MARPOL, regulation 7.

- (2) In deciding what procedures are appropriate, regard must be had to the physical, chemical and biological properties of the leaked substance.
- (3) In this section—

IMDG Code means International Maritime Dangerous Goods Code as published by IMO.

Part 5 Sewage management

Division 1 Purpose and interpretation

41 Purpose of pt 5

The purpose of this part is to provide for matters for part 7 of the Act.

42 Meaning of words and expressions in pt 5

For the application of the *Statutory Instruments Act 1992*, section 37 to words and expressions used in this part, the provisions of part 7 of the Act are the relevant provisions.

Editor's note—

See sections 45 (Definitions for pt 7) and 46 (Words and expressions used in Annex IV to MARPOL and this part) of the Act.

43 Definitions for pt 5

In this part—

disposal facility means a facility for holding or receiving sewage for disposal.

fixed toilet, on a ship, means a toilet fixed permanently on board the ship.

macerator means a device or system that effectively reduces solid wastes in sewage into, at least, a fine slurry.

Example of effectively reduces—

grinds, shreds or pulps

[s 44]

Division 2 Discharge of sewage

Subdivision 1 Discharge of sewage from ships generally

44 Nil discharge waters for untreated sewage—Act, s 47

For section 47 of the Act, the nil discharge waters for untreated sewage are—

- (a) on and from 1 September 2008 to 31 December 2009—the coastal waters stated in schedule 4, part 1; and
- (b) on and from 1 January 2010—the coastal waters stated in schedule 4, part 2.

45 Nil discharge waters for treated sewage—Act, s 48

For section 48 of the Act, the nil discharge waters for treated sewage are the coastal waters stated in schedule 5.

Subdivision 2 Discharge of sewage from declared ships

46 Declaration about declared ship—Act, s 49

A ship is declared to be a ship to which section 49 of the Act applies if—

- (a) the ship has a fixed toilet; and
- (b) under the *Transport Operations (Marine Safety) Regulation 2004*, the ship is registered as a class 1B, 1C, 1D, 1E or 1F ship.

47 Nil discharge waters for treated sewage or untreated sewage—Act, s 49

For section 49(3) of the Act, the nil discharge waters for treated sewage or untreated sewage from a declared ship are—

- (a) on and from 1 September 2008 to 31 December 2009—the coastal waters stated in schedule 6, part 1; and
- (b) on and from 1 January 2010—the coastal waters stated in schedule 6, part 2.

Division 3 Shipboard sewage management plan

48 Declaration about ship—Act, s 51

A ship is declared for section 51 of the Act if—

- (a) the ship has a fixed toilet; and
- (b) under the *Transport Operations (Marine Safety) Regulation 2004*, the ship is registered as a class 1B, 1C, 1D, 1E or 1F ship.

49 Minimum requirements for shipboard sewage management plan

For section 51(4) of the Act, the minimum requirements for a shipboard sewage management plan are—

- (a) the plan must be written in the English language; and
- (b) the plan must state the following particulars—
 - (i) the name, registration number and class of ship to which the plan applies;
 - (ii) the size and type of the ship;
 - (iii) the way the plan provides for the management of shipboard sewage and prevents the unlawful discharge of sewage from the ship;

[s 50]

- (iv) the waters, if any, where the ship may lawfully discharge sewage;
- (v) the equipment the ship is fitted with for holding or treating sewage;
- (vi) the operating and maintenance instructions for the equipment;
- (vii) how the equipment is operated to prevent the unlawful discharge of sewage into the waters where the ship is operating;
- (viii) the way the equipment is maintained and checked to ensure the equipment is in proper working order.

Division 4 Sewage disposal record book

50 Application of div 4

This division applies to a declared ship under section 49 of the Act.

51 Sewage disposal record book must be carried on board or retained

- (1) The ship must carry a current sewage disposal record book (a *sewage disposal record book*) that is readily available for inspection at all reasonable times.
- (2) If the ship does not carry a current sewage disposal record book as required under subsection (1), the ship's owner and master each commit an offence.

Maximum penalty—350 penalty units.

- (3) Also, the ship's owner and master must ensure any previous sewage disposal record book (also a *sewage disposal record book*) for the ship—
 - (a) is kept on board for 3 years from the day when the last entry was made in the book; and

- (b) while kept as required under paragraph (a), is readily available for inspection at all reasonable times.
- (4) If the previous sewage disposal record book is not kept and readily available for inspection as required under subsection (3), the ship's owner and master each commit an offence.

Maximum penalty—350 penalty units.

52 Entries in sewage disposal record book

- (1) If sewage in the ship's sewage holding device is discharged into a disposal facility, the ship's master or other person in control of the discharge must make an appropriate entry under subsection (2) about the discharge in the ship's sewage disposal record book.

Maximum penalty—350 penalty units.

- (2) The entry must—
 - (a) state the date, time, place and volume, in litres, of each discharge; and
 - (b) be made in the English language; and
 - (c) be signed by the ship's master or other person in control of the discharge.
- (3) When a page of the ship's sewage disposal record book is completed, the ship's master must sign the page without delay.

Maximum penalty—350 penalty units.

Division 5 Particular ships to be fitted with macerator

53 Ship must be fitted with macerator

- (1) This section applies if a ship—
 - (a) is in coastal waters, including the nil discharge waters for sections 47 to 49 of the Act; and

(b) performs, in Australia, analyses.

NATA means the National Association of Testing Authorities, Australia, ABN 59 004 379 748.

system documentation, for a treatment system, means—

- (a) documentation from the treatment system's manufacturer or supplier that states—
 - (i) the treatment system's performance specifications under normal operating conditions; and
 - (ii) the following information about the independent testing entity that performed the analyses of the sewage after it has been treated in the treatment system—
 - (A) the name and address of the entity; and
 - (B) the date and the results of the entity's assessment; or
- (b) documentation equivalent to the documentation mentioned in paragraph (a).

system service manual, for a treatment system, means a manual that states the following particulars for the treatment system—

- (a) operating instructions;
 - (b) maintenance schedules and requirements;
 - (c) authorised service providers.
- (2) For subsection (1), definition *system documentation*, paragraph (b), if the ship's owner or master applies in the approved form, the general manager may approve documentation for the ship's treatment system as being equivalent to documentation from the treatment system's manufacturer or supplier.

55 Maintenance and assessment of treatment system for ships

- (1) This section applies to a ship that—

[s 55]

- (a) is operating in coastal waters; and
 - (b) is fitted with a treatment system.
- (2) The ship's owner and master must ensure the treatment system—
- (a) is maintained, at least, at the intervals and in the way required by the treatment system service manual; and
 - (b) is assessed (the *assessment*) by analysing the sewage after it has been treated in the treatment system.
- (3) If the treatment system is not maintained and assessed as required under this section, the ship's owner and master each commit an offence.

Maximum penalty—350 penalty units.

- (4) The assessment must—
- (a) be performed—
 - (i) by an independent testing entity; and
 - (ii) at the intervals stated in subsection (5) after the treatment system is fitted to the ship; and
 - (b) show that the levels of sewage quality characteristics remaining in the sewage after it has been treated in the treatment system are not more than the levels for the grade of treated sewage stated in schedule 7 for the treatment system.
- (5) For subsection (4)(a)(ii), the intervals are the following—
- (a) for a ship that is a declared ship under section 49 of the Act—
 - (i) at least annually for the first 2 years; and
 - (ii) afterwards, at least every 2 years;
 - (b) for a ship other than a declared ship under section 49 of the Act—
 - (i) at least once in the first 5 years; and
 - (ii) afterwards, at least every 2 years.

56 Documents to be kept on board ship fitted with treatment system

- (1) This section applies to a ship that—
 - (a) is operating in coastal waters; and
 - (b) is fitted with a treatment system.
- (2) The ship's owner and master must ensure the system documentation and system service manual (the *relevant documents*)—
 - (a) are kept on board; and
 - (b) while kept as required under paragraph (a), are readily available for inspection at all reasonable times.
- (3) If the relevant documents are not kept and readily available for inspection as required under subsection (2), the ship's owner and master each commit an offence.

Maximum penalty—350 penalty units.

- (4) Also, the ship's owner and master must—
 - (a) keep written service records for the treatment system; and
 - (b) ensure the service records—
 - (i) are kept on board; and
 - (ii) are readily available for inspection at all reasonable times.
- (5) If the service records are not kept and readily available as required under subsection (4), the ship's owner and master each commit an offence.

Maximum penalty—350 penalty units.

- (6) In this section—

service records, for a treatment system, means the following particulars about the maintenance or assessment of the treatment system required under section 55—

 - (a) for maintenance of the treatment system—

[s 57]

- (i) the name of the authorised service provider that conducted the maintenance; and
- (ii) the date the maintenance was carried out and any significant maintenance required to the treatment system;
- (b) for an assessment of the treatment system—
 - (i) the name of the independent testing entity that conducted the assessment; and
 - (ii) the date and results of the assessment.

57 Levels of sewage quality characteristics for treated sewage

- (1) For the Act, schedule, definition *treated sewage*, the levels of sewage quality characteristics in treated sewage are stated in schedule 7.
- (2) For treated sewage to be classified as grade A treated sewage, the levels are stated in schedule 7, part 2.
- (3) For treated sewage to be classified as grade B treated sewage, the levels are stated in schedule 7, part 3.
- (4) For treated sewage to be classified as grade C treated sewage, the levels are stated in schedule 7, part 4.

58 Standard with which treatment system must conform

- (1) For the Act, schedule, definition *treatment system*, paragraph (b), the standard with which a treatment system must, at least, conform is stated in subsection (2).
- (2) The treatment system must—
 - (a) include system documentation; and
 - (b) include a comprehensive and durable system service manual; and
 - (c) have a durable label attached to it, stating the following—

- (i) the manufacturer's name and address;
- (ii) the type and model number of the treatment system; and
- (d) be installed in accordance with the manufacturer's instructions; and
- (e) be fitted with an indicator to indicate if the treatment system is malfunctioning as defined in section 51B of the Act; and
- (f) if sewage entering the treatment system is not macerated before it enters the treatment system—be fitted with a macerator before the treatment system's main treatment process starts to treat the sewage.

Part 6 Garbage

59 Purpose of pt 6

The purpose of this part is to provide for matters for part 8 of the Act.

60 Meaning of words and expressions in pt 6

For the application of the *Statutory Instruments Act 1992*, section 37 to words and expressions used in this part, the provisions of part 8 of the Act are the relevant provisions.

Note—

Nearest land is one of the expressions defined in Annex V.

Editor's note—

See sections 53 (Definitions for part) and 54 (Words and expressions used in Annex V to MARPOL and this part) of the Act.

[s 61]

61 Definitions for pt 6

In this part—

food wastes means a spoiled or unspoiled victual substance generated in the normal operation of the ship, and includes fruits, vegetables, dairy products, meat products, food particles and scraps.

relevant platform means a fixed or floating platform engaged in the exploration, exploitation and associated offshore processing of seabed mineral resources.

62 Exempted disposals—Act, s 57

For section 57(1) of the Act, this part sets out disposals that are exempt from the operation of the discharge offence in section 55(1) of the Act.

63 Disposal of waste other than garbage mentioned in ss 64 or 65

- (1) This section applies to garbage, other than plastics and garbage mentioned in section 64 or 65.
- (2) A disposal of the garbage from a ship may be made if the disposal happens when—
 - (a) the ship is as far as practicable from the nearest land; and
 - (b) either of the following apply—
 - (i) the ship is at least 3n miles from the nearest land and before the garbage is disposed of, the garbage is passed through a grinder so that it is capable of passing through a screen with no opening greater than 25mm;
 - (ii) the ship is at least 12n miles from the nearest land; and
 - (c) the ship is not alongside, or within 500m of, a relevant platform.

Note—

See Annex V, regulations 3(1) and 4(1).

64 Disposal of floating dunnage, lining or packing materials

- (1) This section applies to garbage that is dunnage, lining or packing materials that will float, but not plastics.

Note—

Under the Act and MARPOL, the disposal of synthetic ropes, synthetic fishing nets and plastic garbage bags is prohibited. See section 55 of the Act. See also Annex V, regulation 3(1)(a).

- (2) A disposal of the garbage from a ship may be made if the disposal happens when—
- (a) the ship is as far as practicable, and at least 25n miles, from the nearest land; and

Note—

See Annex V, regulation 3(1)(b)(i).

- (b) the ship is not alongside, or within 500m of, a relevant platform.

Note—

See Annex V, regulation 4(1).

65 Disposal of food wastes

- (1) This section applies to garbage that is food wastes.
- (2) A disposal of the garbage from a ship may be made if the disposal happens when—
- (a) the ship is as far as practicable, and at least 12n miles, from the nearest land and is not alongside, or within 500m of, a relevant platform; or
- (b) the ship is as far as practicable, and at least 3n miles, from the nearest land and before the garbage is disposed of, the garbage is passed through a grinder so that it is capable of passing through a screen with openings no greater than 25mm.

[s 66]

Note—

See Annex V, regulations 3(1)(b)(ii) and (c) and 4(2).

66 Disposal of food wastes for fish feeding

Despite section 65, a disposal of garbage that is food waste may be made from a ship if the disposal is of small quantities and for the specific purpose of feeding fish for fishing or tourist operations.

Note—

Guideline 1.8.5 under Annex V states—‘The release of small quantities of food wastes for the specific purpose of fish feeding in connection with fishing or tourist operations is not included as garbage in the context of Annex V.’

67 Disposal of garbage mixed with matter prohibited from discharge or jettisoning

- (1) This section applies if garbage is mixed with matter (the *contaminant*) and the discharge or jettisoning of the contaminant from a ship into coastal waters is prohibited under part 4, 5 or 6 of the Act.
- (2) Despite sections 63 to 66, the garbage may be disposed of only in the way the contaminant may be disposed of under this regulation.

Note—

See Annex V, regulation 3(2).

Part 7 Transfer operations

68 Purpose of pt 7

The purpose of this part is to provide for matters for part 9 of the Act.

69 Meaning of words and expressions in pt 7

For the application of the *Statutory Instruments Act 1992*, section 37 to words and expressions used in this part, the provisions of part 9 of the Act are the relevant provisions.

Editor's note—

See sections 59 (Definitions for part) and 60 (Words and expressions used in Annex I or II to MARPOL and this part) of the Act.

70 Keeping of records

- (1) This section applies to a person to whom section 65 of the Act applies.
- (2) For section 65(2) of the Act, the following are the records the person must keep—
 - (a) if a transfer operation involves oil—the records the person is required to keep in an oil record book under part 2, division 4;
 - (b) if a transfer operation involves a noxious liquid substance—the records the person is required to keep in a cargo record book under part 3, division 3.
- (3) For section 65(3) of the Act, the person must record the happening in the following way—
 - (a) if the happening is a transfer operation that involves oil—the way prescribed under section 17(2);
 - (b) if the happening is a transfer operation that involves a noxious liquid substance—the way prescribed under section 35(2).

[s 71]

Part 8 Reporting requirements

71 Purpose of pt 8

The purpose of this part is to provide for matters for part 11 of the Act.

72 Meaning of words and expressions in pt 8

For the application of the *Statutory Instruments Act 1992*, section 37 to words and expressions used in this part, the provisions of part 11 of the Act are the relevant provisions.

73 Way to notify of reportable incidents

- (1) For section 67(2) or (3) of the Act, a reportable incident in relation to a ship may be notified to an authorised officer by communicating the reportable incident to a relevant person at—
 - (a) any of the following centres of MSQ—
 - (i) Brisbane Vessel Traffic Service Centre;
 - (ii) Cairns Vessel Traffic Service Centre;
 - (iii) Gladstone Vessel Traffic Service Centre;
 - (iv) Gold Coast;
 - (v) Hay Point Vessel Traffic Service Centre;
 - (vi) Mackay;
 - (vii) Townsville; or
 - (b) the centre at the Australian Search and Rescue, Australian Maritime Safety Authority, Canberra.
- (2) The notice must—
 - (a) start with the code word ‘POLREP’; and
 - (b) include all of the following information—
 - (i) the name of the ship and its flag of registry;

- (ii) if the ship has a call sign, the ship's call sign;
 - (iii) the size and type of the ship;
 - (iv) the date and time of the incident;
 - (v) the ship's position when the reportable incident happened and at the time of the notification;
 - (vi) the prevailing weather conditions when the reportable incident happened;
 - (vii) the course and speed of the ship at the time of the notification;
 - (viii) whether the ship has been damaged and, if so, the extent of the damage;
 - (ix) the type and extent of the discharge, including the type of oil or the correct technical name of the noxious liquid substance or packaged harmful substance.
- (3) In this section—

communicating means communicating by email, fax, radio, telephone or telex.

relevant person means an officer or employee of MSQ or the Australian Maritime Safety Authority.

74 Report about reportable incident

- (1) This section prescribes matters for section 67(5) of the Act in relation to a report required under section 67(4) of the Act.
- (2) The report must include the same particulars required to be included in the notice under section 73(2)(b).
- (3) The time prescribed for giving the report to an authorised officer is within 48 hours after an authorised officer asks for a report about the reportable incident.

[s 75]

Part 9 Insurance

Division 1 Preliminary

75 Purpose of pt 9

This purpose of this part is to provide for matters for part 11A of the Act.

Division 2 General

76 Limits applying for Act, s 67A(2)

- (1) The limits for an insurance policy required under section 67A(2) of the Act are as follows—
 - (a) for a recreational ship more than 15m but less than 35m in length overall—
 - (i) for costs mentioned in section 67A(2)(a) of the Act—\$250000; and
 - (ii) for costs mentioned in section 67A(2)(b) of the Act—\$10M;
 - (b) for a commercial ship or fishing ship more than 15m but less than 35m in length overall—
 - (i) for costs mentioned in section 67A(2)(a) of the Act—\$500000; and
 - (ii) for costs mentioned in section 67A(2)(b) of the Act—\$10M;
 - (c) for a ship 35m or more in length overall—\$10M.
- (2) In this section—

commercial ship means a commercial ship as defined under the *Transport Operations (Marine Safety) Act 1994*, section 10A.

fishing ship means a fishing ship as defined under the *Transport Operations (Marine Safety) Act 1994*, section 10A.

77 Copy of certificate of insurance etc. to be kept on board

- (1) This section applies while a ship is in coastal waters.
- (2) The ship's owner must keep on board the ship a copy of—
 - (a) the certificate of insurance for an insurance policy required under section 67A(2) of the Act for the ship; or
 - (b) another document evidencing the currency of the insurance policy.

Maximum penalty—20 penalty units.

Division 3 Exemption

78 Application for exemption under Act, s 67A(4)

- (1) A ship's owner who seeks an exemption for the ship under section 67A(4) of the Act must apply to the general manager for the exemption.
- (2) The application must be in the approved form and accompanied by the following documents—
 - (a) written information from an accredited marine surveyor confirming the seaworthiness of the ship, including current photographs of the ship;
 - (b) an appropriate risk management plan for the ship, designed to prevent or minimise the risk of the ship discharging pollutants into coastal waters;
 - (c) written evidence of the owner's inability to reasonably obtain or keep in force an insurance policy under section 67A(2) of the Act, including an insurer's refusal to issue an insurance policy for the ship under that section stating why the policy was refused.

[s 78]

- (3) Without limiting subsection (2)(b), the risk management plan must state the following—
 - (a) the procedures to be followed to prevent or minimise the risk of the ship discharging pollutants into coastal waters;
 - (b) the maintenance procedures to be followed to ensure that—
 - (i) the ship is in good repair and proper working order; and
 - (ii) the ship's equipment, as far as is relevant to avoiding discharging pollutants into coastal waters, is in good repair and proper working order;
 - (c) the action to be taken to prevent or minimise the discharge of a pollutant into coastal waters;
 - (d) the procedure to be followed to ensure that all crew on board the ship are familiar with the risk management plan.
- (4) The approved form must include a note stating that, under section 115 of the Act, discharge expenses in relation to a discharge or likely discharge of pollutant from a ship into coastal waters are payable to the State jointly and severally by the ship's owner and master.
- (5) In this section—

accredited marine surveyor means a marine surveyor accredited under the *Transport Operations (Marine Safety) Act 1994*.

Part 10 Investigation, prevention and minimisation, and enforcement

79 Purpose of pt 10

The purpose of this part is to provide for matters for part 12 of the Act.

80 Authorised officers

(1) For section 72(1)(c) of the Act, the following persons are prescribed—

- (a) an officer or employee of the Australian Maritime Safety Authority;
- (b) an officer or employee of the Commonwealth department with responsibility for matters relating to transport;
- (c) an officer or employee of the Great Barrier Reef Marine Park Authority;
- (d) an officer or employee of a marine, port or environmental authority of another State;
- (e) a police officer;

Editor's note—

See the *Police Powers and Responsibilities Act 2000*, section 13(2) (Appointment of police officers as public officials for other Acts).

- (f) an employee of an entity that—
 - (i) may be appointed under section 72(2) of the Act; and
 - (ii) has entered into an agreement with MSQ or a port authority.

(2) In this section—

[s 81]

Great Barrier Reef Marine Park Authority means the Great Barrier Reef Marine Park Authority established under the *Great Barrier Reef Marine Park Act 1975* (Cwlth).

81 Taking samples of any pollutant, substance or thing in or on the ship or place

- (1) This section applies if—
 - (a) as mentioned in section 81(1)(c) of the Act, an authorised officer takes a sample of any pollutant, substance or thing in or on a ship or place; and
 - (b) the sample must be delivered to an analyst for analysis.
- (2) The authorised officer must ensure the sample is delivered to the analyst for analysis as soon as practicable after it is taken.
- (3) The sample must be delivered by—
 - (a) an authorised officer; or
 - (b) if it is impracticable for an authorised officer to deliver the sample—another person approved by the general manager to deliver the sample.
- (4) A record, in the approved form, must be made by each person in possession of the sample from the time it is taken until the time it is delivered to the analyst.
- (5) The approved form must include—
 - (a) details of the sample and delivery; and
 - (b) the name and address of the person.

82 Compensation

- (1) For section 110(4) of the Act, a court must take the following matters into account when considering whether it is just to make an order for the payment of compensation for a loss or expense—

- (a) whether the exercise of a power under part 12 of the Act was to prevent a threat to human life or damage or possible damage to the environment or property;
 - (b) whether the exercise of the power was negligent;
 - (c) whether, at the time of the exercise of the power, it was reasonably foreseeable that the person claiming compensation would be adversely affected by the exercise of the power;
 - (d) the level of knowledge possessed by an authorised officer at the time of the exercise of the power.
- (2) In this section—
exercise of a power, includes purported exercise of the power.

Part 11 Securing compliance with Act

83 Where register of division 3 undertakings must be kept

For section 117L of the Act, the place where the register of division 3 undertakings is available for public inspection is the office of the general manager.

Editor's note—

The address of the general manager's office is level 26, Mineral House, 41 George Street, Brisbane. Normal working hours are 8.30am to 4.30pm Monday to Friday.

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Part 12 General

Division 1 Approvals

Subdivision 1 Interpretation

84 Definitions for div 1

In this division—

applicant means—

- (a) if a provision states that the ship's owner may apply for an approval—the ship's owner; or
- (b) if a provision states that the ship's master may apply for an approval—the ship's master.

approval means an approval or exemption that may be given by the general manager under section 13, 23, 25, 27, 28, 29, 36, 37, 54 or 78.

Subdivision 2 How approval is obtained

85 Making application

- (1) An applicant may apply to the general manager for an approval.
- (2) The application must—
 - (a) be in the approved form; and
 - (b) be supported by enough information to enable the general manager to decide the application; and
 - (c) if the application is for an approval mentioned in section 13, be accompanied by the fee prescribed in the section.

86 General manager to decide application within relevant time

- (1) The general manager must decide an application for an approval under section 13, 36, 37, 54 or 78 within 30 days (the *relevant time*) after the application is made.
- (2) The general manager must decide an application for an approval under section 23, 25, 27, 28 or 29 without undue delay (also the *relevant time*) after the application is made.
- (3) However, if within the relevant time, the general manager has told an applicant that the application is not supported by enough information to enable the general manager to decide the application, the general manager must decide the application—
 - (a) for an approval under section 13, 36, 37, 54 or 78—within 30 days after the further information is given to the general manager; or
 - (b) for an approval under section 23, 25, 27, 28 or 29—without undue delay.

87 Notice of approval if application granted

- (1) If the general manager decides to grant an application for an approval, the general manager must give the applicant a notice, in the approved form, of the granting of the approval—
 - (a) for the approval under section 13, 36, 37, 54 or 78—within 30 days after making the decision to grant the application; or
 - (b) if the approval under section 23, 25, 27, 28 or 29—without undue delay.
- (2) The notice must include—
 - (a) details identifying the applicant and ship to which the application relates; and
 - (b) the term of the approval; and
 - (c) any condition to which the approval is subject under section 89.

[s 88]

88 Duration of approval

- (1) The term of an approval is the term stated in it.
- (2) However, the term of an approval given under section 13, 37 or 54 is unlimited.

89 Grant of approval on conditions

The general manager may grant an application for an approval on conditions the general manager considers reasonable and relevant.

90 Notice of refusal if application not granted

- (1) If the general manager decides to refuse an application for an approval, the general manager must give the applicant a notice, in the approved form, of the refusal—
 - (a) for a refusal under section 13, 36, 37, 54 or 78—within 30 days after making the decision to grant the application; or
 - (b) for a refusal under section 23, 25, 27, 28 or 29—without undue delay.
- (2) Without limiting subsection (1), the general manager must refuse an application for an approval under section 13 if—
 - (a) the applicant has not paid the fee payable under the section; or
 - (b) the plan does not include the matters mentioned in section 13(1).
- (3) Also, without limiting subsection (1), the general manager may refuse an application for an approval if the general manager is satisfied—
 - (a) the applicant has contravened marine pollution legislation; or
 - (b) the applicant has had another approval under the Act cancelled or suspended; or

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- (c) for an application for an exemption under section 28(2)—a discharge in a designated area from the ship to which the application relates could result if the approval is given; or
 - (d) for an application for an exemption under section 78—there is a risk of discharge of pollution into coastal waters.
- (4) The notice must state—
- (a) the reasons for the refusal; and
 - (b) that the person may apply for a review about the general manager’s decision under subdivision 4.

Subdivision 3 Amending, suspending or cancelling approvals

91 Amending, suspending or cancelling approval

- (1) The general manager may amend, suspend or cancel an approval on any of the following grounds—
 - (a) if the application is for an approval under section 13, the plan no longer includes the matters mentioned in section 13(1);
 - (b) if the application is for an approval under section 54, the system documentation no longer includes the documentation the general manager approved as being equivalent to documentation from the treatment system’s manufacturer or supplier;
 - (c) the approval holder has contravened marine pollution legislation;
 - (d) the approval holder has had another approval under the Act cancelled or suspended;
 - (e) the approval holder has failed to comply with a condition of the approval;

[s 92]

- (f) the notice of approval was issued because of a document or representation that was—
 - (i) false or misleading; or
 - (ii) obtained or made in another improper way.
- (2) In this section—
 - marine pollution legislation* means the following—
 - (a) the Act;
 - (b) a law of the Commonwealth or a State about marine pollution.

92 Procedure for amending, suspending or cancelling approval

- (1) This section applies if the general manager considers there is a ground to amend, suspend or cancel an approval (the *proposed action*).
- (2) Before taking the proposed action, the general manager must give the approval holder a written notice stating—
 - (a) the proposed action; and
 - (b) the grounds for the proposed action; and
 - (c) an outline of the facts and circumstances that are the basis of the grounds; and
 - (d) if the proposed action is suspension of the approval, the proposed suspension period; and
 - (e) that the approval holder may show, within a stated reasonable time of at least 30 days after the notice is given, why the proposed action should not be taken.
- (3) If, after considering all representations made within the stated time, the general manager still considers there is a ground to take the proposed action, the general manager may—
 - (a) if the proposed action was to amend the approval—amend the approval; or

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- (b) if the proposed action was to suspend the approval—suspend the approval for no longer than the period stated in the notice; or
 - (c) if the proposed action was to cancel the approval—amend the approval, suspend it for a period or cancel it.
- (4) The general manager must inform the approval holder of the decision by written notice.
 - (5) If the general manager decides to amend, suspend or cancel the approval, the notice must state—
 - (a) the reasons for the decision; and
 - (b) that the approval holder may apply for a review about the general manager’s decision under subdivision 4.
 - (6) The decision takes effect on the day the notice is given to the approval holder, or if a later day of effect is stated in the notice, the later day.

93 Procedure for urgent suspension of approval

- (1) Despite section 92, if the general manager considers it is necessary for the protection of Queensland’s marine and coastal environment, the general manager may, by written notice to an approval holder, immediately suspend the approval until the earlier of the following—
 - (a) the general manager informs the holder of the general manager’s decision after complying with section 92;
 - (b) the end of 60 days after the notice is given to the holder.
- (2) The notice must state—
 - (a) the reasons for the decision; and
 - (b) that the approval holder may apply for a review about the general manager’s decision under subdivision 4.

[s 94]

Subdivision 4 Review of and appeals against particular decisions

94 Application to chief executive to review decision

- (1) If the general manager refuses an application for an approval, or amends, suspends or cancels an approval, the applicant or approval holder may apply to the chief executive for a review of the general manager's decision.
- (2) The application must—
 - (a) be in writing; and
 - (b) be made within 30 days of the decision; and
 - (c) include the grounds for the application.
- (3) The chief executive must—
 - (a) review the general manager's decision within 30 days after the applicant or approval holder makes the application under subsection (1); and
 - (b) confirm the general manager's decision (the *confirmed decision*) or grant the application under subsection (1); and
 - (c) give to the applicant or approval holder a written notice about the confirmed decision or the granting of the application.
- (4) If the chief executive confirms the general manager's decision, the notice must state the reasons for the confirmed decision.

95 Appropriate appeal court

- (1) An owner or master of a ship, other than a recreational ship, whose interests are affected by a decision reviewed under section 94 may appeal against the decision to the District Court.

- (2) An owner or master of a recreational ship whose interests are affected by a decision reviewed under section 94 may appeal against the decision to a Magistrates Court.

Division 2 Analyst's reports and forms

96 Analyst's report

- (1) This section applies if an analyst took or received a sample of a pollutant, substance or thing.
- (2) As soon as practicable after taking or receiving the sample, the analyst must make a report stating all of the following matters—
 - (a) the name of the analyst;
 - (b) if the analyst received the sample, the name of the person from whom the sample was received;
 - (c) when the sample was taken or received;
 - (d) the way in which, or the means by which, the sample was identified when taken or received;
 - (e) if the sample was in a container when it was taken or received, a description of the container.

97 Forms

The chief executive may approve forms for use under this regulation.

[s 98]

Part 13 Transitional provisions

98 Requirements about particular books

- (1) The purpose of this section is to provide for particular books kept under the expired regulation and obligations under this regulation about books.
- (2) A person may comply with any of the following requirements by carrying a book even though the first entry in chronological order, and subsequent entries, in the book are made under the expired regulation if the book has space for entries, or has entries, under this regulation—
 - (a) the requirement under section 15(1) about a current oil record book;
 - (b) the requirement under section 33(1) about a current cargo record book;
 - (c) the requirement under section 51(1) about a current sewage disposal record book.
- (3) Each of the following requirements has effect in relation to a book with entries made under the expired regulation—
 - (a) the requirement under section 15(3) about a previous oil record book;
 - (b) the requirement under section 33(3) about a previous cargo record book;
 - (c) the requirement under section 51(3) or (4) about a previous sewage disposal record book.

Example for application of this section—

On 10 September 2005, the master of a ship made, under the expired regulation, the first entry in an oil record book for the ship (**book 1**). The last entry for book 1 was made on 30 June 2007. So book 1 was relevant for the period 10 September 2005 until 30 June 2007.

On 1 July 2007, the master needed to make a new entry so the master opened another oil record book (**book 2**) and made, under the expired regulation, the first entry in book 2. This section commences on 1 September 2008 and on that day book 2 has space for more entries.

Under subsection (2), the master may continue to use book 2 until it has no more space for entries or may start a new oil record book (**book 3**) under this regulation. For this example, the master chooses to continue book 2.

Under subsection (3), the ships's owner and master must comply with each requirement under the provisions mentioned in that subsection by keeping books completed for 3 years before 1 September 2008 and making them readily available. For this example, the owner and master must keep book 1.

(3) In this section—

expired regulation means the *Transport Operations (Marine Pollution) Regulation 1995* as in force immediately before the commencement of this section.

Schedule 1 MARPOL

section 4

Editor's note—

The text set out in Schedule 1 is the entirety of the text contained in the book 'MARPOL CONSOLIDATED EDITION 2006', published by the International Maritime Organization, London 2006.

The following provisions of Schedule 1 have been changed as indicated to align the text in the Transport Operations (Marine Pollution) Regulation 2008 (2008 SL No. 254) with the text in the book as required by the Act, s 6(2). The differences arise out of scanning and other software errors when converting the original text for publishing.

- International Convention for the Prevention of Pollution from Ships, 1973, Article 9(1)—omit 'Parties', insert 'Parties to'
- Protocol I, Article III(c)—omit 'substances', insert 'substance'
- Annex I, Regulation 6.4.3—omit 'reghappenhappenuation', insert 'regulation'
- Annex I, Regulation 18.12—omit 'In every', insert 'Protective location of segregated ballast spaces In every'
- Annex I, Regulation 21.4.2—omit 'if 5,000 tonnes deadweight and above, comply with the requirements of regulation 19 of this Annex not later than 5 April 2005; or regulation 19.3.1', insert 'if 600 tonnes deadweight and above but less than 5,000 tonnes deadweight, be fitted with both double bottom tanks or spaces complying with the provisions of regulation 19.6.1 of this Annex, and wing tanks or spaces arranged in accordance with regulation 19.3.1'
- Annex I, Regulation 29.1—omit 'as a slop tank.', insert 'designated as a slop tank.'
- Annex I, Regulation 30.6.1—omit '.1.2' (second mention), insert '.1.3'
- Annex I, Regulation 35.1, footnote—omit 'as by resolution', insert 'as amended by resolution'
- Appendices to Annex I, Appendix II, Appendix, FORM A, Note 4—omit 'cross (6)', insert 'cross (x)'
- Appendices to Annex I, Appendix II, Appendix, FORM A, 1.7—omit 'regulation 1.28.17', insert 'regulation 1.28.1'
- Appendices to Annex I, Appendix II, Appendix, FORM B, Note 4—omit 'cross (6)', insert 'cross (x)'
- Unified Interpretations of Annex I, Interpretation 8—omit '3.5.2.2', insert '3.5.2.2.2'
- Unified Interpretations of Annex I, Interpretation 45—omit 'GM₀', insert 'GM_o'
- Appendices to Unified Interpretations of Annex I, Appendix 1, Item 5.1—omit '0.32', insert '0.032'

- Annex II, Regulation 5.3.5—omit ‘edule 3s’, insert ‘ventilation procedures’
- Annex II, Regulation 9.3.3—omit ‘it as’, insert ‘it has’
- Appendices to Annex II, Appendix 3, ENDORSEMENT FOR ANNUAL AND INTERMEDIATE SURVEYS—omit ‘(Seal or stamp of the authority, as appropriate) Annual Survey:’, insert ‘(Seal or stamp of the authority, as appropriate) Annual/Intermediate* survey: Signed: ... (Signature of duly authorized official) Place:... Date (dd/mm/yyyy):... (Seal or stamp of the authority, as appropriate) Annual survey: * Delete as appropriate’
- Annex III, Regulation 1(1.1)—omit ‘then’, insert ‘the’
- Annex V, heading—omit ‘Regulations’, insert ‘(including amendments) Regulations’
- Annex VI, heading—omit ‘Regulations’, insert ‘(including amendments) Regulations’
- Annex VI, Regulation 13(3)(a)(ii)—omit ‘ $n^{0.2}$ ’, insert ‘ $n^{-0.2}$ ’
- Appendices to Annex VI, Appendix I, Note 4—omit ‘circularise’, insert ‘circulars’
- Appendices to Annex VI, Appendix IV, paragraph (2)—omit ‘maximum or’, insert ‘maximum’
- Appendices to Annex VI, Appendix V—omit ‘(kg/m3)’, insert ‘(kg/m³)’
- Unified Interpretations of Annex VI, Interpretation 13.3—omit ‘10’, insert ‘10%’
- Additional Information, List of MEPC resolutions, entry for MEPC.116(51)—omit ‘-’, insert ‘IA656E’
- Additional Information, Status of MARPOL 73/78, amendments and related instruments, entry for 2006 (Annex I)—omit ‘IOPP Certificate and amendments’, insert ‘IOPP Certificate and amendments to regulation 21)’
- Additional Information, Prospective amendments to MARPOL Annex I, Annex, Item 2, new Regulation 12A.11.3.1—omit ‘0.04O’, insert ‘0.4O’

Schedule 1

- Additional Information, Prospective amendments to MARPOL Annex I, Annex, Item 2, New Regulation 12A.11.6.3, table—omit, insert

X_N/L	P_{S_N}	X_G/L	P_{S_G}	Z_q/D_S	P_{S_I}	Z_u/D_S	P_{S_u}
0.00	0.000	0.00	0.967	0.00	0.000	0.00	0.968
0.05	0.023	0.05	0.917	0.05	0.000	0.05	0.952
0.10	0.068	0.10	0.867	0.10	0.001	0.10	0.931
0.15	0.117	0.15	0.817	0.15	0.003	0.15	0.905
0.20	0.167	0.20	0.767	0.20	0.007	0.20	0.873
0.25	0.217	0.25	0.717	0.25	0.013	0.25	0.836
0.30	0.267	0.30	0.667	0.30	0.021	0.30	0.789
0.35	0.317	0.35	0.617	0.35	0.034	0.35	0.733
0.40	0.367	0.40	0.567	0.40	0.055	0.40	0.670
0.45	0.417	0.45	0.517	0.45	0.085	0.45	0.599
0.50	0.467	0.50	0.467	0.50	0.123	0.50	0.525
0.55	0.517	0.55	0.417	0.55	0.172	0.55	0.452
0.60	0.567	0.60	0.367	0.60	0.226	0.60	0.383
0.65	0.617	0.65	0.317	0.65	0.285	0.65	0.317
0.70	0.667	0.70	0.267	0.70	0.347	0.70	0.255
0.75	0.717	0.75	0.217	0.75	0.413	0.75	0.197
0.80	0.767	0.80	0.167	0.80	0.482	0.80	0.143
0.85	0.817	0.85	0.117	0.85	0.553	0.85	0.092
0.90	0.867	0.90	0.068	0.90	0.626	0.90	0.046
0.95	0.917	0.95	0.023	0.95	0.700	0.95	0.013
1.00	0.967	1.00	0.000	1.00	0.775	1.00	0.000

- Additional Information, Prospective amendments to MARPOL Annex I, Annex, Item 2, new Regulation 12A.11.6.3—omit ‘for $y/B_S \leq 0.05$ ’, insert ‘(y/B_S) for $y/B_S \leq 0.05$ ’
- Additional Information, Prospective amendments to MARPOL Annex I, Annex, Item 2, new Regulation 12A.11.7.1—omit ‘ $P_{BL} = (1 - P_{Bf} - P_{Bs})$ ’, insert ‘ $P_{BL} = (1 - P_{Bf} - P_{Ba})$ ’
- Additional Information, Prospective amendments to MARPOL Annex I, Annex, Item 2, new Regulation 12A.11.7.3—omit ‘00.494’, insert ‘0.494’
- Additional Information, Prospective amendments to MARPOL Annex I, Annex, Item 2, new Regulation 12A.11.7.3—omit ‘ $P_{Bz} = (14.5 - 67z/D_S)(z/D_S)$ for $z/D_S \leq 0.1$ ’, insert ‘ $P_{Bz} = (14.5 - 67z/D_S)(z/D_S)$ for $z/D_S \leq 0.1$ ’,
- Additional Information, Guidelines for on-board exhaust gas-SOx cleaning systems, Annex, 3.6—omit ‘+’, insert ‘±’
- Additional Information, Guidelines for on-board exhaust gas-SOx cleaning systems, Annex, Appendix, item 1, Tables 1, heading—omit ‘Tables’, insert ‘Table’
- Additional Information, Guidelines for on-board exhaust gas-SOx cleaning systems, Annex, item 2—omit ‘residual fuel’ (third and fourth mentions), insert ‘distillate fuel’
- Additional Information, Certificates and documents required to be carried on board ships, Other certificates and documents which are not mandatory, entry for Mobile offshore drilling units—omit ‘MSC.36(63)’, insert ‘MSC.38(63)’

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 that 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.

Article 4 **Violation**

- (1) Any violation of the requirements of the present Convention shall be prohibited and sanctions shall be established therefor under the law of the Administration of the ship concerned wherever the violation occurs. If the Administration is informed of such a violation and is satisfied that sufficient evidence is available to enable proceedings to be brought in respect of the alleged violation, it shall cause such proceedings to be taken as soon as possible, in accordance with its law.
- (2) Any violation of the requirements of the present Convention within the jurisdiction of any Party to the Convention shall be prohibited and sanctions shall be established therefor under the law of that Party. Whenever such a violation occurs, that Party shall either:
 - (a) cause proceedings to be taken in accordance with its law; or
 - (b) furnish to the Administration of the ship such information and evidence as may be in its possession that a violation has occurred.
- (3) Where information or evidence with respect to any violation of the present Convention by a ship is furnished to the Administration of that ship, the Administration shall promptly inform the Party which has furnished the information or evidence, and the Organization, of the action taken.
- (4) The penalties specified under the law of a Party pursuant to the present article shall be adequate in severity to discourage violations of the present Convention and shall be equally severe irrespective of where the violations occur.

Article 5 **Certificates and special rules on inspection of ships**

- (1) Subject to the provisions of paragraph (2) of the present article a certificate issued under the authority of a Party to the Convention in accordance with the provisions of the regulations shall be accepted by the other Parties and regarded

for all purposes covered by the present Convention as having the same validity as a certificate issued by them.

- (2) A ship required to hold a certificate in accordance with the provisions of the regulations is subject, while in the ports or offshore terminals under the jurisdiction of a Party, to inspection by officers duly authorized by that Party. Any such inspection shall be limited to verifying that there is on board a valid certificate, unless there are clear grounds for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of that certificate. In that case, or if the ship does not carry a valid certificate, the Party carrying out the inspection shall take such steps as will ensure that the ship shall not sail until it can proceed to sea without presenting an unreasonable threat of harm to the marine environment. That Party may, however, grant such a ship permission to leave the port or offshore terminal for the purpose of proceeding to the nearest appropriate repair yard available.
- (3) If a Party denies a foreign ship entry to the ports or offshore terminals under its jurisdiction or takes any action against such a ship for the reason that the ship does not comply with the provisions of the present Convention, the Party shall immediately inform the consul or diplomatic representative of the Party whose flag the ship is entitled to fly, or if this is not possible, the Administration of the ship concerned. Before denying entry or taking such action the Party may request consultation with the Administration of the ship concerned.

Information shall also be given to the Administration when a ship does not carry a valid certificate in accordance with the provisions of the regulations.

- (4) With respect to the ship of non-Parties to the Convention, Parties shall apply the requirements of the present Convention as may be necessary to ensure that no more favourable treatment is given to such ships.

Article 9 **Other treaties and interpretation**

- (1) Upon its entry into force, the present Convention supersedes the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended, as between Parties to that Convention.
- (2) Nothing in the present Convention shall prejudice the codification and development of the law of the sea by the United Nations Conference on the Law of the Sea convened pursuant to resolution 2750 C(XXV) of the General Assembly of the United Nations nor the present or future claims and legal views of any State concerning the law of the sea and the nature and extent of coastal and flag State jurisdiction.
- (3) The term “jurisdiction” in the present Convention shall be construed in the light of international law in force at the time of application or interpretation of the present Convention.

Article 10 **Settlement of disputes**

Any dispute between two or more Parties to the Convention concerning the interpretation or application of the present Convention shall, if settlement by negotiation between the Parties involved has not been possible, and if these Parties do not otherwise agree, be submitted upon request of any of them to arbitration as set out in Protocol II to the present Convention.

Article 11 **Communication of information**

- (1) The Parties to the Convention undertake to communicate to the Organization:
 - (a) the text of laws, orders, decrees and regulations and other instruments which have been promulgated on the various matters within the scope of the present Convention;
 - (b) a list of non-governmental agencies which are authorized to act on their behalf in matters relating to the design, construction and equipment of ships carrying

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- harmful substances in accordance with the provisions of the regulations;²
- (c) a sufficient number of specimens of their certificates issued under the provisions of the regulations;
 - (d) a list of reception facilities including their location, capacity and available facilities and other characteristics;
 - (e) official reports or summaries of official reports in so far as they show the results of the application of the present Convention; and
 - (f) an annual statistical report, in a form standardized by the Organization, of penalties actually imposed for infringement of the present Convention.
- (2) The Organization shall notify Parties of the receipt of any communications under the present article and circulate to all Parties any information communicated to it under subparagraphs (1)(b) to (f) of the present article.

Article 12 Casualties to ships

- (1) Each Administration undertakes to conduct an investigation of any casualty occurring to any of its ships subject to the provisions of the regulations if such casualty has produced a major deleterious effect upon the marine environment.
- (2) Each Party to the Convention undertakes to supply the Organization with information concerning the findings of such investigation, when it judges that such information may assist in determining what changes in the present Convention might be desirable.

2 The text of this subparagraph is replaced by that contained in article III of the 1978 Protocol.

Article 13 **Signature, ratification, acceptance, approval and accession**

- (1) The present Convention shall remain open for signature at the Headquarters of the Organization from 15 January 1974 until 31 December 1974 and shall thereafter remain open for accession. States may become Parties to the present Convention by:
 - (a) signature without reservation as to ratification, acceptance or approval; or
 - (b) signature subject to ratification, acceptance or approval, followed by ratification, acceptance or approval; or
 - (c) accession.
- (2) Ratification, acceptance, approval or accession shall be effected by the deposit of an instrument to that effect with the Secretary-General of the Organization.
- (3) The Secretary-General of the Organization shall inform all States which have signed the present Convention or acceded to it of any signature or of the deposit of any new instrument of ratification, acceptance, approval or accession and the date of its deposit.

Article 14 **Optional Annexes**

- (1) A State may at the time of signing, ratifying, accepting, approving or acceding to the present Convention declare that it does not accept any one or all of Annexes III, IV and V (hereinafter referred to as "Optional Annexes") of the present Convention. Subject to the above, Parties to the Convention shall be bound by any Annex in its entirety.
- (2) A State which has declared that it is not bound by an Optional Annex may at any time accept such Annex by depositing with the Organization an instrument of the kind referred to in article 13(2).
- (3) A State which makes a declaration under paragraph (1) of the present article in respect of an Optional Annex and which has not subsequently accepted that Annex in accordance with paragraph (2) of the present article shall not be under any

obligation nor entitled to claim any privileges under the present Convention in respect of matters related to such Annex and all references to Parties in the present Convention shall not include that State in so far as matters related to such Annex are concerned.

- (4) The Organization shall inform the States which have signed or acceded to the present Convention of any declaration under the present article as well as the receipt of any instrument deposited in accordance with the provisions of paragraph (2) of the present article.

Article 15 **Entry in force**

- (1) The present Convention shall enter into force 12 months after the date on which not less than 15 States, the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant shipping, have become parties to it in accordance with article 13.
- (2) An Optional Annex shall enter into force 12 months after the date on which the conditions stipulated in paragraph (1) of the present article have been satisfied in relation to that Annex.
- (3) The Organization shall inform the States which have signed the present Convention or acceded to it of the date on which it enters into force and of the date on which an Optional Annex enters into force in accordance with paragraph (2) of the present article.
- (4) For States which have deposited an instrument of ratification, acceptance, approval or accession in respect of the present Convention or any Optional Annex after the requirements for entry into force thereof have been met but prior to the date of entry into force, the ratification, acceptance, approval or accession shall take effect on the date of entry into force of the Convention or such Annex or three months after the date of deposit of the instrument whichever is the later date.
- (5) For States which have deposited an instrument of ratification, acceptance, approval or accession after the date on which the Convention or an Optional Annex entered into force, the

Convention or the Optional Annex shall become effective three months after the date of deposit of the instrument.

- (6) After the date on which all the conditions required under article 16 to bring an amendment to the present Convention or an Optional Annex into force have been fulfilled, any instrument of ratification, acceptance, approval or accession deposited shall apply to the Convention or Annex as amended.

Article 16 **Amendments**

- (1) The present Convention may be amended by any of the procedures specified in the following paragraphs.
- (2) Amendments after consideration by the Organization:
 - (a) any amendment proposed by a Party to the Convention shall be submitted to the Organization and circulated by its Secretary-General to all Members of the Organization and all Parties at least six months prior to its consideration;
 - (b) any amendment proposed and circulated as above shall be submitted to an appropriate body by the Organization for consideration;
 - (c) Parties to the Convention, whether or not Members of the Organization, shall be entitled to participate in the proceedings of the appropriate body;
 - (d) amendments shall be adopted by a two-thirds majority of only the Parties to the Convention present and voting;
 - (e) if adopted in accordance with subparagraph (d) above, amendments shall be communicated by the Secretary-General of the Organization to all the Parties to the Convention for acceptance;
 - (f) an amendment shall be deemed to have been accepted in the following circumstances:
 - (i) an amendment to an article of the Convention shall be deemed to have been accepted on the date on which it is accepted by two thirds of the Parties, the combined merchant fleets of which constitute not

- less than 50 per cent of the gross tonnage of the world's merchant fleet;
- (ii) an amendment to an Annex to the Convention shall be deemed to have been accepted in accordance with the procedure specified in subparagraph (f)(iii) unless the appropriate body, at the time of its adoption, determines that the amendment shall be deemed to have been accepted on the date on which it is accepted by two thirds of the Parties, the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet. Nevertheless, at any time before the entry into force of an amendment to an Annex to the Convention, a Party may notify the Secretary-General of the Organization that its express approval will be necessary before the amendment enters into force for it. The latter shall bring such notification and the date of its receipt to the notice of Parties;
 - (iii) an amendment to an appendix to an Annex to the Convention shall be deemed to have been accepted at the end of a period to be determined by the appropriate body at the time of its adoption, which period shall be not less than ten months, unless within that period an objection is communicated to the Organization by not less than one third of the Parties or by the Parties the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet whichever condition is fulfilled;
 - (iv) an amendment to Protocol I to the Convention shall be subject to the same procedures as for the amendments to the Annexes to the Convention, as provided for in subparagraphs (f)(ii) or (f)(iii) above;
 - (v) an amendment to Protocol II to the Convention shall be subject to the same procedures as for the amendments to an article of the Convention, as provided for in subparagraph (f)(i) above;

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- (g) the amendment shall enter into force under the following conditions:
 - (i) in the case of an amendment to an article of the Convention, to Protocol II, or to Protocol I or to an Annex to the Convention not under the procedure specified in subparagraph (f)(iii), the amendment accepted in conformity with the foregoing provisions shall enter into force six months after the date of its acceptance with respect to the Parties which have declared that they have accepted it;
 - (ii) in the case of an amendment to Protocol I, to an appendix to an Annex or to an Annex to the Convention under the procedure specified in subparagraph (f)(iii), the amendment deemed to have been accepted in accordance with the foregoing conditions shall enter into force six months after its acceptance for all the Parties with the exception of those which, before that date, have made a declaration that they do not accept it or a declaration under subparagraph (f)(ii), that their express approval is necessary.
- (3) Amendment by a Conference:
 - (a) Upon the request of a Party, concurred in by at least one third of the Parties, the Organization shall convene a Conference of Parties to the Convention to consider amendments to the present Convention.
 - (b) Every amendment adopted by such a Conference by a two-thirds majority of those present and voting of the Parties shall be communicated by the Secretary-General of the Organization to all Contracting Parties for their acceptance.
 - (c) Unless the Conference decides otherwise, the amendment shall be deemed to have been accepted and to have entered into force in accordance with the procedures specified for that purpose in paragraph (2)(f) and (g) above.

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- (4) (a) In the case of an amendment to an Optional Annex, a reference in the present article to a “Party to the Convention” shall be deemed to mean a reference to a Party bound by that Annex.
- (b) Any Party which has declined to accept an amendment to an Annex shall be treated as a non-Party only for the purpose of application of that amendment.
- (5) The adoption and entry into force of a new Annex shall be subject to the same procedures as for the adoption and entry into force of an amendment to an article of the Convention.
- (6) Unless expressly provided otherwise, any amendment to the present Convention made under this article, which relates to the structure of a ship, shall apply only to ships for which the building contract is placed, or in the absence of a building contract, the keel of which is laid, on or after the date on which the amendment comes into force.
- (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 for 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 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 undersigned³ 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.

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

THE PARTIES TO THE PRESENT PROTOCOL,

RECOGNIZING the significant contribution which can be made by the International Convention for the Prevention of Pollution from Ships, 1973, to the protection of the marine environment from pollution from ships,

RECOGNIZING ALSO the need to improve further the prevention and control of marine pollution from ships, particularly oil tankers,

RECOGNIZING FURTHER the need for implementing the Regulations for the Prevention of Pollution by Oil contained in Annex I of that Convention as early and as widely as possible,

ACKNOWLEDGING HOWEVER the need to defer the application of Annex II of that Convention until certain technical problems have been satisfactorily resolved,

3 Signatures omitted.

Article VIII **Depositary**

- 1 The present Protocol shall be deposited with the Secretary-General of the Organization (hereinafter referred to as “the Depositary”).
- 2 The Depositary shall:
 - (a) inform all States which have signed the present Protocol or acceded thereto of:
 - (i) each new signature or deposit of an instrument of ratification, acceptance, approval or accession, together with the date thereof;
 - (ii) the date of entry into force of the present Protocol;
 - (iii) the deposit of any instrument of denunciation of the present Protocol together with the date on which it was received and the date on which the denunciation takes effect;
 - (iv) any decision made in accordance with article II(1) of the present Protocol;
 - (b) transmit certified true copies of the present Protocol to all States which have signed the present Protocol or acceded thereto.
- 3 As soon as the present Protocol enters into force, a certified true copy thereof shall be transmitted by the Depositary to the Secretariat of the United Nations for registration and publication in accordance with Article 102 of the Charter of the United Nations.

Article IX **Languages**

The present Protocol is established in a single original 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 undersigned⁵ being duly authorized by their respective Governments for that purpose have signed the present Protocol.

DONE AT LONDON this seventeenth day of February one thousand nine hundred and seventy-eight.

Protocol I **(including amendments)**
Provisions concerning Reports
on Incidents Involving
Harmful Substances (in
accordance with article 8 of the
Convention)

Article I **Duty to report**

- (1) The master or other person having charge of any ship involved in an incident referred to in article II of this Protocol shall report the particulars of such incident without delay and to the fullest extent possible in accordance with the provisions of this Protocol.
- (2) In the event of the ship referred to in paragraph (1) of this article being abandoned, or in the event of a report from such a ship being incomplete or unobtainable, the owner, charterer, manager or operator of the ship, or their agent shall, to the fullest extent possible, assume the obligations placed upon the master under the provisions of this Protocol.

Article II **When to make reports**

- (1) The report shall be made when an incident involves:
 - (a) a discharge above the permitted level or probable discharge of oil or of noxious liquid substances for whatever reason including those for the purpose of securing the safety of the ship or for saving life at sea; or

⁵ Signatures omitted.

Protocol II Arbitration (in accordance with article 10 of the Convention)

Article I

Arbitration procedure, unless the Parties to the dispute decide otherwise, shall be in accordance with the rules set out in this Protocol.

Article II

- (1) An Arbitration Tribunal shall be established upon the request of one Party to the Convention addressed to another in application of article 10 of the present Convention. The request for arbitration shall consist of a statement of the case together with any supporting documents.
- (2) The requesting Party shall inform the Secretary-General of the Organization of the fact that it has applied for the establishment of a Tribunal, of the names of the Parties to the dispute, and of the articles of the Convention or Regulations over which there is in its opinion disagreement concerning their interpretation or application. The Secretary-General shall transmit this information to all Parties.

Article III

The Tribunal shall consist of three members: one Arbitrator nominated by each Party to the dispute and a third Arbitrator who shall be nominated by agreement between the two first named, and shall act as its Chairman.

Article IV

- (1) If, at the end of a period of 60 days from the nomination of the second Arbitrator, the Chairman of the Tribunal shall not have been nominated, the Secretary-General of the Organization upon request of either Party shall within a further period of 60 days proceed to such nomination, selecting him from a list of

qualified persons previously drawn up by the Council of the Organization.

- (2) If, within a period of 60 days from the date of the receipt of the request, one of the Parties shall not have nominated the member of the Tribunal for whose designation it is responsible, the other Party may directly inform the Secretary-General of the Organization who shall nominate the Chairman of the Tribunal within a period of 60 days, selecting him from the list prescribed in paragraph (1) of the present article.
- (3) The Chairman of the Tribunal shall, upon nomination, request the Party which has not provided an Arbitrator, to do so in the same manner and under the same conditions. If the Party does not make the required nomination, the Chairman of the Tribunal shall request the Secretary-General of the Organization to make the nomination in the form and conditions prescribed in the preceding paragraph.
- (4) The Chairman of the Tribunal, if nominated under the provisions of the present article, shall not be or have been a national of one of the Parties concerned, except with the consent of the other Party.
- (5) In the case of the decease or default of an Arbitrator for whose nomination one of the Parties is responsible, the said Party shall nominate a replacement within a period of 60 days from the date of decease or default. Should the said Party not make the nomination, the arbitration shall proceed under the remaining Arbitrators. In case of the decease or default of the Chairman of the Tribunal, a replacement shall be nominated in accordance with the provisions of article III above, or in the absence of agreement between the members of the Tribunal within a period of 60 days of the decease or default, according to the provisions of the present article.

Article V

The Tribunal may hear and determine counter-claims arising directly out of the subject matter of the dispute.

Article VI

Each Party shall be responsible for the remuneration of its Arbitrator and connected costs and for the costs entailed by the preparation of its own case. The remuneration of the Chairman of the Tribunal and of all general expenses incurred by the Arbitration shall be borne equally by the Parties. The Tribunal shall keep a record of all its expenses and shall furnish a final statement thereof.

Article VII

Any Party to the Convention which has an interest of a legal nature and which may be affected by the decision in the case may, after giving written 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.

Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto

THE PARTIES TO THE PRESENT PROTOCOL,

BEING Parties to the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973,

RECOGNIZING the need to prevent and control air pollution from ships,

RECALLING Principle 15 of the Rio Declaration on Environment and Development which calls for the application of a precautionary approach,

CONSIDERING that this objective could best be achieved by the conclusion of a Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto,

HAVE AGREED as follows:

Article 1 Instrument to be amended

The instrument which the present Protocol amends is the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as the “Convention”).

Article 2 Addition of Annex VI to the Convention

Annex VI entitled Regulations for the Prevention of Air Pollution from Ships, the text of which is set out in the annex to the present Protocol, is added.

Article 3 General obligations

- 1 The Convention and the present Protocol shall, as between the Parties to the present Protocol, be read and interpreted together as one single instrument.
- 2 Every reference to the present Protocol constitutes at the same time a reference to the annex hereto.

Article 4 Amendment procedure

In applying article 16 of the Convention to an amendment to Annex VI and its appendices, the reference to “a Party to the Convention” shall be deemed to mean the reference to a Party bound by that Annex.

Final Clauses

Article 5 Signature, ratification, acceptance, approval and accession

- 1 The present Protocol shall be open for signature at the Headquarters of the International Maritime Organization (hereinafter referred to as the “Organization”) from 1 January 1998 until 31 December 1998 and shall thereafter remain

publication in accordance with Article 102 of the Charter of the United Nations.

Article 9 Languages

The present Protocol is established in a single copy in the Arabic, Chinese, English, French, Russian and Spanish languages, each text being equally authentic.

IN WITNESS WHEREOF the undersigned, being duly authorized by their respective Governments for that purpose, have signed⁷ the present Protocol.

DONE AT LONDON this twenty-sixth day of September, one thousand nine hundred and ninety-seven.

Annex I Regulations for the Prevention of Pollution by Oil

Chapter 1 General

Regulation 1 Definitions

For the purposes of this Annex:

- 1 *Oil* means petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products (other than those petrochemicals which are subject to the provisions of Annex II of the present Convention) and, without limiting the generality of the foregoing, includes the substances listed in appendix I to this Annex.

SEE INTERPRETATIONS 1.1 AND 1.2

⁷ Signatures omitted.

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- 2 *Crude oil* means any liquid hydrocarbon mixture occurring naturally in the earth whether or not treated to render it suitable for transportation and includes:
 - .1 crude oil from which certain distillate fractions may have been removed; and
 - .2 crude oil to which certain distillate fractions may have been added.
 - 3 *Oily mixture* means a mixture with any oil content.
 - 4 *Oil fuel* means any oil used as fuel in connection with the propulsion and auxiliary machinery of the ship in which such oil is carried.
 - 5 *Oil tanker* means a ship constructed or adapted primarily to carry oil in bulk in its cargo spaces and includes combination carriers, any “NLS tanker” as defined in Annex II of the present Convention and any gas carrier as defined in regulation 3.20 of chapter II-1 of SOLAS 74 (as amended), when carrying a cargo or part cargo of oil in bulk.

SEE INTERPRETATION 1.3

- 6 *Crude oil tanker* means an oil tanker engaged in the trade of carrying crude oil.
- 7 *Product carrier* means an oil tanker engaged in the trade of carrying oil other than crude oil.
- 8 *Combination carrier* means a ship designed to carry either oil or solid cargoes in bulk.
- 9 *Major conversion*:

SEE INTERPRETATIONS 2.1 TO 2.6

- .1 means a conversion of a ship:
 - .1.1 which substantially alters the dimensions or carrying capacity of the ship; or
 - .1.2 which changes the type of the ship; or

Schedule 1

- .1.3 the intent of which in the opinion of the Administration is substantially to prolong its life; or
 - .1.4 which otherwise so alters the ship that, if it were a new ship, it would become subject to relevant provisions of the present Convention not applicable to it as an existing ship.
 - .2 Notwithstanding the provisions of this definition:
 - .2.1 conversion of an oil tanker of 20,000 tonnes deadweight and above delivered on or before 1 June 1982, as defined in regulation 1.28.3, to meet the requirements of regulation 18 of this Annex shall not be deemed to constitute a major conversion for the purpose of this Annex; and
 - .2.2 conversion of an oil tanker delivered before 6 July 1996, as defined in regulation 1.28.5, to meet the requirements of regulation 19 or 20 of this Annex shall not be deemed to constitute a major conversion for the purpose of this Annex.
- 10 *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 northeastern coast of Australia shall mean from a line drawn from a point on the coast of Australia in:
- latitude 11°00' S, longitude 142°08' E
 - to a point in latitude 10°35' S, longitude 141°55' E,
 - thence to a point latitude 10°00' S, longitude 142°00' E,
 - thence to a point latitude 09°10' S, longitude 143°52' E,
 - thence to a point latitude 09°00' S, longitude 144°30' E,
 - thence to a point latitude 10°41' S, longitude 145°00' E,
 - thence to a point latitude 13°00' S, longitude 145°00' E,
 - thence to a point latitude 15°00' S, longitude 146°00' E,

thence to a point latitude 17°30' S, longitude 147°00' E,
thence to a point latitude 21°00' S, longitude 152°55' E,
thence to a point latitude 24°30' S, longitude 154°00' E,
thence to a point on the coast of Australia
in latitude 24°42' S, longitude 153°15' E.

- 11 *Special area* means a sea area where for recognized technical reasons in relation to its oceanographical and ecological condition and to the particular character of its traffic the adoption of special mandatory methods for the prevention of sea pollution by oil is required.

For the purposes of this Annex, the special areas are defined as follows:

- .1 *the Mediterranean Sea area* means the Mediterranean Sea proper including the gulfs and seas therein with the boundary between the Mediterranean and the Black Sea constituted by the 41° N parallel and bounded to the west by the Straits of Gibraltar at the meridian of 005°36' W;
- .2 *the Baltic Sea area* means the Baltic Sea proper with the Gulf of Bothnia, 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;
- .3 *the Black Sea area* means the Black Sea proper with the boundary between the Mediterranean Sea and the Black Sea constituted by the parallel 41° N;
- .4 *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, 043°19'.6 E) and Husn Murad (12°40'.4 N, 043°30'.2 E);
- .5 *the Gulfs area* means the sea area located north-west of the rhumb line between Ras al Hadd (22°30' N, 059°48' E) and Ras al Fasteh (25°04' N, 061°25' E);
- .6 *the Gulf of Aden area* means that part of the Gulf of Aden between the Red Sea and the Arabian Sea bounded to the west by the rhumb line between Ras si

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Ane (12°28'.5 N, 043°19'.6 E) and Husn Murad (12°40'.4 N, 043°30'.2 E) and to the east by the rhumb line between Ras Asir (11°50' N, 051°16'.9 E) and the Ras Fartak (15°35' N, 052°13'.8 E);

.7 *the Antarctic area* means the sea area south of latitude 60° S; and

.8 *the North West European waters* include the North Sea and its approaches, the Irish Sea and its approaches, the Celtic Sea, the English Channel and its approaches and part of the North East Atlantic immediately to the west of Ireland. The area is bounded by lines joining the following points:

48°27' N on the French coast

48°27' N; 006°25' W

49°52' N; 007°44' W

50°30' N; 012° W

56°30' N; 012° W

62° N; 003° W

62° N on the Norwegian coast

57°44'.8 N on the Danish and Swedish coasts

.9 *the Oman area of the Arabian Sea* means the sea area enclosed by the following co-ordinates:

22°30'.00 N; 059°48'.00 E

23°47'.27 N; 060°35'.73 E

22°40'.62 N; 062°25'.29 E

21°47'.40 N; 063°22'.22 E

20°30'.37 N; 062°52'.41 E

19°45'.90 N; 062°25'.97 E

18°49'.92 N; 062°02'.94 E

17°44'.36 N; 061°05'.53 E

16°43'.71 N; 060°25'.62 E

16°03'.90 N; 059°32'.24 E

15°15'.20 N; 058°58'.52 E

14°36'.93 N; 058°10'.23 E

14°18'.93 N; 057°27'.03 E

14°11'.53 N; 056°53'.75 E

13°53'.80 N; 056°19'.24 E

13°45'.86 N; 055°54'.53 E

14°27'.38 N; 054°51'.42 E

14°40'.10 N; 054°27'.35 E

14°46'.21 N; 054°08'.56 E

15°20'.74 N; 053°38'.33 E

15°48'.69 N; 053°32'.07 E

16°23'.02 N; 053°14'.82 E

16°39'.06 N; 053°06'.52 E

- 12 *Instantaneous rate of discharge of oil content* means the rate of discharge of oil in litres per hour at any instant divided by the speed of the ship in knots at the same instant.
- 13 *Tank* means an enclosed space which is formed by the permanent structure of a ship and which is designed for the carriage of liquid in bulk.
- 14 *Wing tank* means any tank adjacent to the side shell plating.
- 15 *Centre tank* means any tank inboard of a longitudinal bulkhead.
- 16 *Slop tank* means a tank specifically designated for the collection of tank drainings, tank washings and other oily mixtures.
- 17 *Clean ballast* means the ballast in a tank which, since oil was last carried therein, has been so cleaned that effluent therefrom if it were discharged from a ship which is stationary into clean calm water on a clear day would not produce visible traces of oil on the surface of the water or on adjoining shorelines or cause a sludge or emulsion to be deposited

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beneath the surface of the water or upon adjoining shorelines. If the ballast is discharged through an oil discharge monitoring and control system approved by the Administration, evidence based on such a system to the effect that the oil content of the effluent did not exceed 15 parts per million shall be determinative that the ballast was clean, notwithstanding the presence of visible traces.

- 18 *Segregated ballast* means the ballast water introduced into a tank which is completely separated from the cargo oil and oil fuel system and which is permanently allocated to the carriage of ballast or to the carriage of ballast or cargoes other than oil or noxious liquid substances as variously defined in the Annexes of the present Convention.

SEE INTERPRETATIONS 3.1 AND 3.2

- 19 *Length (L)* means 96 per cent of the total length on a waterline at 85 per cent of the least moulded depth measured from the top of the keel, or the length from the foreside of the stem to the axis of the rudder stock on that waterline, if that be greater. In ships designed with a rake of keel the waterline on which this length is measured shall be parallel to the designed waterline. The length (*L*) shall be measured in metres.
- 20 *Forward and after perpendiculars* shall be taken at the forward and after ends of the length (*L*). The forward perpendicular shall coincide with the foreside of the stem on the waterline on which the length is measured.
- 21 *Amidships* is at the middle of the length (*L*).
- 22 *Breadth (B)* means the maximum breadth of the ship, measured amidships to the moulded line of the frame in a ship with a metal shell and to the outer surface of the hull in a ship with a shell of any other material. The breadth (*B*) shall be measured in metres.
- 23 *Deadweight (DW)* means the difference in tonnes between the displacement of a ship in water of a relative density of 1.025 at the load waterline corresponding to the assigned summer freeboard and the lightweight of the ship.

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- 24 *Lightweight* means the displacement of a ship in tonnes without cargo, fuel, lubricating oil, ballast water, fresh water and feed water in tanks, consumable stores, and passengers and crew and their effects.
- 25 *Permeability* of a space means the ratio of the volume within that space which is assumed to be occupied by water to the total volume of that space.
- 26 *Volumes and areas* in a ship shall be calculated in all cases to moulded lines.
- 27 *Anniversary date* means the day and the month of each year, which will correspond to the date of expiry of the International Oil Pollution Prevention Certificate.
- 28.1 *Ship delivered on or before 31 December 1979* means a ship:
- .1 for which the building contract is placed on or before 31 December 1975; or
 - .2 in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction on or before 30 June 1976; or
 - .3 the delivery of which is on or before 31 December 1979; or
 - .4 which has undergone a major conversion:
 - .4.1 for which the contract is placed on or before 31 December 1975; or
 - .4.2 in the absence of a contract, the construction work of which is begun on or before 30 June 1976; or
 - .4.3 which is completed on or before 31 December 1979.
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SEE INTERPRETATIONS 4.1 AND 4.2

- 28.2 *Ship delivered after 31 December 1979* means a ship:
- .1 for which the building contract is placed after 31 December 1975; or

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- .2 in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction after 30 June 1976; or
- .3 the delivery of which is after 31 December 1979; or
- .4 which has undergone a major conversion:
 - .4.1 for which the contract is placed after 31 December 1975; or
 - .4.2 in the absence of a contract, the construction work of which is begun after 30 June 1976; or
 - .4.3 which is completed after 31 December 1979.

SEE INTERPRETATION 5

28.3 *Oil tanker delivered on or before 1 June 1982 means an oil tanker:*

- .1 for which the building contract is placed on or before 1 June 1979; or
- .2 in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction on or before 1 January 1980; or
- .3 the delivery of which is on or before 1 June 1982; or
- .4 which has undergone a major conversion:
 - .4.1 for which the contract is placed on or before 1 June 1979; or
 - .4.2 in the absence of a contract, the construction work of which is begun on or before 1 January 1980; or
 - .4.3 which is completed on or before 1 June 1982

28.4 *Oil tanker delivered after 1 June 1982 means an oil tanker:*

- .1 for which the building contract is placed after 1 June 1979; or
- .2 in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction after 1 January 1980; or

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- .3 the delivery of which is after 1 June 1982; or
 - .4 which has undergone a major conversion:
 - .4.1 for which the contract is placed after 1 June 1979;
or
 - .4.2 in the absence of a contract, the construction work
of which is begun after 1 January 1980; or
 - .4.3 which is completed after 1 June 1982.
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SEE INTERPRETATION 5

- 28.5 *Oil tanker delivered before 6 July 1996* means an oil tanker:
- .1 for which the building contract is placed before 6 July 1993; or
 - .2 in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction before 6 January 1994; or
 - .3 the delivery of which is before 6 July 1996; or
 - .4 which has undergone a major conversion:
 - .4.1 for which the contract is placed before 6 July 1993;
or
 - .4.2 in the absence of a contract, the construction work
of which is begun before 6 January 1994; or
 - .4.3 which is completed before 6 July 1996.
- 28.6 *Oil tanker delivered on or after 6 July 1996* means an oil tanker:
- .1 for which the building contract is placed on or after 6 July 1993; or
 - .2 in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction on or after 6 January 1994; or
 - .3 the delivery of which is on or after 6 July 1996; or
 - .4 which has undergone a major conversion:

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- .4.1 for which the contract is placed on or after 6 July 1993; or
- .4.2 in the absence of a contract, the construction work of which is begun on or after 6 January 1994; or
- .4.3 which is completed on or after 6 July 1996.

SEE INTERPRETATION 5

28.7 *Oil tanker delivered on or after 1 February 2002* means an oil tanker:

- .1 for which the building contract is placed on or after 1 February 1999; or
- .2 in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction on or after 1 August 1999; or
- .3 the delivery of which is on or after 1 February 2002; or
- .4 which has undergone a major conversion:
 - .4.1 for which the contract is placed on or after 1 February 1999; or
 - .4.2 in the absence of a contract, the construction work of which is begun on or after 1 August 1999; or
 - .4.3 which is completed on or after 1 February 2002.

SEE INTERPRETATION 5

28.8 *Oil tanker delivered on or after 1 January 2010* means an oil tanker:

- .1 for which the building contract is placed on or after 1 January 2007; or
- .2 in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction on or after 1 July 2007; or
- .3 the delivery of which is on or after 1 January 2010; or
- .4 which has undergone a major conversion:

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- .4.1 for which the contract is placed on or after 1 January 2007; or
 - .4.2 in the absence of a contract, the construction work of which is begun on or after 1 July 2007; or
 - .4.3 which is completed on or after 1 January 2010.
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SEE INTERPRETATION 5

- 29 *Parts per million (ppm)* means parts of oil per million parts of water by volume.
- 30 *Constructed* means a ship the keel of which is laid or which is at a similar stage of construction.

Regulation 2 Application

- 1 Unless expressly provided otherwise, the provisions of this Annex shall apply to all ships.
- 2 In ships other than oil tankers fitted with cargo spaces which are constructed and utilized to carry oil in bulk of an aggregate capacity of 200 cubic metres or more, the requirements of regulations 16, 26.4, 29, 30, 31, 32, 34 and 36 of this Annex for oil tankers shall also apply to the construction and operation of those spaces, except that where such aggregate capacity is less than 1,000 cubic metres the requirements of regulation 34.6 of this Annex may apply in lieu of regulations 29, 31 and 32.
- 3 Where a cargo subject to the provisions of Annex II of the present Convention is carried in a cargo space of an oil tanker, the appropriate requirements of Annex II of the present Convention shall also apply.
- 4 The requirements of regulations 29, 31 and 32 of this Annex shall not apply to oil tankers carrying asphalt or other products subject to the provisions of this Annex, which through their physical properties inhibit effective product/water separation and monitoring, for which the control of discharge under regulation 34 of this Annex shall be

effected by the retention of residues on board with discharge of all contaminated washings to reception facilities.

SEE INTERPRETATIONS 6.1 TO 6.5

- 5 Subject to the provisions of paragraph 6 of this regulation, regulations 18.6 to 18.8 of this Annex shall not apply to an oil tanker delivered on or before 1 June 1982, as defined in regulation 1.28.3, solely engaged in specific trades between:
 - .1 ports or terminals within a State Party to the present Convention; or
 - .2 ports or terminals of States Parties to the present Convention, where:
 - .2.1 the voyage is entirely within a Special Area; or
 - .2.2 the voyage is entirely within other limits designated by the Organization.
- 6 The provisions of paragraph 5 of this regulation shall only apply when the ports or terminals where cargo is loaded on such voyages are provided with reception facilities adequate for the reception and treatment of all the ballast and tank washing water from oil tankers using them and all the following conditions are complied with:
 - .1 subject to the exceptions provided for in regulation 4 of this Annex, all ballast water, including clean ballast water, and tank washing residues are retained on board and transferred to the reception facilities and the appropriate entry in the Oil Record Book Part II referred to in regulation 36 of this Annex is endorsed by the competent Port State Authority;
 - .2 agreement has been reached between the Administration and the Governments of the Port States referred to in paragraphs 5.1 or 5.2 of this regulation concerning the use of an oil tanker delivered on or before 1 June 1982, as defined in regulation 1.28.3, for a specific trade;
 - .3 the adequacy of the reception facilities in accordance with the relevant provisions of this Annex at the ports or

terminals referred to above, for the purpose of this regulation, is approved by the Governments of the States Parties to the present Convention within which such ports or terminals are situated; and

- .4 the International Oil Pollution Prevention Certificate is endorsed to the effect that the oil tanker is solely engaged in such specific trade.

Regulation 3 Exemptions and waivers

- 1 Any ship such as hydrofoil, air-cushion vehicle, near-surface craft and submarine craft etc. whose constructional features are such as to render the application of any of the provisions of chapters 3 and 4 of this Annex relating to construction and equipment unreasonable or impracticable may be exempted by the Administration from such provisions, provided that the construction and equipment of that ship provides equivalent protection against pollution by oil, having regard to the service for which it is intended.
- 2 Particulars of any such exemption granted by the Administration shall be indicated in the Certificate referred to in regulation 7 of this Annex.
- 3 The Administration which allows any such exemption shall, as soon as possible, but not more than 90 days thereafter, communicate to the Organization particulars of same and the reasons therefor, which the Organization shall circulate to the Parties to the present Convention for their information and appropriate action, if any.
- 4 The Administration may waive the requirements of regulations 29, 31 and 32 of this Annex, for any oil tanker which engages exclusively on voyages both of 72 hours or less in duration and within 50 nautical miles from the nearest land, provided that the oil tanker is engaged exclusively in trades between ports or terminals within a State Party to the present Convention. Any such waiver shall be subject to the requirement that the oil tanker shall retain on board all oily mixtures for subsequent discharge to reception facilities and

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to the determination by the Administration that facilities available to receive such oily mixtures are adequate.

SEE INTERPRETATIONS 7 AND 8 AND 9

- 5 The Administration may waive the requirements of regulations 31 and 32 of this Annex for oil tankers other than those referred to in paragraph 4 of this regulation in cases where:
- .1 the tanker is an oil tanker delivered on or before 1 June 1982, as defined in regulation 1.28.3, of 40,000 tonnes deadweight or above, as referred to in regulation 2.5 of this Annex, solely engaged in specific trades, and the conditions specified in regulation 2.6 of this Annex are complied with; or
 - .2 the tanker is engaged exclusively in one or more of the following categories of voyages:
 - .2.1 voyages within special areas; or
 - .2.2 voyages within 50 nautical miles from the nearest land outside special areas where the tanker is engaged in:
 - .2.2.1 trades between ports or terminals of a State Party to the present Convention; or
 - .2.2.2 restricted voyages as determined by the Administration, and of 72 hours or less in duration;

SEE INTERPRETATION 8

provided that all of the following conditions are complied with:

- .2.3 all oily mixtures are retained on board for subsequent discharge to reception facilities;

SEE INTERPRETATION 9

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- .2.4 for voyages specified in paragraph 5.2.2 of this regulation, the Administration has determined that adequate reception facilities are available to receive such oily mixtures in those oil loading ports or terminals the tanker calls at;
 - .2.5 the International Oil Pollution Prevention Certificate, when required, is endorsed to the effect that the ship is exclusively engaged in one or more of the categories of voyages specified in paragraphs 5.2.1 and 5.2.2.2 of this regulation; and
 - .2.6 the quantity, time and port of discharge are recorded in the Oil Record Book.
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SEE INTERPRETATION 7

Regulation 4 Exceptions

Regulations 15 and 34 of this Annex shall not apply to:

- .1 the discharge into the sea of oil or oily mixture necessary for the purpose of securing the safety of a ship or saving life at sea; or
- .2 the discharge into the sea of oil or oily mixture resulting from damage to a ship or its equipment:
 - .2.1 provided that all reasonable precautions have been taken after the occurrence of the damage or discovery of the discharge for the purpose of preventing or minimizing the discharge; and
 - .2.2 except if the owner or the master acted either with intent to cause damage, or recklessly and with knowledge that damage would probably result; or
- .3 the discharge into the sea of substances containing oil, approved by the Administration, when being used for the purpose of combating specific pollution incidents in order to minimize the damage from pollution. Any such discharge shall be subject to the approval of any Government in whose jurisdiction it is contemplated the discharge will occur.

Regulation 5 Equivalents

SEE INTERPRETATION 10.1

- 1 The Administration may allow any fitting, material, appliance or apparatus to be fitted in a ship as an alternative to that required by this Annex if such fitting, material, appliance or apparatus is at least as effective as that required by this Annex. This authority of the Administration shall not extend to substitution of operational methods to effect the control of discharge of oil as equivalent to those design and construction features which are prescribed by regulations in this Annex.
- 2 The Administration which allows a fitting, material, appliance or apparatus to be fitted in a ship as an alternative to that required by this Annex shall communicate particulars thereof to the Organization for circulation to the Parties to the Convention for their information and appropriate action, if any.

Chapter 2 Surveys and certification

Regulation 6 Surveys

- 1 Every oil tanker of 150 gross tonnage and above, and every other ship of 400 gross tonnage and above shall be subject to the surveys specified below:
 - .1 an initial survey before the ship is put in service or before the Certificate required under regulation 7 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;
 - .2 a renewal survey at intervals specified by the Administration, but not exceeding 5 years, except where regulation 10.2.2, 10.5, 10.6 or 10.7 of this Annex is

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

- .3 an intermediate survey within 3 months before or after the second anniversary date or within 3 months before or after the third anniversary date of the Certificate which shall take the place of one of the annual surveys specified in paragraph 1.4 of this regulation. The intermediate survey shall be such as to ensure that the equipment and associated pump and piping systems, 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 7 or 8 of this Annex;

SEE INTERPRETATION 11.1

- .4 an annual survey within 3 months before or after each anniversary date of the Certificate, including a general inspection of the structure, equipment, systems, fittings, arrangements and material referred to in paragraph 1.1 of this regulation to ensure that they have been maintained in accordance with paragraphs 4.1 and 4.2 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 7 or 8 of this Annex; and

SEE INTERPRETATION 11.1

- .5 an additional survey either general or partial, according to the circumstances, shall be made after a repair resulting from investigations prescribed in paragraph 4.3 of this regulation, or whenever any important repairs or renewals are made. The survey shall be such as to ensure

that the necessary repairs or renewals have been effectively made, that the material and workmanship of such repairs or renewals are in all respects satisfactory and that the ship complies in all respects with the requirements of this Annex.

- 2 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 applicable provisions of this Annex are complied with.
- 3.1 Surveys of ships as regards the enforcement of the provisions of this Annex shall be carried out by officers of the Administration. The Administration may, however, entrust the surveys either to surveyors nominated for the purpose or to organizations recognized by it. Such organizations shall comply with the guidelines adopted by the Organization by resolution A.739(18), as may be amended by the Organization, and the specifications adopted by the Organization by resolution A.789(19), as may be amended by the Organization, provided that such amendments are adopted, brought into force and take effect in accordance with the provisions of article 16 of the present Convention concerning the amendment procedures applicable to this Annex.
- 3.2 An Administration nominating surveyors or recognizing organizations to conduct surveys as set forth in paragraph 3.1 of this regulation shall, as a minimum, empower any nominated surveyor or recognized organization to:
 - .1 require repairs to a ship; and
 - .2 carry out surveys, if requested by the appropriate authorities of a port State.

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

- 3.3 When a nominated surveyor or recognized organization determines that the condition of the ship or its equipment does not correspond substantially with the particulars of the

Certificate or is such that the ship is not fit to proceed to sea without presenting an unreasonable threat of harm to the marine environment, such surveyor or organization shall immediately ensure that corrective action is taken and shall in due course notify the Administration. If such corrective action is not taken the Certificate shall be withdrawn and the Administration shall be notified immediately; and if the ship is in a port of another Party, the appropriate authorities of the port State shall also be notified immediately. When an officer of the Administration, a nominated surveyor or a recognized organization has notified the appropriate authorities of the port State, the Government of the port State concerned shall give such officer, surveyor or organization any necessary assistance to carry out their obligations under this regulation. When applicable, the Government of the port State concerned shall take such steps as will ensure that the ship shall not sail until it can proceed to sea or leave the port for the purpose of proceeding to the nearest appropriate repair yard available without presenting an unreasonable threat of harm to the marine environment.

- 3.4 In every case, the Administration concerned shall fully guarantee the completeness and efficiency of the survey and shall undertake to ensure the necessary arrangements to satisfy this obligation.
- 4.1 The condition of the ship and its equipment shall be maintained to conform with the provisions of the present Convention to ensure that the ship in all respects will remain fit to proceed to sea without presenting an unreasonable threat of harm to the marine environment.
- 4.2 After any survey of the ship under paragraph 1 of this regulation has been completed, no change shall be made in the structure, equipment, systems, fittings, arrangements or material covered by the survey, without the sanction of the Administration, except the direct replacement of such equipment and fittings.
- 4.3 Whenever an accident occurs to a ship or a defect is discovered which substantially affects the integrity of the ship or the efficiency or completeness of its equipment covered by this Annex the master or owner of the ship shall report at the

earliest opportunity to the Administration, the recognized organization or the nominated surveyor responsible for issuing the relevant Certificate, who shall cause investigations to be initiated to determine whether a survey as required by paragraph 1 of this regulation is necessary. If the ship is in a port of another Party, the master or owner shall also report immediately to the appropriate authorities of the port State and the nominated surveyor or recognized organization shall ascertain that such report has been made.

Regulation 7 Issue or endorsement of certificate

SEE INTERPRETATION 12.1 TO 12.7.3

- 1 An International Oil Pollution Prevention Certificate shall be issued, after an initial or renewal survey in accordance with the provisions of regulation 6 of this Annex, to any oil tanker of 150 gross tonnage and above and any other ships of 400 gross tonnage and above which are engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to the present Convention.
- 2 Such certificate shall be issued or endorsed as appropriate either by the Administration or by any persons or organization duly authorized by it. In every case the Administration assumes full responsibility for the certificate.

Regulation 8 Issue or endorsement of certificate by another Government

- 1 The Government of a Party to the present 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 Oil 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.

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- 2 A copy of the certificate and a copy of the survey report shall be transmitted as soon as possible to the requesting Administration.
 - 3 A certificate so issued shall contain a statement to the effect that it has been issued at the request of the Administration and it shall have the same force and receive the same recognition as the certificate issued under regulation 7 of this Annex.
 - 4 No International Oil Pollution Prevention Certificate shall be issued to a ship which is entitled to fly the flag of a State which is not a Party.

Regulation 9 Form of certificate

SEE INTERPRETATION 13

The International Oil Pollution Prevention Certificate shall be drawn up in the form corresponding to the model given in appendix II to this Annex and shall be at least in English, French or Spanish. If an official language of the issuing country is also used, this shall prevail in case of a dispute or discrepancy.

Regulation 10 Duration and validity of certificate

SEE INTERPRETATION 14

- 1 An International Oil Pollution Prevention Certificate shall be issued for a period specified by the Administration, which shall not exceed five years.
- 2.1 Notwithstanding the requirements of paragraph 1 of this regulation, when the renewal survey is completed within 3 months before the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding 5 years from the date of expiry of the existing certificate.

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- 2.2 When the renewal survey is completed after the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding 5 years from the date of expiry of the existing certificate.
- 2.3 When the renewal survey is completed more than 3 months before the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding 5 years from the date of completion of the renewal survey.
- 3 If a certificate is issued for a period of less than 5 years, the Administration may extend the validity of the certificate beyond the expiry date to the maximum period specified in paragraph 1 of this regulation, provided that the surveys referred to in regulations 6.1.3 and 6.1.4 of this Annex applicable when a certificate is issued for a period of 5 years are carried out as appropriate.
- 4 If a renewal survey has been completed and a new certificate cannot be issued or placed on board the ship before the expiry date of the existing certificate, the person or organization authorized by the Administration may endorse the existing certificate and such a certificate shall be accepted as valid for a further period which shall not exceed 5 months from the expiry date.
- 5 If a ship at the time when a certificate expires is not in a port in which it is to be surveyed, the Administration may extend the period of validity of the certificate but this extension shall be granted only for the purpose of allowing the ship to complete its voyage to the port in which it is to be surveyed, and then only in cases where it appears proper and reasonable to do so. No certificate shall be extended for a period longer than 3 months, and a ship to which an extension is granted shall not, on its arrival in the port in which it is to be surveyed, be entitled by virtue of such extension to leave that port without having a new certificate. When the renewal survey is completed, the new certificate shall be valid to a date not exceeding 5 years from the date of expiry of the existing certificate before the extension was granted.

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- 6 A certificate issued to a ship engaged on short voyages which has not been extended under the foregoing provisions of this regulation may be extended by the Administration for a period of grace of up to one month from the date of expiry stated on it. When the renewal survey is completed, the new certificate shall be valid to a date not exceeding 5 years from the date of expiry of the existing certificate before the extension was granted.
 - 7 In special circumstances, as determined by the Administration, a new certificate need not be dated from the date of expiry of the existing certificate as required by paragraphs 2.2, 5 or 6 of this regulation. In these special circumstances, the new certificate shall be valid to a date not exceeding 5 years from the date of completion of the renewal survey.
 - 8 If an annual or intermediate survey is completed before the period specified in regulation 6 of this Annex, then:
 - .1 the anniversary date shown on the certificate shall be amended by endorsement to a date which shall not be more than 3 months later than the date on which the survey was completed;
 - .2 the subsequent annual or intermediate survey required by regulation 6.1 of this Annex shall be completed at the intervals prescribed by that regulation using the new anniversary date; and
 - .3 the expiry date may remain unchanged provided one or more annual or intermediate surveys, as appropriate, are carried out so that the maximum intervals between the surveys prescribed by regulation 6.1 of this Annex are not exceeded.
 - 9 A certificate issued under regulation 7 or 8 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 6.1 of this Annex;
 - .2 if the certificate is not endorsed in accordance with regulation 6.1.3 or 6.1.4 of this Annex; or

- .3 upon transfer of the ship to the flag of another State. A new certificate shall only be issued when the Government issuing the new certificate is fully satisfied that the ship is in compliance with the requirements of regulations 6.4.1 and 6.4.2 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.

Regulation 11 Port State control on operational requirements⁸

- 1 A ship when in a port or an offshore terminal of another Party is subject to inspection by officers duly authorized by such Party concerning operational requirements under this Annex, where there are clear grounds for believing that the master or crew are not familiar with essential shipboard procedures relating to the prevention of pollution by oil.
- 2 In the circumstances given in paragraph 1 of this regulation, the Party shall take such steps as will ensure that the ship shall not sail until the situation has been brought to order in accordance with the requirements of this Annex.
- 3 Procedures relating to the port State control prescribed in article 5 of the present Convention shall apply to this regulation.
- 4 Nothing in this regulation shall be construed to limit the rights and obligations of a Party carrying out control over operational requirements specifically provided for in the present Convention.

8 Refer to the Procedures for port State control, adopted by the Organization by resolution A.787(19), as amended by resolution A.882(21); see IMO publication, Sales number IA650E.

Chapter 3 Requirements for machinery spaces of all ships

Part A Construction

Regulation 12 Tanks for oil residues (sludge)

- 1 Every ship of 400 gross tonnage and above shall be provided with a tank or tanks of adequate capacity, having regard to the type of machinery and length of voyage, to receive the oil residues (sludge) which cannot be dealt with otherwise in accordance with the requirements of this Annex, such as those resulting from the purification of fuel and lubricating oils and oil leakages in the machinery spaces.

SEE INTERPRETATIONS 15.1 AND 15.2

- 2 Piping to and from sludge tanks shall have no direct connection overboard, other than the standard discharge connection referred to in regulation 13.

SEE INTERPRETATION 16

- 3 In ships delivered after 31 December 1979, as defined in regulation 1.28.2, tanks for oil residues shall be designed and constructed so as to facilitate their cleaning and the discharge of residues to reception facilities. Ships delivered on or before 31 December 1979, as defined in regulation 1.28.1, shall comply with this requirement as far as is reasonable and practicable.

SEE INTERPRETATION 17.1

Regulation 13 Standard discharge connection

To enable pipes of reception facilities to be connected with the ship's discharge pipeline for residues from machinery bilges and from sludge tanks, both lines shall be fitted with a

-
- 2 Except as specified in paragraph 3 of this regulation, any ship of 10,000 gross tonnage and above shall be fitted with oil filtering equipment complying with paragraph 7 of this regulation.
-

SEE INTERPRETATION 20

- 3 Ships, such as hotel ships, storage vessels, etc., which are stationary except for non-cargo-carrying relocation voyages need not be provided with oil filtering equipment. Such ships shall be provided with a holding tank having a volume adequate, to the satisfaction of the Administration, for the total retention on board of the oily bilge water. All oily bilge water shall be retained on board for subsequent discharge to reception facilities.
- 4 The Administration shall ensure that ships of less than 400 gross tonnage are equipped, as far as practicable, to retain on board oil or oily mixtures or discharge them in accordance with the requirements of regulation 15.6 of this Annex.
- 5 The Administration may waive the requirements of paragraphs 1 and 2 of this regulation for:
- .1 any ship engaged exclusively on voyages within special areas, or
 - .2 any ship certified under the International Code of Safety for High-Speed Craft (or otherwise within the scope of this Code with regard to size and design) engaged on a scheduled service with a turn-around time not exceeding 24 hours and covering also non-passenger/cargo-carrying relocation voyages for these ships,
 - .3 with regard to the provision of subparagraphs .1 and .2 above, the following conditions shall be complied with:
 - .3.1 the ship is fitted with a holding tank having a volume adequate, to the satisfaction of the Administration, for the total retention on board of the oily bilge water;
 - .3.2 all oily bilge water is retained on board for subsequent discharge to reception facilities;

Schedule 1

- .3.3 the Administration has determined that adequate reception facilities are available to receive such oily bilge water in a sufficient number of ports or terminals the ship calls at;
- .3.4 the International Oil Pollution Prevention Certificate, when required, is endorsed to the effect that the ship is exclusively engaged on the voyages within special areas or has been accepted as a high-speed craft for the purpose of this regulation and the service is identified; and

SEE INTERPRETATION 21

- .3.5 the quantity, time, and port of the discharge are recorded in the Oil Record Book Part I.

SEE INTERPRETATION 7

- 6 Oil filtering equipment referred to in paragraph 1 of this regulation shall be of a design approved by the Administration and shall be such as will ensure that any oily mixture discharged into the sea after passing through the system has an oil content not exceeding 15 parts per million. In considering the design of such equipment, the Administration shall have regard to the specification recommended by the Organization.⁹
- 7 Oil filtering equipment referred to in paragraph 2 of this regulation shall comply with paragraph 6 of this regulation. In addition, it shall be provided with alarm arrangements to indicate when this level cannot be maintained. The system

9 Refer to the Recommendation on international performance and test specification for oily water separating equipment and oil content meters, adopted by the Organization by Assembly resolution A.393(X), or the Guidelines and specifications for pollution prevention equipment for machinery space bilges of ships, adopted by the Marine Environment Protection Committee by resolution MEPC.60(33), or the Revised guidelines and specification for pollution prevention equipment for machinery space bilges of ships, adopted by the Marine Environment Protection Committee by resolution MEPC.107(49).

shall also be provided with arrangements to ensure that any discharge of oily mixtures is automatically stopped when the oil content of the effluent exceeds 15 parts per million. In considering the design of such equipment and approvals, the Administration shall have regard to the specification recommended by the Organization.¹⁰

Part C Control of operational discharge of oil

Regulation 15 Control of discharge of oil

SEE INTERPRETATIONS 18, 22.1.1 AND 22.1.2

- 1 Subject to the provisions of regulation 4 of this annex and paragraphs 2, 3, and 6 of this regulation, any discharge into the sea of oil or oily mixtures from ships shall be prohibited.
- A Discharges outside special areas**
- 2 Any discharge into the sea of oil or oily mixtures from ships of 400 gross tonnage and above shall be prohibited except when all the following conditions are satisfied:
 - .1 the ship is proceeding *en route*;
 - .2 the oily mixture is processed through an oil filtering equipment meeting the requirements of regulation 14 of this Annex;
 - .3 the oil content of the effluent without dilution does not exceed 15 parts per million;
 - .4 the oily mixture does not originate from cargo pump-room bilges on oil tankers; and

10 Refer to the Recommendation on international performance and test specification for oily water separating equipment and oil content meters, adopted by the Organization by Assembly resolution A.393(X), or the Guidelines and specifications for pollution prevention equipment for machinery space bilges of ships, adopted by the Marine Environment Protection Committee by resolution MEPC.60(33), or the Revised guidelines and specification for pollution prevention equipment for machinery space bilges of ships, adopted by the Marine Environment Protection Committee by resolution MEPC.107(49).

- .5 the oily mixture, in case of oil tankers, is not mixed with oil cargo residues.

B Discharges in special areas

- 3 Any discharge into the sea of oil or oily mixtures from ships of 400 gross tonnage and above shall be prohibited except when all of the following conditions are satisfied:
 - .1 the ship is proceeding *en route*;
 - .2 the oily mixture is processed through an oil filtering equipment meeting the requirements of regulation 14.7 of this Annex;
 - .3 the oil content of the effluent without dilution does not exceed 15 parts per million;
 - .4 the oily mixture does not originate from cargo pump-room bilges on oil tankers; and
 - .5 the oily mixture, in case of oil tankers, is not mixed with oil cargo residues.
- 4 In respect of the Antarctic area, any discharge into the sea of oil or oily mixtures from any ship shall be prohibited.
- 5 Nothing in this regulation shall prohibit a ship on a voyage only part of which is in a special area from discharging outside a special area in accordance with paragraph 2 of this regulation.

C Requirements for ships of less than 400 gross tonnage in all areas except the Antarctic area

- 6 In the case of a ship of less than 400 gross tonnage, oil and all oily mixtures shall either be retained on board for subsequent discharge to reception facilities or discharged into the sea in accordance with the following provisions:
 - .1 the ship is proceeding *en route*;
 - .2 the ship has in operation equipment of a design approved by the Administration that ensures that the oil content of the effluent without dilution does not exceed 15 parts per million;

- .3 the oily mixture does not originate from cargo pump-room bilges on oil tankers; and
- .4 the oily mixture, in case of oil tankers, is not mixed with oil cargo residues.

D General requirements

- 7 Whenever visible traces of oil are observed on or below the surface of the water in the immediate vicinity of a ship or its wake, Governments of Parties to the present Convention should, to the extent they are reasonably able to do so, promptly investigate the facts bearing on the issue of whether there has been a violation of the provisions of this regulation. The investigation should include, in particular, the wind and sea conditions, the track and speed of the ship, other possible sources of the visible traces in the vicinity, and any relevant oil discharge records.
- 8 No discharge into the sea shall contain chemicals or other substances in quantities or concentrations which are hazardous to the marine environment or chemicals or other substances introduced for the purpose of circumventing the conditions of discharge specified in this regulation.
- 9 The oil residues which cannot be discharged into the sea in compliance with this regulation shall be retained on board for subsequent discharge to reception facilities.

Regulation 16 Segregation of oil and water ballast and carriage of oil in forepeak tanks

- 1 Except as provided in paragraph 2 of this regulation, in ships delivered after 31 December 1979, as defined in regulation 1.28.2, of 4,000 gross tonnage and above other than oil tankers, and in oil tankers delivered after 31 December 1979, as defined in regulation 1.28.2, of 150 gross tonnage and above, no ballast water shall be carried in any oil fuel tank.
- 2 Where the need to carry large quantities of oil fuel render it necessary to carry ballast water which is not a clean ballast in any oil fuel tank, such ballast water shall be discharged to reception facilities or into the sea in compliance with regulation 15 of this Annex using the equipment specified in

Schedule 1

regulation 14.2 of this Annex, and an entry shall be made in the Oil Record Book to this effect.

SEE INTERPRETATIONS 23.1.1 AND 23.1.2

- 3 In a ship of 400 gross tonnage and above, for which the building contract is placed after 1 January 1982 or, in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction after 1 July 1982, oil shall not be carried in a forepeak tank or a tank forward of the collision bulkhead.
 - 4 All ships other than those subject to paragraphs 1 and 3 of this regulation shall comply with the provisions of those paragraphs as far as is reasonable and practicable.
-

SEE INTERPRETATION 24

Regulation 17 Oil Record Book, Part I—Machinery space operations

- 1 Every oil tanker of 150 gross tonnage and above and every ship of 400 gross tonnage and above other than an oil tanker shall be provided with an Oil Record Book Part I (Machinery space operations). The Oil Record Book, whether as a part of the ship's official log-book or otherwise, shall be in the form specified in appendix III to this Annex.
- 2 The Oil Record Book Part I shall be completed on each occasion, on a tank-to-tank basis if appropriate, whenever any of the following machinery space operations takes place in the ship:
 - .1 ballasting or cleaning of oil fuel tanks;
 - .2 discharge of dirty ballast or cleaning water from oil fuel tanks;
 - .3 collection and disposal of oil residues (sludge and other oil residues);
 - .4 discharge overboard or disposal otherwise of bilge water which has accumulated in machinery spaces; and

-
- .5 bunkering of fuel or bulk lubricating oil.
- 3 In the event of such discharge of oil or oily mixture as is referred to in regulation 4 of this Annex or in the event of accidental or other exceptional discharge of oil not excepted by that regulation, a statement shall be made in the Oil Record Book Part I of the circumstances of, and the reasons for, the discharge.
 - 4 Each operation described in paragraph 2 of this regulation shall be fully recorded without delay in the Oil Record Book Part I, so that all entries in the book appropriate to that operation are completed. Each completed operation shall be signed by the officer or officers in charge of the operations concerned and each completed page shall be signed by the master of ship. The entries in the Oil Record Book Part I, for ships holding an International Oil Pollution Prevention Certificate, shall be at least in English, French or Spanish. Where entries in an official national language of the State whose flag the ship is entitled to fly are also used, this shall prevail in case of a dispute or discrepancy.
 - 5 Any failure of the oil filtering equipment shall be recorded in the Oil Record Book Part I.
 - 6 The Oil Record Book Part I shall be kept in such a place as to be readily available for inspection at all reasonable times and, except in the case of unmanned ships under tow, shall be kept on board the ship. It shall be preserved for a period of three years after the last entry has been made.
 - 7 The competent authority of the Government of a Party to the present Convention may inspect the Oil Record Book Part I on board any ship to which this Annex applies while the ship is in its port or offshore terminals and may make a copy of any entry in that book and may require the master of the ship to certify that the copy is a true copy of such entry. Any copy so made which has been certified by the master of the ship as a true copy of an entry in the ship's Oil Record Book Part I shall be made admissible in any judicial proceedings as evidence of the facts stated in the entry. The inspection of an Oil Record Book Part I and the taking of a certified copy by the competent authority under this paragraph shall be performed

as expeditiously as possible without causing the ship to be unduly delayed.

Chapter 4 Requirements for the cargo area of oil tankers

Part A Construction

Regulation 18 Segregated ballast tanks

SEE INTERPRETATION 25

Oil tankers of 20,000 tonnes deadweight and above delivered after 1 June 1982

- 1 Every crude oil tanker of 20,000 tonnes deadweight and above and every product carrier of 30,000 tonnes deadweight and above delivered after 1 June 1982, as defined in regulation 1.28.4, shall be provided with segregated ballast tanks and shall comply with paragraphs 2, 3 and 4, or 5 as appropriate, of this regulation.
- 2 The capacity of the segregated ballast tanks shall be so determined that the ship may operate safely on ballast voyages without recourse to the use of cargo tanks for water ballast except as provided for in paragraph 3 or 4 of this regulation. In all cases, however, the capacity of segregated ballast tanks shall be at least such that, in any ballast condition at any part of the voyage, including the conditions consisting of lightweight plus segregated ballast only, the ship's draughts and trim can meet the following requirements:
 - .1 the moulded draught amidships (d_m) in metres (without taking into account any ship's deformation) shall not be less than:
$$d_m = 2.0 + 0.02L$$
 - .2 the draughts at the forward and after perpendiculars shall correspond to those determined by the draught

-
- amidships (d_m) as specified in paragraph 2.1 of this regulation, in association with the trim by the stern of not greater than $0.015L$; and
- .3 in any case the draught at the after perpendicular shall not be less than that which is necessary to obtain full immersion of the propeller(s).
- 3 In no case shall ballast water be carried in cargo tanks, except:
- .1 on those rare voyages when weather conditions are so severe that, in the opinion of the master, it is necessary to carry additional ballast water in cargo tanks for the safety of the ship; and
 - .2 in exceptional cases where the particular character of the operation of an oil tanker renders it necessary to carry ballast water in excess of the quantity required under paragraph 2 of this regulation, provided that such operation of the oil tanker falls under the category of exceptional cases as established by the Organization.

SEE INTERPRETATION 26.1

Such additional ballast water shall be processed and discharged in compliance with regulation 34 of this Annex and an entry shall be made in the Oil Record Book Part II referred to in regulation 36 of this Annex.

- 4 In the case of crude oil tankers, the additional ballast permitted in paragraph 3 of this regulation shall be carried in cargo tanks only if such tanks have been crude oil washed in accordance with regulation 35 of this Annex before departure from an oil unloading port or terminal.
- 5 Notwithstanding the provisions of paragraph 2 of this regulation, the segregated ballast conditions for oil tankers less than 150 metres in length shall be to the satisfaction of the Administration.

SEE INTERPRETATIONS 27.1 AND 27.2

Crude oil tankers of 40,000 tonnes deadweight and above delivered on or before 1 June 1982

- 6 Subject to the provisions of paragraph 7 of this regulation, every crude oil tanker of 40,000 tonnes deadweight and above delivered on or before 1 June 1982, as defined in regulation 1.28.3, shall be provided with segregated ballast tanks and shall comply with the requirements of paragraphs 2 and 3 of this regulation.
- 7 Crude oil tankers referred to in paragraph 6 of this regulation may, in lieu of being provided with segregated tanks, operate with a cargo tank cleaning procedure using crude oil washing in accordance with regulation 33 and 35 of this Annex unless the crude oil tanker is intended to carry crude oil which is not suitable for crude oil washing.

SEE INTERPRETATIONS 28.1 AND 28.2

Product carriers of 40,000 tonnes deadweight and above delivered on or before 1 June 1982

- 8 Every product carrier of 40,000 tonnes deadweight and above delivered on or before 1 June 1982, as defined in regulation 1.28.3, shall be provided with segregated ballast tanks and shall comply with the requirements of paragraphs 2 and 3 of this regulation, or alternatively operate with dedicated clean ballast tanks in accordance with the following provisions:
 - .1 The product carrier shall have adequate tank capacity, dedicated solely to the carriage of clean ballast as defined in regulation 1.17 of this Annex, to meet the requirements of paragraphs 2 and 3 of this regulation.
 - .2 The arrangements and operational procedures for dedicated clean ballast tanks shall comply with the requirements established by the Administration. Such requirements shall contain at least all the provisions of the revised Specifications for Oil Tankers with Dedicated Clean Ballast Tanks adopted by the Organization by resolution A.495(XII).

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- .3 The product carrier shall be equipped with an oil content meter, approved by the Administration on the basis of specifications recommended by the Organization, to enable supervision of the oil content in ballast water being discharged.¹¹
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SEE INTERPRETATION 30

- .4 Every product carrier operating with dedicated clean ballast tanks shall be provided with a Dedicated Clean Ballast Tank Operation Manual¹² detailing the system and specifying operational procedures. Such a Manual shall be to the satisfaction of the Administration and shall contain all the information set out in the Specifications referred to in subparagraph 8.2 of this regulation. If an alteration affecting the dedicated clean ballast tank system is made, the Operation Manual shall be revised accordingly.
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SEE INTERPRETATIONS 28.1 AND 28.2 AND 29.1

An oil tanker qualified as a segregated ballast oil tanker

- 9 Any oil tanker which is not required to be provided with segregated ballast tanks in accordance with paragraphs 1, 6 or 8 of this regulation may, however, be qualified as a segregated ballast tanker, provided that it complies with the requirements of paragraphs 2 and 3 or 5, as appropriate, of this regulation.

11 For oil content meters installed on oil tankers built prior to 2 October 1986, refer to the Recommendation on international performance and test specifications for oily-water separating equipment and oil content meters adopted by the Organization by resolution A.393(X). For oil content meters as part of discharge monitoring and control systems installed on oil tankers built on or after 2 October 1986, refer to the Guidelines and specifications for oil discharge monitoring and control systems for oil tankers adopted by the Organization by resolution A.586(14). For oil content meters installed on oil tankers the keels of which are laid, or which are at a similar stage of construction, on or after 1 January 2005, refer to the Revised Guidelines and specifications adopted by the Organization by resolution MEPC.108(49).

12 See resolution A.495(XII) for the standard format of the Manual.

Oil tankers delivered on or before 1 June 1982 having special ballast arrangements

- 10 Oil tankers delivered on or before 1 June 1982, as defined in regulation 1.28.3, having special ballast arrangements:
 - .1 Where an oil tanker delivered on or before 1 June 1982, as defined in regulation 1.28.3, is so constructed or operates in such a manner that it complies at all times with the draught and trim requirements set out in paragraph 2 of this regulation without recourse to the use of ballast water, it shall be deemed to comply with the segregated ballast tank requirements referred to in paragraph 6 of this regulation, provided that all of the following conditions are complied with:
 - .1.1 operational procedures and ballast arrangements are approved by the Administration;
 - .1.2 agreement is reached between the Administration and the Governments of the port States Parties to the present Convention concerned when the draught and trim requirements are achieved through an operational procedure; and
 - .1.3 the International Oil Pollution Prevention Certificate is endorsed to the effect that the oil tanker is operating with special ballast arrangements.
 - .2 In no case shall ballast water be carried in oil tanks except on those rare voyages when weather conditions are so severe that, in the opinion of the master, it is necessary to carry additional ballast water in cargo tanks for the safety of the ship. Such additional ballast water shall be processed and discharged in compliance with regulation 34 of this Annex and in accordance with the requirements of regulations 29, 31 and 32 of this Annex, and an entry shall be made in the Oil Record Book referred to in regulation 36 of this Annex.
 - .3 An Administration which has endorsed a Certificate in accordance with subparagraph 10.1.3 of this regulation shall communicate to the Organization the particulars

thereof for circulation to the Parties to the present Convention.

Oil tankers of 70,000 tonnes deadweight and above delivered after 31 December 1979

- 11 Oil tankers of 70,000 tonnes deadweight and above delivered after 31 December 1979, as defined in regulation 1.28.2, shall be provided with segregated ballast tanks and shall comply with paragraphs 2, 3 and 4 or paragraph 5 as appropriate of this regulation.

Protective location of segregated ballast

- 12 *Protective location of segregated ballast spaces*

In every crude oil tanker of 20,000 tonnes deadweight and above and every product carrier of 30,000 tonnes deadweight and above delivered after 1 June 1982, as defined in regulation 1.28.4, except those tankers that meet regulation 19, the segregated ballast tanks required to provide the capacity to comply with the requirements of paragraph 2 of this regulation, which are located within the cargo tank length, shall be arranged in accordance with the requirements of paragraphs 13, 14 and 15 of this regulation to provide a measure of protection against oil outflow in the event of grounding or collision.

SEE INTERPRETATIONS 31.1 TO 31.3

- 13 Segregated ballast tanks and spaces other than oil tanks within the cargo tanks length (L_t) shall be so arranged as to comply with the following requirement:

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

where: PA_c = the side shell area in square metres for each segregated ballast tank or space other than an oil tank based on projected moulded dimensions,

PA_s = the bottom shell area in square metres for each such tank or space based on projected moulded dimensions,

Schedule 1

L_t = length in metres between the forward and after extremities of the cargo tanks,

B = maximum breadth of the ship in metres as defined in regulation 1.22 of this Annex,

D = moulded depth in metres measured vertically from the top of the keel to the top of the freeboard deck beam at side amidships. In ships having rounded gunwales, the moulded depth shall be measured to the point of intersection of the moulded lines of the deck and side shell plating, the lines extending as though the gunwale were of angular design,

J = 0.45 for oil tankers of 20,000 tonnes deadweight, 0.30 for oil tankers of 200,000 tonnes deadweight and above, subject to the provisions of paragraph 14 of this regulation.

For intermediate values of deadweight the value of J shall be determined by linear interpolation.

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

SEE INTERPRETATIONS 31.1 TO 31.3

- 14 For tankers of 200,000 tonnes deadweight and above the value of J may be reduced as follows:

$$J_{\text{reduced}} = \left[J - \left(a - \frac{O_C + O_S}{4O_A} \right) \right] \text{ or } 0.2 \text{ whichever is greater}$$

where: a = 0.25 for oil tankers of 200,000 tonnes deadweight,

a = 0.40 for oil tankers of 300,000 tonnes deadweight,

a = 0.50 for oil tankers of 420,000 tonnes deadweight and above.

For intermediate values of deadweight the value of a shall be determined by linear interpolation.

O_c = as defined in regulation 25.1.1 of this Annex,

O_s = as defined in regulation 25.1.2 of this Annex,

O_A = the allowable oil outflow as required by regulation 26.2 of this Annex.

SEE INTERPRETATIONS 31.1 TO 31.3

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

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

.2 the minimum vertical depth of each double bottom tank or space shall be $B/15$ or 2 m, whichever is the lesser. Where a lesser depth is provided, the bottom tank or space shall not be taken into account when calculating the protecting area PA_s .

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

SEE INTERPRETATIONS 31.1 TO 31.3

Regulation 19

Double hull and double bottom requirements for oil tankers delivered on or after 6 July 1996

SEE INTERPRETATIONS 12.1 TO 12.7.3 AND 25 AND 32

1 This regulation shall apply to oil tankers of 600 tonnes deadweight and above delivered on or after 6 July 1996, as defined in regulation 1.28.6, as follows:

- 2 Every oil tanker of 5000 tonnes deadweight and above shall:
 - .1 in lieu of paragraphs 12 to 15 of regulation 18, as applicable, comply with the requirements of paragraph 3 of this regulation unless it is subject to the provisions of paragraphs 4 and 5 of this regulation; and
 - .2 comply, if applicable, with the requirements of regulation 28.6.

- 3 The entire cargo tank length shall be protected by ballast tanks or spaces other than tanks that carry oil as follows:
 - .1 *Wing tanks or spaces*
 Wing tanks or spaces shall extend either for the full depth of the ship's side or from the top of the double bottom to the uppermost deck, disregarding a rounded gunwale where fitted. They shall be arranged such that the cargo tanks are located inboard of the moulded line of the side shell plating nowhere less than the distance w , which, as shown in figure 1, is measured at any cross-section at right angles to the side shell, as specified below:

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

$$w = 2.0 \text{ m , whichever is the lesser.}$$
 The minimum value of $w = 1.0 \text{ m}$.

 - .2 *Double bottom tanks or spaces*
 At any cross-section, the depth of each double bottom tank or space shall be such that the distance h between the bottom of the cargo tanks and the moulded line of the bottom shell plating measured at right angles to the bottom shell plating as shown in figure 1 is not less than specified below:

$$h = B/15 \text{ (m) or}$$

$$h = 2.0 \text{ m , whichever is the lesser.}$$
 The minimum value of $h = 1.0 \text{ m}$.

.3 *Turn of the bilge area or at locations without a clearly defined turn of the bilge*

When the distances h and w are different, the distance w shall have preference at levels exceeding $1.5h$ above the baseline as shown in figure 1.

SEE INTERPRETATION 33

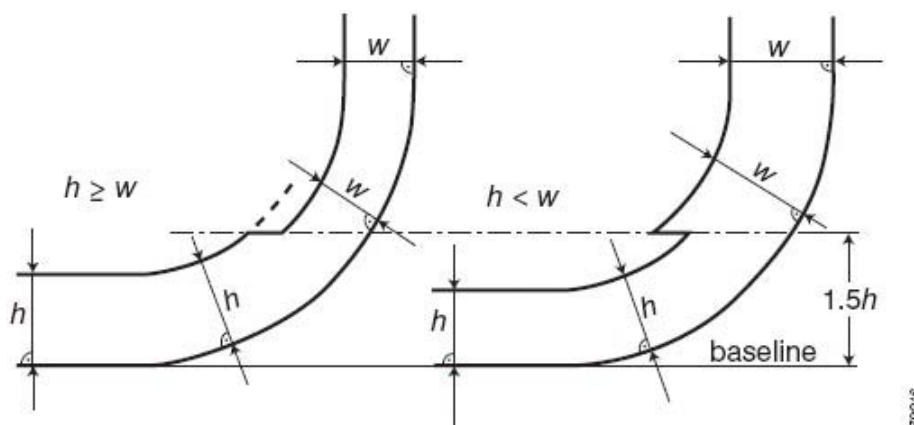


Figure 1 – Cargo tank boundary lines for the purpose of paragraph 3

.4 *The aggregate capacity of ballast tanks*

On crude oil tankers of 20,000 tonnes deadweight and above and product carriers of 30,000 tonnes deadweight and above, the aggregate capacity of wing tanks, double bottom tanks, forepeak tanks and after peak tanks shall not be less than the capacity of segregated ballast tanks necessary to meet the requirements of regulation 18 of this Annex. Wing tanks or spaces and double bottom tanks used to meet the requirements of regulation 18 shall be located as uniformly as practicable along the cargo tank length. Additional segregated ballast capacity provided for reducing longitudinal hull girder bending stress, trim, etc. may be located anywhere within the ship.

.5 *Suction wells in cargo tanks*

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

.6 *Ballast and cargo piping*

Ballast piping and other piping such as sounding and vent piping to ballast tanks shall not pass through cargo tanks. Cargo piping and similar piping to cargo tanks shall not pass through ballast tanks. Exemptions to this requirement may be granted for short lengths of piping, provided that they are completely welded or equivalent.

4 The following applies for double bottom tanks or spaces:

.1 Double bottom tanks or spaces as required by paragraph 3.2 of this regulation may be dispensed with, provided that the design of the tanker is such that the cargo and vapour pressure exerted on the bottom shell plating forming a single boundary between the cargo and the sea does not exceed the external hydrostatic water pressure, as expressed by the following formula:

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

where:

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

ρ_c = maximum cargo density in kg/m³

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

ρ_s = density of seawater in kg/m³

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

f = safety factor = 1.1

- g = standard acceleration of gravity (9.81 m/s^2).
- .2 Any horizontal partition necessary to fulfil the above requirements shall be located at a height not less than $B/6$ or 6 m, whichever is the lesser, but not more than $0.6D$, above the baseline where D is the moulded depth amidships.
 - .3 The location of wing tanks or spaces shall be as defined in paragraph 3.1 of this regulation except that, below a level $1.5h$ above the baseline where h is as defined in paragraph 3.2 of this regulation, the cargo tank boundary line may be vertical down to the bottom plating, as shown in figure 2.

SEE INTERPRETATIONS 34.1 AND 34.2

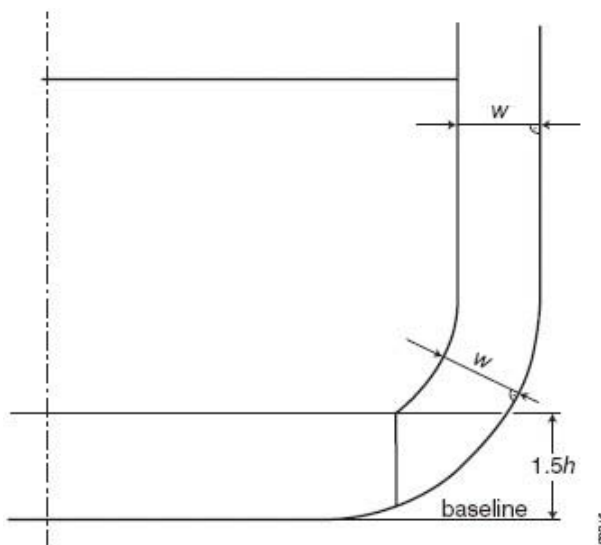


Figure 2 – Cargo tank boundary lines for the purpose of paragraph 4

- 5 Other methods of design and construction of oil tankers may also be accepted as alternatives to the requirements prescribed in paragraph 3 of this regulation, 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.¹³

6 Every oil tanker of less than 5,000 tonnes deadweight shall comply with paragraphs 3 and 4 of this regulation, or shall:

.1 at least be fitted with double bottom tanks or spaces having such a depth that the distance h specified in paragraph 3.2 of this regulation complies with the following:

$$h = B/15 \text{ (m)}$$

with a minimum value of $h = 0.76$ m;

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

.2 be provided with cargo tanks so arranged that the capacity of each cargo tank does not exceed 700 m³ unless wing tanks or spaces are arranged in accordance with paragraph 3.1 of this regulation, complying with the following:

$$w = 0.4 + \frac{2.4DW}{20,000} \text{ (m)}$$

with a minimum value of $w = 0.76$ m.

SEE INTERPRETATION 35.1

13 Refer to the Revised Interim Guidelines for the approval of alternative methods of design and construction of oil tankers adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.110(49).

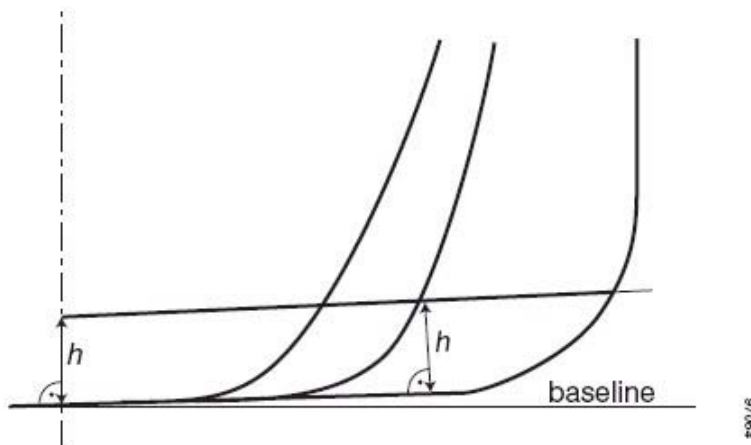


Figure 3 – Cargo tank boundary lines for the purpose of paragraph 6

- 7 Oil shall not be carried in any space extending forward of a collision bulkhead located in accordance with regulation II-1/11 of the International Convention for the Safety of Life at Sea, 1974, as amended. An oil tanker that is not required to have a collision bulkhead in accordance with that regulation shall not carry oil in any space extending forward of the transverse plane perpendicular to the centreline that is located as if it were a collision bulkhead located in accordance with that regulation.
- 8 In approving the design and construction of oil tankers to be built in accordance with the provisions of this regulation, Administrations shall have due regard to the general safety aspects, including the need for the maintenance and inspections of wing and double bottom tanks or spaces.

Regulation 20 **Double hull and double bottom requirements for oil tankers delivered before 6 July 1996**

SEE INTERPRETATION 25

- 1 Unless expressly provided otherwise this regulation shall:
 - .1 apply to oil tankers of 5,000 tonnes deadweight and above, which are delivered before 6 July 1996, as defined in regulation 1.28.5 of this Annex; and
 - .2 not apply to oil tankers complying with regulation 19 and regulation 28 in respect of paragraph 28.6, which are delivered before 6 July 1996, as defined in regulation 1.28.5 of this Annex; and
 - .3 not apply to oil tankers covered by subparagraph 1 above which comply with regulation 19.3.1 and 19.3.2 or 19.4 or 19.5 of this Annex, except that the requirement for minimum distances between the cargo tank boundaries and the ship side and bottom plating need not be met in all respects. In that event, the side protection distances shall not be less than those specified in the International Bulk Chemical Code for type 2 cargo tank location and the bottom protection distances at centreline shall comply with regulation 18.15.2 of this Annex.
- 2 For the purpose of this regulation:
 - .1 *Heavy diesel oil* means diesel oil other than those distillates of which more than 50 per cent by volume distils at a temperature not exceeding 340°C when tested by the method acceptable to the Organization.¹⁴
 - .2 *Fuel oil* means heavy distillates or residues from crude oil or blends of such materials intended for use as a fuel for the production of heat or power of a quality

14 Refer to the American Society for Testing and Materials' Standard Test Method (Designation D86).

equivalent to the specification acceptable to the Organization.¹⁵

- 3 For the purpose of this regulation, oil tankers are divided into the following categories:
- .1 *Category 1 oil tanker* means an oil tanker of 20,000 tonnes deadweight and above carrying crude oil, fuel oil, heavy diesel oil or lubricating oil as cargo, and of 30,000 tonnes deadweight and above carrying oil other than the above, which does not comply with the requirements for oil tankers delivered after 1 June 1982, as defined in regulation 1.28.4 of this Annex;
 - .2 *Category 2 oil tanker* means an oil tanker of 20,000 tonnes deadweight and above carrying crude oil, fuel oil, heavy diesel oil or lubricating oil as cargo, and of 30,000 tonnes deadweight and above carrying oil other than the above, which complies with the requirements for oil tankers delivered after 1 June 1982, as defined in regulation 1.28.4 of this Annex; and

SEE INTERPRETATION 36

- .3 *Category 3 oil tanker* means an oil tanker of 5,000 tonnes deadweight and above but less than that specified in subparagraph 1 or 2 of this paragraph.
- 4 An oil tanker to which this regulation applies shall comply with the requirements of paragraphs 2 to 5, 7 and 8 of regulation 19 and regulation 28 in respect of paragraph 28.6 of this Annex not later than 5 April 2005 or the anniversary of the date of delivery of the ship on the date or in the year specified in the following table:

15 Refer to the American Society for Testing and Materials' Specification for Number Four Fuel Oil (Designation D396) or heavier.

Schedule 1

Category of oil tanker	Date or year
Category 1	5 April 2005 for ships delivered on 5 April 1982 or earlier 2005 for ships delivered after 5 April 1982
Category 2 and Category 3	5 April 2005 for ships delivered on 5 April 1977 or earlier 2005 for ships delivered after 5 April 1977 but before 1 January 1978 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 or later

SEE INTERPRETATION 37

- 5 Notwithstanding the provisions of paragraph 4 of this regulation, 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 1.3 of this regulation, the Administration may allow continued operation of such a ship beyond the date specified in paragraph 4 of this regulation, provided that:
- .1 the ship was in service on 1 July 2001;
 - .2 the Administration is satisfied by verification of the official records that the ship complied with the conditions specified above;
 - .3 the conditions of the ship specified above remain unchanged; and

-
- .4 such continued operation does not go beyond the date on which the ship reaches 25 years after the date of its delivery.
- 6 A Category 2 or 3 oil tanker of 15 years and over after the date of its delivery shall comply with the Condition Assessment Scheme adopted by the Marine Environment Protection Committee by resolution MEPC.94(46), as amended, provided that such amendments shall be adopted, brought into force and take effect in accordance with the provisions of article 16 of the present Convention relating to amendment procedures applicable to an appendix to an Annex.
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SEE INTERPRETATION 38.1

- 7 The Administration may allow continued operation of a Category 2 or 3 oil tanker beyond the date specified in paragraph 4 of this regulation, if satisfactory results of the Condition Assessment Scheme warrant that, in the opinion of the Administration, the ship is fit to continue such operation, provided that the operation shall not go beyond the anniversary of the date of delivery of the ship in 2015 or the date on which the ship reaches 25 years after the date of its delivery, whichever is the earlier date.
- 8.1 The Administration of a Party to the present Convention which allows the application of paragraph 5 of this regulation, or allows, suspends, withdraws or declines the application of paragraph 7 of this regulation, to a ship entitled to fly its flag shall forthwith communicate to the Organization for circulation to the Parties to the present Convention particulars thereof, for their information and appropriate action, if any.
- 8.2 A Party to the present Convention shall be entitled to deny entry into the ports or offshore terminals under its jurisdiction of oil tankers operating in accordance with the provisions of:
- .1 paragraph 5 of this regulation beyond the anniversary of the date of delivery of the ship in 2015; or
- .2 paragraph 7 of this regulation.

In such cases, that Party shall communicate to the Organization for circulation to the Parties to the present Convention particulars thereof for their information.

Regulation 21 Prevention of oil pollution from oil tankers carrying heavy grade oil as cargo

- 1 This regulation shall:
 - .1 apply to oil tankers of 600 tonnes deadweight and above carrying heavy grade oil as cargo regardless of the date of delivery; and
 - .2 not apply to oil tankers covered by subparagraph 1 above which comply with regulations 19.3.1 and 19.3.2 or 19.4 or 19.5 of this Annex, except that the requirement for minimum distances between the cargo tank boundaries and the ship side and bottom plating need not be met in all respects. In that event, the side protection distances shall not be less than those specified in the International Bulk Chemical Code for type 2 cargo tank location and the bottom protection distances at centreline shall comply with regulation 18.15.2 of this Annex.
- 2 For the purpose of this regulation *heavy grade oil* means any of the following:
 - .1 crude oils having a density at 15°C higher than 900 kg/m³;
 - .2 fuel oils¹⁶ having either a density at 15°C higher than 900 kg/m³ or a kinematic viscosity at 50°C higher than 180 mm²/s; or

SEE INTERPRETATION 39

- .3 bitumen, tar and their emulsions.

16 MEPC.54 amended this definition by resolution MEPC.141(54) (see item 6 of the Additional information).

-
- 3 An oil tanker to which this regulation applies shall comply with the provisions of paragraphs 4 to 8 of this regulation in addition to complying with the applicable provisions of regulation 20.
 - 4 Subject to the provisions of paragraphs 5, 6 and 7 of this regulation, an oil tanker to which this regulation applies shall:
 - .1 if 5,000 tonnes deadweight and above, comply with the requirements of regulation 19 of this Annex not later than 5 April 2005; or
 - .2 if 600 tonnes deadweight and above but less than 5,000 tonnes deadweight, be fitted with both double bottom tanks or spaces complying with the provisions of regulation 19.6.1 of this Annex, and wing tanks or spaces arranged in accordance with regulation 19.3.1 and complying with the requirement for distance w as referred to in regulation 19.6.2, not later than the anniversary of the date of delivery of the ship in the year 2008.
 - 5 In the case of an oil tanker of 5,000 tonnes deadweight and above, carrying heavy grade oil as cargo fitted with only double bottoms or double sides not used for the carriage of oil and extending to the entire cargo tank length or double hull spaces which are not used for the carriage of oil and extend to the entire cargo tank length, but which does not fulfil conditions for being exempted from the provisions of paragraph 1.2 of this regulation, the Administration may allow continued operation of such a ship beyond the date specified in paragraph 4 of this regulation, provided that:
 - .1 the ship was in service on 4 December 2003;
 - .2 the Administration is satisfied by verification of the official records that the ship complied with the conditions specified above;
 - .3 the conditions of the ship specified above remain unchanged; and
 - .4 such continued operation does not go beyond the date on which the ship reaches 25 years after the date of its delivery.

Schedule 1

- 6.1 The Administration may allow continued operation of an oil tanker of 5,000 tonnes deadweight and above, carrying crude oil having a density at 15°C higher than 900 kg/m³ but lower than 945 kg/m³, beyond the date specified in paragraph 4.1 of this regulation, if satisfactory results of the Condition Assessment Scheme referred to in regulation 20.6 warrant that, in the opinion of the Administration, the ship is fit to continue such operation, having regard to the size, age, operational area and structural conditions of the ship and provided that the operation shall not go beyond the date on which the ship reaches 25 years after the date of its delivery.

SEE INTERPRETATION 40

- 6.2 The Administration may allow continued operation of an oil tanker of 600 tonnes deadweight and above but less than 5,000 tonnes deadweight, carrying heavy grade oil as cargo, beyond the date specified in paragraph 4.2 of this regulation, if, in the opinion of the Administration, the ship is fit to continue such operation, having regard to the size, age, operational area and structural conditions of the ship, provided that the operation shall not go beyond the date on which the ship reaches 25 years after the date of its delivery.
- 7 The Administration of a Party to the present Convention may exempt an oil tanker of 600 tonnes deadweight and above carrying heavy grade oil as cargo from the provisions of this regulation if the oil tanker:
- .1 either is engaged in voyages exclusively within an area under its jurisdiction, or operates as a floating storage unit of heavy grade oil located within an area under its jurisdiction; or
 - .2 either is engaged in voyages exclusively within an area under the jurisdiction of another Party, or operates as a floating storage unit of heavy grade oil located within an area under the jurisdiction of another Party, provided that the Party within whose jurisdiction the oil tanker will be operating agrees to the operation of the oil tanker within an area under its jurisdiction.

- 8.1 The Administration of a Party to the present Convention which allows, suspends, withdraws or declines the application of paragraph 5, 6 or 7 of this regulation to a ship entitled to fly its flag shall forthwith communicate to the Organization for circulation to the Parties to the present Convention particulars thereof, for their information and appropriate action, if any.
- 8.2 Subject to the provisions of international law, a Party to the present Convention shall be entitled to deny entry of oil tankers operating in accordance with the provisions of paragraph 5 or 6 of this regulation into the ports or offshore terminals under its jurisdiction, or deny ship-to-ship transfer of heavy grade oil in areas under its jurisdiction except when this is necessary for the purpose of securing the safety of a ship or saving life at sea. In such cases, that Party shall communicate to the Organization for circulation to the Parties to the present Convention particulars thereof for their information.

Regulation 22 Pump-room bottom protection

- 1 This regulation applies to oil tankers of 5,000 tonnes deadweight and above constructed on or after 1 January 2007.
- 2 The pump-room shall be provided with a double bottom such that at any cross-section the depth of each double bottom tank or space shall be such that the distance h between the bottom of the pump-room and the ship's baseline measured at right angles to the ship's baseline is not less than specified below:
$$h = B/15 \text{ (m) or}$$
$$h = 2 \text{ m, whichever is the lesser.}$$
The minimum value of $h = 1 \text{ m.}$
- 3 In case of pump-rooms whose bottom plate is located above the baseline by at least the minimum height required in paragraph 2 above (e.g. gondola stern designs), there will be no need for a double bottom construction in way of the pump-room.
- 4 Ballast pumps shall be provided with suitable arrangements to ensure efficient suction from double bottom tanks.

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

SEE INTERPRETATION 41

Regulation 23 Accidental oil outflow performance

- 1 This regulation shall apply to oil tankers delivered on or after 1 January 2010, as defined in regulation 1.28.8.
- 2 For the purpose of this regulation, the following definitions shall apply:
 - .1 *Load line draught* (d_S) is the vertical distance, in metres, from the moulded baseline at mid-length to the waterline corresponding to the summer freeboard to be assigned to the ship. Calculations pertaining to this regulation should be based on draught d_S , notwithstanding assigned draughts that may exceed d_S , such as the tropical load line.
 - .2 *Waterline* (d_B) is the vertical distance, in metres, from the moulded baseline at mid-length to the waterline corresponding to 30% of the depth D_S .
 - .3 *Breadth* (B_S) is the greatest moulded breadth of the ship, in metres, at or below the deepest load line draught d_S .
 - .4 *Breadth* (B_B) is the greatest moulded breadth of the ship, in metres, at or below the waterline d_B .
 - .5 *Depth* (D_S) is the moulded depth, in metres, measured at mid-length to the upper deck at side.
 - .6 *Length* (L) and *deadweight* (DW) are as defined in regulations 1.19 and 1.23, respectively.
- 3 To provide adequate protection against oil pollution in the event of collision or stranding, the following shall be complied with:

- .1 for oil tankers of 5,000 tonnes deadweight (DWT) and above, the mean oil outflow parameter shall be as follows:

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

$$O_M \leq 0.012 + (0.003/200,000)(400,000 - C)$$

$$\text{for } 200,000 \text{ m}^3 < C < 400,000 \text{ m}^3$$

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

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

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

$$O_M \leq 0.015 + (0.006/100,000)(200,000 - C)$$

$$\text{for } 100,000 \text{ m}^3 < C \leq 200,000 \text{ m}^3$$

where:

O_M = mean oil outflow parameter

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

- .2 for oil tankers of less than 5,000 tonnes deadweight (DWT):

The length of each cargo tank shall not exceed 10 m or one of the following values, whichever is the greater:

- .2.1 where no longitudinal bulkhead is provided inside the cargo tanks:

$$\left(0.5 \frac{b_i}{B} + 0.1\right)L \text{ but not to exceed } 0.2L$$

- .2.2 where a centreline longitudinal bulkhead is provided inside the cargo tanks:

$$\left(0.25 \frac{b_i}{B} + 0.15\right)L$$

- .2.3 where two or more longitudinal bulkheads are provided inside the cargo tanks:

.2.3.1 for wing cargo tanks: $0.2L$

.2.3.2 for centre cargo tanks:

.2.3.2.1 if $\frac{b_i}{B} \geq 0.2L$: $0.2L$

.2.3.2.2 if $\frac{b_i}{B} < 0.2L$:

.2.3.2.2.1 where no centreline longitudinal bulkhead is provided:

$$\left(0.5 \frac{b_i}{B} + 0.1\right)L$$

.2.3.2.2.2 where a centreline longitudinal bulkhead is provided:

$$\left(0.25 \frac{b_i}{B} + 0.15\right)L$$

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

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

-
- .1 The cargo block length extends between the forward and aft extremities of all tanks arranged for the carriage of cargo oil, including slop tanks.
 - .2 Where this regulation refers to cargo tanks, it shall be understood to include all cargo tanks, slop tanks and fuel tanks located within the cargo block length.
 - .3 The ship shall be assumed loaded to the load line draught d_S without trim or heel.
 - .4 All cargo oil tanks shall be assumed loaded to 98% of their volumetric capacity. The nominal density of the cargo oil (ρ_n) shall be calculated as follows:

$$\rho_n = 1000(\text{DWT})/C \text{ kg/m}^3$$
 - .5 For the purposes of these outflow calculations, the permeability of each space within the cargo block, including cargo tanks, ballast tanks and other non-oil spaces, shall be taken as 0.99, unless proven otherwise.
 - .6 Suction wells may be neglected in the determination of tank location provided that such wells are as small as practicable and the distance between the well bottom and bottom shell plating is not less than $0.5h$, where h is the height as defined in regulation 19.3.2.

- 5 The following assumptions shall be used when combining the oil outflow parameters:

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

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

where:

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

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

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- .2 For bottom damage, independent calculations for mean outflow shall be done for 0 m and minus 2.5 m tide conditions, and then combined as follows:

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

where:

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

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

- 6 The mean outflow for side damage O_{MS} shall be calculated as follows:

$$O_{MS} = C_3 \sum_i^n P_{S(i)} O_{S(i)} \quad (m^3)$$

where:

i represents each cargo tank under consideration;

n = total number of cargo tanks;

$P_{S(i)}$ = the probability of penetrating cargo tank i from side damage, calculated in accordance with paragraph 8.1 of this regulation;

$O_{S(i)}$ = the outflow, in m^3 , from side damage to cargo tank i , which is assumed equal to the total volume in cargo tank i at 98% filling, unless it is proven through the application of the Guidelines referred to in regulation 19.5 that any significant cargo volume will be retained; and

C_3 = 0.77 for ships having two longitudinal bulkheads inside the cargo tanks, provided these bulkheads are continuous over the cargo block and $P_{S(i)}$ is developed in accordance with this regulation. C_3 equals 1.0 for all other ships or when $P_{S(i)}$ is developed in accordance with paragraph 10 of this regulation.

- 7 The mean outflow for bottom damage shall be calculated for each tidal condition as follows:

$$.1 \quad O_{MB(0)} = \sum_i^n P_{B(i)} O_{B(i)} C_{DB(i)} \quad (\text{m}^3)$$

where:

i represents each cargo tank under consideration;

n = the total number of cargo tanks;

$P_{B(i)}$ = the probability of penetrating cargo tank *i* from bottom damage, calculated in accordance with paragraph 9.1 of this regulation;

$O_{B(i)}$ = the outflow from cargo tank *i*, in m^3 , calculated in accordance with paragraph 7.3 of this regulation; and

$C_{DB(i)}$ = factor to account for oil capture as defined in paragraph 7.4 of this regulation

$$.2 \quad O_{MB(2.5)} = \sum_i^n P_{B(i)} O_{B(i)} C_{DB(i)} \quad (\text{m}^3)$$

where:

i, *n*, $P_{B(i)}$ and $C_{DB(i)}$ = as defined in subparagraph .1 above;

$O_{B(i)}$ = the outflow from cargo tank *i*, in m^3 , after tidal change.

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

.3.1 The ship shall be assumed stranded with zero trim and heel, with the stranded draught prior to tidal change equal to the load line draught d_S .

.3.2 The cargo level after damage shall be calculated as follows:

$$h_c = \{ (d_S + t_c - Z_1)(\rho_s) - (1000p)/g \} / \rho_n$$

where:

h_c = the height of the cargo oil above Z_1 in metres;

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

Z_1 = the height of the lowest point in the cargo tank above baseline, in metres;

ρ_s = density of seawater, to be taken as 1025 kg/m³;

p = if an inert gas system is fitted, the normal overpressure, in kilopascals, to be taken as not less than 5 kPa; if an inert gas system is not fitted, the overpressure may be taken as 0;

g = the acceleration of gravity, to be taken as 9.81 m/s²; and

ρ_n = nominal density of cargo oil, calculated in accordance with paragraph 4.4 of this regulation.

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

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

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

$C_{DB(i)} = 1.0$ for cargo tanks bounded by the bottom shell.

8 The probability P_S of breaching a compartment from side damage shall be calculated as follows:

.1 $P_S = P_{SL} P_{SV} P_{ST}$

where:

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

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

$P_{ST} = 1 - P_{Sy} =$ probability the damage will extend transversely beyond the boundary defined by y .

.2 P_{Sa} , P_{Sf} , P_{Sl} , P_{Su} and P_{Sy} shall be determined by linear interpolation from the tables of probabilities for side damage provided in paragraph 8.3 of this regulation, where:

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

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

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

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

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

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

$X_a =$ the longitudinal distance from the aft terminal of L to the aftmost point on the compartment being considered, in metres;

Schedule 1

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

Z_l = the vertical distance from the moulded baseline to the lowest point on the compartment being considered, in metres;

Z_u = the vertical distance from the moulded baseline to the highest point on the compartment being considered, in metres. Z_u is not to be taken greater than D_S ; and

y = the minimum horizontal distance measured at right angles to the centreline between the compartment under consideration and the side shell, in metres;¹⁷

.3 Tables of probabilities for side damage

X_a/L	P_{Sa}	X_f/L	P_{Sf}	Z_l/D_S	P_{Sl}	Z_u/D_S	P_{Su}
0.00	0.000	0.00	0.967	0.00	0.000	0.00	0.968
0.05	0.023	0.05	0.917	0.05	0.000	0.05	0.952
0.10	0.068	0.10	0.867	0.10	0.001	0.10	0.931
0.15	0.117	0.15	0.817	0.15	0.003	0.15	0.905
0.20	0.167	0.20	0.767	0.20	0.007	0.20	0.873
0.25	0.217	0.25	0.717	0.25	0.013	0.25	0.836
0.30	0.267	0.30	0.667	0.30	0.021	0.30	0.789
0.35	0.317	0.35	0.617	0.35	0.034	0.35	0.733
0.40	0.367	0.40	0.567	0.40	0.055	0.40	0.670
0.45	0.417	0.45	0.517	0.45	0.085	0.45	0.599
0.50	0.467	0.50	0.467	0.50	0.123	0.50	0.525
0.55	0.517	0.55	0.417	0.55	0.172	0.55	0.452

¹⁷ For symmetrical tank arrangements, damages are considered for one side of the ship only, in which case all “y” dimensions are to be measured from that same side. For asymmetrical arrangements, reference is made to the Explanatory Notes on matters related to the accidental oil outflow performance, adopted by the Organization by resolution MEPC.122(52).

X_a/L	P_{Sa}	X_f/L	P_{Sf}	Z_l/D_S	P_{Sl}	Z_u/D_S	P_{Su}
0.60	0.567	0.60	0.367	0.60	0.226	0.60	0.383
0.65	0.617	0.65	0.317	0.65	0.285	0.65	0.317
0.70	0.667	0.70	0.267	0.70	0.347	0.70	0.255
0.75	0.717	0.75	0.217	0.75	0.413	0.75	0.197
0.80	0.767	0.80	0.167	0.80	0.482	0.80	0.143
0.85	0.817	0.85	0.117	0.85	0.553	0.85	0.092
0.90	0.867	0.90	0.068	0.90	0.626	0.90	0.046
0.95	0.917	0.95	0.023	0.95	0.700	0.95	0.013
1.00	0.967	1.00	0.000	1.00	0.775	1.00	0.000

P_{Sy} shall be calculated as follows:

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

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

for $0.05 < y/B_S < 0.1$

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

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

- 9 The probability P_B of breaching a compartment from bottom damage shall be calculated as follows:

.1 $P_B = P_{BL}P_{BT}P_{BV} =$

where:

$$P_{BL} = 1 - P_{Bf} - P_{Ba} = \text{probability the damage will extend into the longitudinal zone bounded by } X_a \text{ and } X_f;$$

$$P_{BT} = 1 - P_{Bp} - P_{Bs} = \text{probability the damage will extend into the transverse zone bounded by } Y_p \text{ and } Y_s; \text{ and}$$

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

.2 P_{Ba} , P_{Bf} , P_{Bp} , P_{Bs} , and P_{Bz} shall be determined by linear interpolation from the tables of probabilities for bottom damage provided in paragraph 9.3 of this regulation, where:

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

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

P_{Bp} = the probability the damage will lie entirely to port of the tank;

P_{Bs} = the probability the damage will lie entirely to starboard of the tank; and

P_{Bz} = the probability the damage will lie entirely below the tank.

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

X_a and X_f are as defined in paragraph 8.2 of this regulation;

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

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

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

location to the lower point of the compartment at that longitudinal location, in metres.

.3 Tables of probabilities for bottom damage

X_a/L	P_{Ba}	X_f/L	P_{Bf}	Y_p/B_B	P_{Bp}	Y_s/B_B	P_{Bs}
0.00	0.000	0.00	0.969	0.00	0.844	0.00	0.000
0.05	0.002	0.05	0.953	0.05	0.794	0.05	0.009
0.10	0.008	0.10	0.936	0.10	0.744	0.10	0.032
0.15	0.017	0.15	0.916	0.15	0.694	0.15	0.063
0.20	0.029	0.20	0.894	0.20	0.644	0.20	0.097
0.25	0.042	0.25	0.870	0.25	0.594	0.25	0.133
0.30	0.058	0.30	0.842	0.30	0.544	0.30	0.171
0.35	0.076	0.35	0.810	0.35	0.494	0.35	0.211
0.40	0.096	0.40	0.775	0.40	0.444	0.40	0.253
0.45	0.119	0.45	0.734	0.45	0.394	0.45	0.297
0.50	0.143	0.50	0.687	0.50	0.344	0.50	0.344
0.55	0.171	0.55	0.630	0.55	0.297	0.55	0.394
0.60	0.203	0.60	0.563	0.60	0.253	0.60	0.444
0.65	0.242	0.65	0.489	0.65	0.211	0.65	0.494
0.70	0.289	0.70	0.413	0.70	0.171	0.70	0.544
0.75	0.344	0.75	0.333	0.75	0.133	0.75	0.594
0.80	0.409	0.80	0.252	0.80	0.097	0.80	0.644
0.85	0.482	0.85	0.170	0.85	0.063	0.85	0.694
0.90	0.565	0.90	0.089	0.90	0.032	0.90	0.744
0.95	0.658	0.95	0.026	0.95	0.009	0.95	0.794
1.00	0.761	1.00	0.000	1.00	0.000	1.00	0.844

P_{Bz} shall be calculated as follows:

$$P_{Bz} = (14.5 - 67(z/D_S)(zID_S)) \text{ for } zID_S \leq 0.1,$$

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

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

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- 10 This regulation uses a simplified probabilistic approach where a summation is carried out over the contributions to the mean outflow from each cargo tank. For certain designs, such as those characterized by the occurrence of steps/recesses in bulkheads/decks and for sloping bulkheads and/or a pronounced hull curvature, more rigorous calculations may be appropriate. In such cases one of the following calculation procedures may be applied:
 - .1 The probabilities referred to in 8 and 9 above may be calculated with more precision through application of hypothetical subcompartments.¹⁸
 - .2 The probabilities referred to in 8 and 9 above may be calculated through direct application of the probability density functions contained in the Guidelines referred to in regulation 19.5.
 - .3 The oil outflow performance may be evaluated in accordance with the method described in the Guidelines referred to in regulation 19.5.
- 11 The following provisions regarding piping arrangements shall apply:
 - .1 Lines of piping that run through cargo tanks in a position less than $0.30B_S$ from the ship's side or less than $0.30D_S$ from the ship's bottom shall be fitted with valves or similar closing devices at the point at which they open into any cargo tank. These valves shall be kept closed at sea at any time when the tanks contain cargo oil, except that they may be opened only for cargo transfer needed for essential cargo operations.
 - .2 Credit for reducing oil outflow through the use of an emergency rapid cargo transfer system or other system arranged to mitigate oil outflow in the event of an accident may be taken into account only after the effectiveness and safety aspects of the system are

18 Reference is made to the Explanatory Notes on matters related to the accidental oil outflow performance, adopted by the Organization by resolution MEPC.122(52), as amended.

approved by the Organization. Submittal for approval shall be made in accordance with the provisions of the Guidelines referred to in regulation 19.5.

Regulation 24 Damage assumptions

1 For the purpose of calculating hypothetical oil outflow from oil tankers in accordance with regulations 25 and 26, three dimensions of the extent of damage of a parallelepiped on the side and bottom of the ship are assumed as follows. In the case of bottom damages two conditions are set forth to be applied individually to the stated portions of the oil tanker.

.1 Side damage:

.1.1 Longitudinal extent
(l_c): $\frac{1}{3}L^{\frac{2}{3}}$ or 14.5 m, whichever is less

.1.2 Transverse extent (t_c)
(inboard from the ship's side at right angles to the centreline at the level corresponding to the assigned summer freeboard): $\frac{B}{5}$ or 11.5 m, whichever is less

.1.3 Vertical extent (v_c): From the baseline upwards without limit

.2 Bottom damage:

For 0.3L from the forward perpendicular of the ship *Any other part of the ship*

.2.1 Longitudinal extent (l_s): $\frac{L}{10}$ $\frac{L}{10}$ or 5 m, whichever is less

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.2.2	Transverse extent (t_s):	$\frac{B}{6}$ or 10 m, whichever is less, but not less than 5 m	5 m
.2.3	Vertical extent from the baseline (v_s):	$\frac{B}{15}$ or 6 m, whichever is less	

SEE INTERPRETATION 42.1

- 2 Wherever the symbols given in this regulation appear in this chapter, they have the meaning as defined in this regulation.

Regulation 25 Hypothetical outflow of oil

SEE INTERPRETATION 43

- 1 The hypothetical outflow of oil in the case of side damage (O_c) and bottom damage (O_s) shall be calculated by the following formulae with respect to compartments breached by damage to all conceivable locations along the length of the ship to the extent as defined in regulation 24 of this Annex.

- .1 For side damages:

$$O_c = \Sigma W_i + \Sigma K_i C_i \quad (I)$$

- .2 For bottom damages:

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

where: W_i = volume of a wing tank, in cubic metres, assumed to be breached by the damage as specified in regulation 24 of this Annex; W_i for a segregated ballast tank may be taken equal to zero.

C_i = volume of a centre tank, in cubic metres, assumed to be breached by the damage as specified in regulation 24 of this Annex; C_i for a segregated ballast tank may be taken equal to zero.

K_i = $1 - \frac{b_i}{t_c}$ when b_i is equal to or greater than t_c , K_i shall be taken equal to zero.

Z_i = $1 - \frac{h_i}{v_s}$ when h_i is equal to or greater than v_s , Z_i shall be taken equal to zero.

b_i = width of wing tank under consideration, in metres, measured inboard from the ship's side at right angles to the centreline at the level corresponding to the assigned summer freeboard.

h_i = minimum depth of the double bottom under consideration, in metres; where no double bottom is fitted, h_i shall be taken equal to zero.

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

SEE INTERPRETATION 44

- 2 If a void space or segregated ballast tank of a length less than l_c as defined in regulation 24 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 collision the value of the actual full volume.

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$$S_i = 1 - l_i/l_c$$

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

- 3.1 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.
- 3..2 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.
- 3.3 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:

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

- 5 An Administration may credit as reducing oil outflow in case of bottom damage, an installed cargo transfer system having an emergency high suction in each cargo oil tank, capable of transferring from a breached tank or tanks to segregated ballast tanks or to available cargo tankage if it can be assured that such tanks will have sufficient ullage. Credit for such a system would be governed by ability to transfer in two hours of operation oil equal to one half of the largest of the breached tanks involved and by availability of equivalent receiving capacity in ballast or cargo tanks. The credit shall be confined to permitting calculation of O_s according to formula (III). The pipes for such suctions shall be installed at least at a height not less than the vertical extent of the bottom damage v_s . The Administration shall supply the Organization with the information concerning the arrangements accepted by it, for circulation to other Parties to the Convention.
- 6 This regulation does not apply to oil tankers delivered on or after 1 January 2010, as defined in regulation 1.28.8.

Regulation 26 Limitations of size and arrangement of cargo tanks

- 1 Except as provided in paragraph 7 below:
 - .1 every oil tanker of 150 gross tonnage and above delivered after 31 December 1979, as defined in regulation 1.28.2, and
 - .2 every oil tanker of 150 gross tonnage and above delivered on or before 31 December 1979, as defined in regulation 1.28.1, which falls into either of the following categories:
 - .2.1 a tanker, the delivery of which is after 1 January 1977, or
 - .2.2 a tanker to which both the following conditions apply:
 - .2.2.1 delivery is not later than 1 January 1977; and
 - .2.2.2 the building contract is placed after 1 January 1974, or in cases where no building

contract has previously been placed, the keel is laid or the tanker is at a similar stage of construction after 30 June 1974

shall comply with the provisions of this regulation.

- 2 Cargo tanks of oil tankers shall be of such size and arrangements that the hypothetical outflow O_c or O_s calculated in accordance with the provisions of regulation 25 of this Annex anywhere in the length of the ship does not exceed 30,000 cubic metres or $400^3 \sqrt{DW}$, whichever is the greater, but subject to a maximum of 40,000 cubic metres.
- 3 The volume of any one wing cargo oil tank of an oil tanker shall not exceed 75 per cent of the limits of the hypothetical oil outflow referred to in paragraph 2 of this regulation. The volume of any one centre cargo oil tank shall not exceed 50,000 cubic metres. However, in segregated ballast oil tankers as defined in regulation 18 of this Annex, the permitted volume of a wing cargo oil tank situated between two segregated ballast tanks, each exceeding l_c in length, may be increased to the maximum limit of hypothetical oil outflow provided that the width of the wing tanks exceeds t_c .
- 4 The length of each cargo tank shall not exceed 10 m or one of the following values, whichever is the greater:
 - .1 where no longitudinal bulkhead is provided inside the cargo tanks:

$$\left(0.5 \frac{b_i}{B} + 0.1\right)L$$
 but not to exceed $0.2L$
 - .2 where a centreline longitudinal bulkhead is provided inside the cargo tanks:

$$\left(0.25 \frac{b_i}{B} + 0.15\right)L$$
 - .3 where two or more longitudinal bulkheads are provided inside the cargo tanks:
 - .3.1 for wing cargo tanks: $0.2L$

.3.2 for centre cargo tanks:

.3.2.1 if $\frac{b_i}{B}$ is equal to or greater than one fifth:

$$0.2L$$

.3.2.2 if $\frac{b_i}{B}$ is less than one fifth:

.3.2.2.1 where no centreline longitudinal bulkhead is provided:

$$\left(0.5\frac{b_i}{B} + 0.1\right)L$$

.3.2.2.2 where a centreline longitudinal bulkhead is provided:

$$\left(0.25\frac{b_i}{B} + 0.15\right)L$$

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

- 5 In order not to exceed the volume limits established by paragraphs 2, 3 and 4 of this regulation and irrespective of the accepted type of cargo transfer system installed, when such system interconnects two or more cargo tanks, valves or other similar closing devices shall be provided for separating the tanks from each other. These valves or devices shall be closed when the tanker is at sea.
- 6 Lines of piping which run through cargo tanks in a position less than t_c from the ship's side or less than v_c from the ship's bottom shall be fitted with valves or similar closing devices at the point at which they open into any cargo tank. These valves shall be kept closed at sea at any time when the tanks contain cargo oil, except that they may be opened only for cargo transfer needed for the purpose of trimming of the ship.

- 7 This regulation does not apply to oil tankers delivered on or after 1 January 2010, as defined in regulation 1.28.8.

Regulation 27 Intact stability

SEE INTERPRETATION 45

- 1 Every oil tanker of 5,000 tonnes deadweight and above delivered on or after 1 February 2002, as defined in regulation 1.28.7, shall comply with the intact stability criteria specified in paragraphs 1.1 and 1.2 of this regulation, as appropriate, for any operating draught under the worst possible conditions of cargo and ballast loading, consistent with good operational practice, including intermediate stages of liquid transfer operations. Under all conditions the ballast tanks shall be assumed slack.
- .1 In port, the initial metacentric height GM_0 , corrected for the free surface measured at 0° heel, shall be not less than 0.15 m;
- .2 At sea, the following criteria shall be applicable:
- .2.1 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 ¹⁹ 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;
- .2.2 the righting lever GZ shall be at least 0.20 m at an angle of heel equal to or greater than 30° ;

19 θ_f is the angle of heel at which openings in the hull superstructures or deckhouses 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.

-
- .2.3 the maximum righting arm shall occur at an angle of heel preferably exceeding 30° but not less than 25° ; and
 - .2.4 the initial metacentric height GM_0 , corrected for free surface measured at 0° heel, shall be not less than 0.15 m.
- 2 The requirements of paragraph 1 of this regulation shall be met through design measures. For combination carriers simple supplementary operational procedures may be allowed.
- 3 Simple supplementary operational procedures for liquid transfer operations referred to in paragraph 2 of this regulation shall mean written procedures made available to the master which:
- .1 are approved by the Administration;
 - .2 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;
 - .3 will be readily understandable to the officer-in-charge of liquid transfer operations;
 - .4 provide for planned sequences of cargo/ballast transfer operations;
 - .5 allow comparisons of attained and required stability using stability performance criteria in graphical or tabular form;
 - .6 require no extensive mathematical calculations by the officer-in-charge;
 - .7 provide for corrective actions to be taken by the officer-in-charge in case of departure from recommended values and in case of emergency situations; and
 - .8 are prominently displayed in the approved trim and stability booklet and at the cargo/ballast transfer control

station and in any computer software by which stability calculations are performed.

Regulation 28 Subdivision and damage stability

- 1 Every oil tanker delivered after 31 December 1979, as defined in regulation 1.28.2, of 150 gross tonnage and above, shall comply with the subdivision and damage stability criteria as specified in paragraph 3 of this regulation, after the assumed side or bottom damage as specified in paragraph 2 of this regulation, for any operating draught reflecting actual partial or full load conditions consistent with trim and strength of the ship as well as relative densities of the cargo. Such damage shall be applied to all conceivable locations along the length of the ship as follows:
 - .1 in tankers of more than 225 m in length, anywhere in the ship's length;
 - .2 in tankers of more than 150 m, but not exceeding 225 m in length, anywhere in the ship's length except involving either after or forward bulkhead bounding the machinery space located aft. The machinery space shall be treated as a single floodable compartment; and
 - .3 in tankers not exceeding 150 m in length, anywhere in the ship's length between adjacent transverse bulkheads with the exception of the machinery space. For tankers of 100 m or less in length where all requirements of paragraph 3 of this regulation cannot be fulfilled without materially impairing the operational qualities of the ship, Administrations may allow relaxations from these requirements.

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

SEE INTERPRETATION 46

- 2 The following provisions regarding the extent and the character of the assumed damage shall apply:

.1 Side damage:

.1.1 Longitudinal extent:

$$\frac{1}{3} \left(L^{\frac{2}{3}} \right) \text{ or } 14.5 \text{ m,}$$

whichever is less

.1.2 Transverse extent (inboard from the ship's side at right angles to the centreline at the level of the summer load line):

$$\frac{B}{5} \text{ or } 11.5 \text{ m, whichever is less}$$

.1.3 Vertical extent:

From the moulded line of the bottom shell plating at centreline, upwards without limit

.2 Bottom damage:

For 0.3L from the forward perpendicular of the ship

Any other part of the ship

.2.1 Longitudinal extent:

$$\frac{1}{3} \left(L^{\frac{2}{3}} \right) \text{ or } 14.5$$

m, whichever is less

$$\frac{1}{3} \left(L^{\frac{2}{3}} \right) \text{ or } 5 \text{ m,}$$

whichever is less

.2.2 Transverse extent:

$$\frac{B}{6} \text{ or } 10 \text{ m,}$$

whichever is less

$$\frac{B}{6} \text{ formula or } 5$$

m, whichever is less

.2.3 Vertical extent:	$\frac{B}{15}$ or 6 m, whichever is less, measured from the moulded line of the bottom shell plating at centreline	$\frac{B}{15}$ or 6 m, whichever is less, measured from the moulded line of the bottom shell plating at centreline
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- .3 If any damage of a lesser extent than the maximum extent of damage specified in subparagraphs 2.1 and 2.2 of this paragraph would result in a more severe condition, such damage shall be considered.
- .4 Where the damage involving transverse bulkheads is envisaged as specified in subparagraphs 1.1 and 1.2 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 2.1 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.
- .5 Where the damage between adjacent transverse watertight bulkheads is envisaged as specified in subparagraph 1.3 of this regulation, no main transverse bulkhead or a transverse bulkhead bounding side tanks or double bottom tanks shall be assumed damaged, unless:
 - .5.1 the spacing of the adjacent bulkheads is less than the longitudinal extent of assumed damage specified in subparagraph 2.1 of this paragraph; or
 - .5.2 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

top shall not be regarded as a step for the purpose of this regulation.

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

SEE INTERPRETATION 47

- 3 Oil tankers shall be regarded as complying with the damage stability criteria if the following requirements are met:
- .1 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.
 - .2 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.
 - .3 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 m-rad. Unprotected openings shall not be immersed within this range unless the space concerned is assumed to be flooded. Within this range, the immersion of any of the openings listed in subparagraph 3.1 of this paragraph and other

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openings capable of being closed watertight may be permitted.

- .4 The Administration shall be satisfied that the stability is sufficient during intermediate stages of flooding.
 - .5 Equalization arrangements requiring mechanical aids such as valves or cross-levelling pipes, if fitted, shall not be considered for the purpose of reducing an angle of heel or attaining the minimum range of residual stability to meet the requirements of subparagraphs 3.1, 3.2 and 3.3 of this paragraph and sufficient residual stability shall be maintained during all stages where equalization is used. Spaces which are linked by ducts of a large cross-sectional area may be considered to be common.
- 4 The requirements of paragraph 1 of this regulation shall be confirmed by calculations which take into consideration the design characteristics of the ship, the arrangements, configuration and contents of the damaged compartments; and the distribution, relative densities and the free surface effect of liquids. The calculations shall be based on the following:
- .1 Account shall be taken of any empty or partially filled tank, the relative density of cargoes carried, as well as any outflow of liquids from damaged compartments.
 - .2 The permeabilities assumed for spaces flooded as a result of damage shall be as follows:

Spaces	Permeabilities
Appropriated to stores	0.60
Occupied by accommodation	0.95
Occupied by machinery	0.85
Voids	0.95

-
- | | | |
|--|---------------------------------|-------------------------|
| | Intended for consumable liquids | 0 to 0.95 ²⁰ |
| | Intended for other liquids | 0 to 0.95 ²¹ |
- .3 The buoyancy of any superstructure directly above the side damage shall be disregarded. The unflooded parts of superstructures beyond the extent of damage, however, may be taken into consideration provided that they are separated from the damaged space by watertight bulkheads and the requirements of subparagraph .3.1 of this regulation in respect of these intact spaces are complied with. Hinged watertight doors may be acceptable in watertight bulkheads in the superstructure.
 - .4 The free surface effect shall be calculated at an angle of heel of 5° for each individual compartment. The Administration may require or allow the free surface corrections to be calculated at an angle of heel greater than 5° for partially filled tanks.
 - .5 In calculating the effect of free surfaces of consumable liquids it shall be assumed that, for each type of liquid, at least one transverse pair or a single centreline tank has a free surface and the tank or combination of tanks to be taken into account shall be those where the effect of free surface is the greatest.
- 5 The master of every oil tanker to which this regulation applies and the person in charge of a non-self-propelled oil tanker to which this regulation applies shall be supplied in a approved form with:

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

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

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- .1 information relative to loading and distribution of cargo necessary to ensure compliance with the provisions of this regulation; and
 - .2 data on the ability of the ship to comply with damage stability criteria as determined by this regulation, including the effect of relaxations that may have been allowed under subparagraph 1.3 of this regulation.
- 6 For oil tankers of 20,000 tonnes deadweight and above delivered on or after 6 July 1996, as defined in regulation 1.28.6, the damage assumptions prescribed in paragraph 2.2 of this regulation shall be supplemented by the following assumed bottom raking damage:
- .1 longitudinal extent:
 - .1.1 ships of 75,000 tonnes deadweight and above: $0.6L$ measured from the forward perpendicular;
 - .1.2 ships of less than 75,000 tonnes deadweight: $0.4L$ measured from the forward perpendicular;
 - .2 transverse extent: $B/3$ anywhere in the bottom;
 - .3 vertical extent: breach of the outer hull.

Regulation 29 Slop tanks

- 1 Subject to the provisions of paragraph 4 of regulation 3 of this Annex, oil tankers of 150 gross tonnage and above shall be provided with slop tank arrangements in accordance with the requirements of paragraphs 2.1 to 2.3 of this regulation. In oil tankers delivered on or before 31 December 1979, as defined in regulation 1.28.1, any cargo tank may be designated as a slop tank.
- 2.1 Adequate means shall be provided for cleaning the cargo tanks and transferring the dirty ballast residue and tank washings from the cargo tanks into a slop tank approved by the Administration.
- 2.2 In this system arrangements shall be provided to transfer the oily waste into a slop tank or combination of slop tanks in such a way that any effluent discharged into the sea will be

such as to comply with the provisions of regulation 34 of this Annex.

- 2.3 The arrangements of the slop tank or combination of slop tanks shall have a capacity necessary to retain the slop generated by tank washings, oil residues and dirty ballast residues. The total capacity of the slop tank or tanks shall not be less than 3 per cent of the oil-carrying capacity of the ship, except that the Administration may accept:
- .1 2% for such oil tankers where the tank washing arrangements are such that once the slop tank or tanks are charged with washing water, this water is sufficient for tank washing and, where applicable, for providing the driving fluid for eductors, without the introduction of additional water into the system;
 - .2 2% where segregated ballast tanks or dedicated clean ballast tanks are provided in accordance with regulation 18 of this Annex, or where a cargo tank cleaning system using crude oil washing is fitted in accordance with regulation 33 of this Annex. This capacity may be further reduced to 1.5% for such oil tankers where the tank washing arrangements are such that once the slop tank or tanks are charged with washing water, this water is sufficient for tank washing and, where applicable, for providing the driving fluid for eductors, without the introduction of additional water into the system; and
 - .3 1% for combination carriers where oil cargo is only carried in tanks with smooth walls. This capacity may be further reduced to 0.8% where the tank washing arrangements are such that once the slop tank or tanks are charged with washing water, this water is sufficient for tank washing and, where applicable, for providing the driving fluid for eductors, without the introduction of additional water into the system.

SEE INTERPRETATION 48

- 2.4 Slop tanks shall be so designed, particularly in respect of the position of inlets, outlets, baffles or weirs where fitted, so as

to avoid excessive turbulence and entrainment of oil or emulsion with the water.

- 3 Oil tankers of 70,000 tonnes deadweight and above delivered after 31 December 1979, as defined in regulation 1.28.2, shall be provided with at least two slop tanks.

Regulation 30 Pumping, piping and discharge arrangement

- 1 In every oil tanker, a discharge manifold for connection to reception facilities for the discharge of dirty ballast water or oil-contaminated water shall be located on the open deck on both sides of the ship.
- 2 In every oil tanker of 150 gross tonnage and above, pipelines for the discharge to the sea of ballast water or oil-contaminated water from cargo tank areas which may be permitted under regulation 34 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 6.1 to 6.5 of this regulation may be accepted.

SEE INTERPRETATIONS 49.1.1 TO 49.1.4

- 3 In oil tankers of 150 gross tonnage and above delivered after 31 December 1979, as defined in regulation 1.28.2, means shall be provided for stopping the discharge into the sea of ballast water or oil-contaminated water from cargo tank areas, other than those discharges below the waterline permitted under 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 oil tanker delivered after 1 June 1982, as defined in regulation 1.28.4, required to be provided with segregated ballast tanks or fitted with a crude oil washing system, shall comply with the following requirements:
- .1 it shall be equipped with oil piping so designed and installed that oil retention in the lines is minimized; and
 - .2 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 draining 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 50.1 TO 50.3

- 5 Every crude oil tanker delivered on or before 1 June 1982, as defined in regulation 1.28.3, required to be provided with segregated ballast tanks, or to be fitted with a crude oil washing system, shall comply with the provisions of paragraph 4.2 of this regulation.
- 6 On every oil tanker the discharge of ballast water or oil-contaminated water from cargo tank areas shall take place above the waterline, except as follows:
- .1 Segregated ballast and clean ballast may be discharged below the waterline:
 - .1.1 in ports or at offshore terminals, or
 - .1.2 at sea by gravity, or
 - .1.3 at sea by pumps if the ballast water exchange is performed under the provisions of regulation D-1.1 of the International Convention for the Control and Management of Ships' Ballast Water and Sediments,
- provided that the surface of the ballast water has been examined either visually or by other means immediately

- before the discharge to ensure that no contamination with oil has taken place.
- .2 Oil tankers delivered on or before 31 December 1979, as defined in regulation 1.28.1, which, without modification, are not capable of discharging segregated ballast above the waterline may discharge segregated ballast below the waterline at sea, provided that the surface of the ballast water has been examined immediately before the discharge to ensure that no contamination with oil has taken place.
 - .3 Oil tankers delivered on or before 1 June 1982, as defined in regulation 1.28.3, operating with dedicated clean ballast tanks, which without modification are not capable of discharging ballast water from dedicated clean ballast tanks above the waterline, may discharge this ballast below the waterline provided that the discharge of the ballast water is supervised in accordance with regulation 18.8.3 of this Annex.
 - .4 On every oil tanker at sea, dirty ballast water or oil-contaminated water from tanks in the cargo area, other than slop tanks, may be discharged by gravity below the waterline, provided that sufficient time has elapsed in order to allow oil/water separation to have taken place and the ballast water has been examined immediately before the discharge with an oil/water interface detector referred to in regulation 32 of this Annex, in order to ensure that the height of the interface is such that the discharge does not involve any increased risk of harm to the marine environment.
 - .5 On oil tankers delivered on or before 31 December 1979, as defined in regulation 1.28.1, at sea dirty ballast water or oil-contaminated water from cargo tank areas may be discharged below the waterline, subsequent to or in lieu of the discharge by the method referred to in subparagraph 6.4 of this paragraph, provided that:
 - .5.1 a part of the flow of such water is led through permanent piping to a readily accessible location on the upper deck or above where it may be

Schedule 1

- 2 In considering the design of the oil content meter to be incorporated in the system, the Administration shall have regard to the specification recommended by the Organization.²³ The system shall be fitted with a recording device to provide a continuous record of the discharge in litres per nautical mile and total quantity discharged, or the oil content and rate of discharge. This record shall be identifiable as to time and date and shall be kept for at least three years. The oil discharge monitoring and control system shall come into operation when there is any discharge of effluent into the sea and shall be such as will ensure that any discharge of oily mixture is automatically stopped when the instantaneous rate of discharge of oil exceeds that permitted by regulation 34 of this Annex. Any failure of this monitoring and control system shall stop the discharge. In the event of failure of the oil discharge monitoring and control system a manually operated alternative method may be used, but the defective unit shall be made operable as soon as possible. Subject to allowance by the port State authority, a tanker with a defective oil discharge monitoring and control system may undertake one ballast voyage before proceeding to a repair port.
- 3 The oil discharge monitoring and control system shall be designed and installed in compliance with the guidelines and specifications for oil discharge monitoring and control

23 For oil content meters installed on oil tankers built prior to 2 October 1986, refer to the Recommendation on international performance and test specifications for oily-water separating equipment and oil content meters adopted by the Organization by resolution A.393(X). For oil content meters as part of discharge monitoring and control systems installed on oil tankers built on or after 2 October 1986, refer to the Guidelines and specifications for oil discharge monitoring and control systems for oil tankers adopted by the Organization by resolution A.586(14). For oil content meters as part of discharge monitoring and control systems installed on oil tankers built on or after 1 January 2005, refer to the revised Guidelines and specifications for oil discharge monitoring and control systems for oil tankers adopted by the Organization by resolution MEPC.108(49).

systems for oil tankers developed by the Organization.²⁴ Administrations may accept such specific arrangements as detailed in the Guidelines and Specifications.

- 4 Instructions as to the operation of the system shall be in accordance with an operational manual approved by the Administration. They shall cover manual as well as automatic operations and shall be intended to ensure that at no time shall oil be discharged except in compliance with the conditions specified in regulation 34 of this Annex.

Regulation 32 Oil/water interface detector²⁵

Subject to the provisions of paragraphs 4 and 5 of regulation 3 of this Annex, oil tankers of 150 gross tonnage and above shall be provided with effective oil/water interface detectors approved by the Administration for a rapid and accurate determination of the oil/water interface in slop tanks and shall be available for use in other tanks where the separation of oil and water is effected and from which it is intended to discharge effluent direct to the sea.

Regulation 33 Crude oil washing requirements

SEE INTERPRETATION 25

- 1 Every crude oil tanker of 20,000 tonnes deadweight and above delivered after 1 June 1982, as defined in regulation 1.28.4, shall be fitted with a cargo tank cleaning system using crude oil washing. The Administration shall ensure that the system

24 Refer to the Guidelines and specifications for oil discharge monitoring and control systems for oil tankers adopted by the Organization by resolution A.496(XII) or the Revised Guidelines and specifications for oil discharge monitoring and control systems for oil tankers adopted by the Organization by resolution A.586(14), or the Revised Guidelines and specifications for oil discharge monitoring and control systems for oil tankers adopted by the Organization by resolution MEPC.108(49) as applicable.

25 Refer to the Specifications for oil/water interface detectors adopted by the Organization by resolution MEPC.5(XIII).

-
- .4 the instantaneous rate of discharge of oil content does not exceed 30 litres per nautical mile;
 - .5 the total quantity of oil discharged into the sea does not exceed for tankers delivered on or before 31 December 1979, as defined in regulation 1.28.1, 1/15,000 of the total quantity of the particular cargo of which the residue formed a part, and for tankers delivered after 31 December 1979, as defined in regulation 1.28.2, 1/30,000 of the total quantity of the particular cargo of which the residue formed a part; and
-

SEE INTERPRETATION 53

- .6 the tanker has in operation an oil discharge monitoring and control system and a slop tank arrangement as required by regulations 29 and 31 of this Annex.
- 2 The provisions of paragraph 1 of this regulation shall not apply to the discharge of clean or segregated ballast.

B Discharges in special areas

- 3 Subject to the provisions of paragraph 4 of this regulation, any discharge into the sea of oil or oily mixture from the cargo area of an oil tanker shall be prohibited while in a special area.²⁷
- 4 The provisions of paragraph 3 of this regulation shall not apply to the discharge of clean or segregated ballast.
- 5 Nothing in this regulation shall prohibit a ship on a voyage only part of which is in a special area from discharging outside the special area in accordance with paragraph 1 of this regulation.

C Requirements for oil tankers of less than 150 gross tonnage

- 6 The requirements of regulations 29, 31 and 32 of this Annex shall not apply to oil tankers of less than 150 gross tonnage, for which the control of discharge of oil under this regulation shall be effected by the retention of oil on board with subsequent discharge of all contaminated washings to

²⁷ Refer to regulation 38.6.

reception facilities. The total quantity of oil and water used for washing and returned to a storage tank shall be discharged to reception facilities unless adequate arrangements are made to ensure that any effluent which is allowed to be discharged into the sea is effectively monitored to ensure that the provisions of this regulation are complied with.

D General requirements

- 7 Whenever visible traces of oil are observed on or below the surface of the water in the immediate vicinity of a ship or its wake, the Governments of Parties to the present Convention should, to the extent they are reasonably able to do so, promptly investigate the facts bearing on the issue of whether there has been a violation of the provisions of this regulation. The investigation should include, in particular, the wind and sea conditions, the track and speed of the ship, other possible sources of the visible traces in the vicinity, and any relevant oil discharge records.
- 8 No discharge into the sea shall contain chemicals or other substances in quantities or concentrations which are hazardous to the marine environment or chemicals or other substances introduced for the purpose of circumventing the conditions of discharge specified in this regulation.
- 9 The oil residues which cannot be discharged into the sea in compliance with paragraphs 1 and 3 of this regulation shall be retained on board for subsequent discharge to reception facilities.

Regulation 35 Crude oil washing operations

SEE INTERPRETATION 25

- 1 Every oil tanker operating with crude oil washing systems shall be provided with an Operations and Equipment Manual²⁸

28 Refer to the Standard format of the Crude Oil Washing Operation and Equipment Manual adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.3(XII), as amended by resolution MEPC.81(43).

detailing the system and equipment and specifying operational procedures. Such a Manual shall be to the satisfaction of the Administration and shall contain all the information set out in the specifications referred to in paragraph 2 of regulation 33 of this Annex. If an alteration affecting the crude oil washing system is made, the Operations and Equipment Manual shall be revised accordingly.

- 2 With respect to the ballasting of cargo tanks, sufficient cargo tanks shall be crude oil washed prior to each ballast voyage in order that, taking into account the tanker's trading pattern and expected weather conditions, ballast water is put only into cargo tanks which have been crude oil washed.
- 3 Unless an oil tanker carries crude oil which is not suitable for crude oil washing, the oil tanker shall operate the crude oil washing system in accordance with the Operations and Equipment Manual.

Regulation 36 Oil record book, Part II—Cargo/ballast operations

- 1 Every oil tanker of 150 gross tonnage and above shall be provided with an Oil Record Book Part II (Cargo/Ballast Operations). The Oil Record Book Part II, whether as a part of the ship's official log-book or otherwise, shall be in the form specified in appendix III to this Annex.
- 2 The Oil Record Book Part II shall be completed on each occasion, on a tank-to-tank basis if appropriate, whenever any of the following cargo/ballast operations take place in the ship:
 - .1 loading of oil cargo;
 - .2 internal transfer of oil cargo during voyage;
 - .3 unloading of oil cargo;
 - .4 ballasting of cargo tanks and dedicated clean ballast tanks;
 - .5 cleaning of cargo tanks including crude oil washing;

Schedule 1

- .6 discharge of ballast except from segregated ballast tanks;
 - .7 discharge of water from slop tanks;
 - .8 closing of all applicable valves or similar devices after slop tank discharge operations;
 - .9 closing of valves necessary for isolation of dedicated clean ballast tanks from cargo and stripping lines after slop tank discharge operations; and
 - .10 disposal of residues.
- 3 For oil tankers referred to in regulation 34.6 of this Annex, the total quantity of oil and water used for washing and returned to a storage tank shall be recorded in the Oil Record Book Part II.
 - 4 In the event of such discharge of oil or oily mixture as is referred to in regulation 4 of this Annex or in the event of accidental or other exceptional discharge of oil not excepted by that regulation, a statement shall be made in the Oil Record Book Part II of the circumstances of, and the reasons for, the discharge.
 - 5 Each operation described paragraph 2 of this regulation shall be fully recorded without delay in the Oil Record Book Part II so that all entries in the book appropriate to that operation are completed. Each completed operation shall be signed by the officer or officers in charge of the operations concerned and each completed page shall be signed by the master of ship. The entries in the Oil Record Book Part II shall be at least in English, French or Spanish. Where entries are in an official language of the State whose flag the ship is entitled to fly are also used, this shall prevail in case of dispute or discrepancy.
 - 6 Any failure of the oil discharge monitoring and control system shall be noted in the Oil Record Book Part II.
 - 7 The Oil Record Book shall be kept in such a place as to be readily available for inspection at all reasonable times and, except in the case of unmanned ships under tow, shall be kept on board the ship. It shall be preserved for a period of three years after the last entry has been made.

- 8 The competent authority of the Government of a Party to the Convention may inspect the Oil Record Book Part II on board any ship to which this Annex applies while the ship is in its port or offshore terminals and may make a copy of any entry in that book and may require the master of the ship to certify that the copy is a true copy of such entry. Any copy so made which has been certified by the master of the ship as a true copy of an entry in the ship's Oil Record Book Part II shall be made admissible in any judicial proceedings as evidence of the facts stated in the entry. The inspection of an Oil Record Book Part II and the taking of a certified copy by the competent authority under this paragraph shall be performed as expeditiously as possible without causing the ship to be unduly delayed.
- 9 For oil tankers of less than 150 gross tonnage operating in accordance with regulation 34.6 of this Annex, an appropriate Oil Record Book should be developed by the Administration.

Chapter 5 Prevention of pollution arising from an oil pollution incident

Regulation 37 Shipboard oil pollution emergency plan

- 1 Every oil tanker of 150 gross tonnage and above and every ship other than an oil tanker of 400 gross tonnage and above shall carry on board a shipboard oil pollution emergency plan approved by the Administration.

SEE INTERPRETATION 54

- 2 Such a plan shall be prepared based on guidelines²⁹ developed by the Organization and written in the working language of the master and officers. The plan shall consist at least of:

²⁹ Refer to the Guidelines for the development of shipboard oil pollution emergency plans adopted by the Organization by resolution MEPC.54(32) as amended by resolution MEPC.86(44).

Schedule 1

- .1 the procedure to be followed by the master or other persons having charge of the ship to report an oil pollution incident, as required in article 8 and Protocol I of the present Convention, based on the guidelines developed by the Organization;³⁰
 - .2 the list of authorities or persons to be contacted in the event of an oil pollution incident;
 - .3 a detailed description of the action to be taken immediately by persons on board to reduce or control the discharge of oil following the incident; and
 - .4 the procedures and point of contact on the ship for coordinating shipboard action with national and local authorities in combating the pollution.
- 3 In the case of ships to which regulation 17 of Annex II of the present Convention also applies, such a plan may be combined with the shipboard marine pollution emergency plan for noxious liquid substances required under regulation 17 of Annex II of the present Convention. In this case, the title of such a plan shall be “Shipboard marine pollution emergency plan”.
- 4 All oil tankers of 5,000 tonnes deadweight or more shall have prompt access to computerized shore-based damage stability and residual structural strength calculation programs.

30 Refer to the General principles for ship reporting systems and ship reporting requirements, including guidelines for reporting incidents involving dangerous goods, harmful substances and/or marine pollutants adopted by the Organization by resolution A.851(20).

Chapter 6 Reception facilities**Regulation 38 Reception facilities**

SEE INTERPRETATION 55

A Reception facilities outside special areas

- 1 The Government of each Party to the present Convention undertakes to ensure the provision at oil loading terminals, repair ports, and in other ports in which ships have oily residues to discharge, of facilities for the reception of such residues and oily mixtures as remain from oil tankers and other ships adequate³¹ to meet the needs of the ships using them without causing undue delay to ships.
- 2 Reception facilities in accordance with paragraph 1 of this regulation shall be provided in:
 - .1 all ports and terminals in which crude oil is loaded into oil tankers where such tankers have immediately prior to arrival completed a ballast voyage of not more than 72 hours or not more than 1200 nautical miles;
 - .2 all ports and terminals in which oil other than crude oil in bulk is loaded at an average quantity of more than 1000 tonnes per day;
 - .3 all ports having ship repair yards or tank cleaning facilities;
 - .4 all ports and terminals which handle ships provided with the sludge tank(s) required by regulation 12 of this Annex;
 - .5 all ports in respect of oily bilge waters and other residues which cannot be discharged in accordance with regulation 15 of this Annex; and

31 See resolution MEPC.83(44) "Guidelines for ensuring the adequacy of port waste reception facilities".

.6 all loading ports for bulk cargoes in respect of oil residues from combination carriers which cannot be discharged in accordance with regulation 34 of this Annex.

3 The capacity for the reception facilities shall be as follows:

.1 Crude oil loading terminals shall have sufficient reception facilities to receive oil and oily mixtures which cannot be discharged in accordance with the provisions of regulation 34.1 of this Annex from all oil tankers on voyages as described in paragraph 2.1 of this regulation.

.2 Loading ports and terminals referred to in paragraph 2.2 of this regulation shall have sufficient reception facilities to receive oil and oily mixtures which cannot be discharged in accordance with the provisions of regulation 34.1 of this Annex from oil tankers which load oil other than crude oil in bulk.

.3 All ports having ship repair yards or tank cleaning facilities shall have sufficient reception facilities to receive all residues and oily mixtures which remain on board for disposal from ships prior to entering such yards or facilities.

.4 All facilities provided in ports and terminals under paragraph 2.4 of this regulation shall be sufficient to receive all residues retained according to regulation 12 of this Annex from all ships that may reasonably be expected to call at such ports and terminals.

.5 All facilities provided in ports and terminals under this regulation shall be sufficient to receive oily bilge waters and other residues which cannot be discharged in accordance with regulation 15 of this Annex.

.6 The facilities provided in loading ports for bulk cargoes shall take into account the special problems of combination carriers as appropriate.

B Reception facilities within special areas

4 The Government of each Party to the present Convention the coastline of which borders on any given special area shall

ensure that all oil loading terminals and repair ports within the special area are provided with facilities adequate for the reception and treatment of all the dirty ballast and tank washing water from oil tankers. In addition, all ports within the special area shall be provided with adequate³² reception facilities for other residues and oily mixtures from all ships. Such facilities shall have adequate capacity to meet the needs of the ships using them without causing undue delay.

- 5 The Government of each Party to the present Convention having under its jurisdiction entrances to seawater courses with low depth contour which might require a reduction of draught by the discharge of ballast shall ensure the provision of the facilities referred to in paragraph 4 of this regulation but with the proviso that ships required to discharge slops or dirty ballast could be subject to some delay.
- 6 With regard to the Red Sea area, Gulfs area, Gulf of Aden area and Oman area of the Arabian Sea:
 - .1 Each Party concerned shall notify the Organization of the measures taken pursuant to provisions of paragraphs 4 and 5 of this regulation. Upon receipt of sufficient notifications, the Organization shall establish a date from which the discharge requirements of regulations 15 and 34 of this Annex in respect of the area in question shall take effect. The Organization shall notify all Parties of the date so established no less than twelve months in advance of that date.
 - .2 During the period between the entry into force of the present Convention and the date so established, ships while navigating in the special area shall comply with the requirements of regulations 15 and 34 of this Annex as regards discharges outside special areas.
 - .3 After such date, oil tankers loading in ports in these special areas where such facilities are not yet available shall also fully comply with the requirements of regulations 15 and 34 of this Annex as regards

32 See resolution MEPC.83(44) "Guidelines for ensuring the adequacy of port waste reception facilities".

discharges within special areas. However, oil tankers entering these special areas for the purpose of loading shall make every effort to enter the area with only clean ballast on board.

- .4 After the date on which the requirements for the special area in question take effect, each Party shall notify the Organization for transmission to the Parties concerned of all cases where the facilities are alleged to be inadequate.
 - .5 At least the reception facilities as prescribed in paragraphs 1, 2 and 3 of this regulation shall be provided one year after the date of entry into force of the present Convention.
- 7 Notwithstanding paragraphs 4, 5 and 6 of this regulation, the following rules apply to the Antarctic area:
- .1 The Government of each Party to the present Convention at whose ports ships depart *en route* to or arrive from the Antarctic area undertakes to ensure that as soon as practicable adequate facilities are provided for the reception of all sludge, dirty ballast, tank washing water, and other oily residues and mixtures from all ships, without causing undue delay, and according to the needs of the ships using them.
 - .2 The Government of each Party to the present Convention shall ensure that all ships entitled to fly its flag, before entering the Antarctic area, are fitted with a tank or tanks of sufficient capacity on board for the retention of all sludge, dirty ballast, tank washing water and other oily residues and mixtures while operating in the area and have concluded arrangements to discharge such oily residues at a reception facility after leaving the area.

C General requirements

- 8 Each Party shall notify the Organization for transmission to the Parties concerned of all cases where the facilities provided under this regulation are alleged to be inadequate.

Chapter 7 **Special requirements for fixed or floating platforms****Regulation 39** **Special requirements for fixed or floating platforms**

SEE INTERPRETATIONS 56.1 AND 56.2

- 1 This regulation applies to fixed or floating platforms including drilling rigs, floating production, storage and offloading facilities (FPSOs) used for the offshore production and storage of oil, and floating storage units (FSUs) used for the offshore storage of produced oil.
- 2 Fixed or floating platforms when engaged in the exploration, exploitation and associated offshore processing of sea-bed mineral resources and other platforms shall comply with the requirements of this Annex applicable to ships of 400 gross tonnage and above other than oil tankers, except that:
 - .1 they shall be equipped as far as practicable with the installations required in regulations 12 and 14 of this Annex;
 - .2 they shall keep a record of all operations involving oil or oily mixture discharges, in a form approved by the Administration; and
 - .3 subject to the provisions of regulation 4 of this Annex, the discharge into the sea of oil or oily mixture shall be prohibited except when the oil content of the discharge without dilution does not exceed 15 parts per million.
- 3 In verifying compliance with this Annex in relation to platforms configured as FPSOs or FSUs, in addition to the requirements of paragraph 2, Administrations should take account of the Guidelines developed by the Organization.³³

33 Refer to resolution MEPC.139(53), as amended, "Guidelines for the application of the revised MARPOL Annex I requirements to FPSOs and FSUs."

Appendices to Annex I

Appendix I List of oils³⁴

Asphalt solutions

Blending stocks
Roofers flux
Straight run residue

Oils

Clarified
Crude oil
Mixtures containing crude oil
Diesel oil
Fuel oil no. 4

Fuel oil no. 5
Fuel oil no. 6
Residual fuel oil
Road oil
Transformer oil
Aromatic oil (excluding vegetable oil)
Lubricating oils and blending stocks
Mineral oil
Motor oil
Penetrating oil
Spindle oil
Turbine oil

Gasoline blending stocks

Alkylates – fuel
Reformats
Polymer – fuel

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

³⁴ This list of oils shall not necessarily be considered as comprehensive.

Distillates	Mineral spirit
Straight run	
Flashed feed stocks	Naphtha
	Solvent
Gas oil	Petroleum
Cracked	Heartcut distillate oil

Appendix II Form of IOPP Certificate and Supplements³⁵

INTERNATIONAL OIL POLLUTION PREVENTION CERTIFICATE

(Note: This Certificate shall be supplemented by a Record of Construction and Equipment)

Issued under the provisions of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, as amended, (hereinafter referred to as “the Convention”) under the authority of the Government of:

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

by

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

Particulars of ship³⁶

Name of ship

Distinctive number or letters

35 The IOPP Certificate shall be at least in English, French or Spanish. If an official language of the issuing country is also used, this shall prevail in case of a dispute or discrepancy.

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

Schedule 1

Port of registry

Gross tonnage

Deadweight of ship (tonnes)³⁷

IMO Number³⁸

Type of ship:³⁹

Oil tanker

Ship other than an oil tanker with cargo tanks coming under regulation 2.2 of Annex I of the Convention

Ship other than any of the above

THIS IS TO CERTIFY:

- 1 That the ship has been surveyed in accordance with regulation 6 of Annex I of the Convention; and
- 2 That the survey shows that the structure, equipment, systems, fittings, arrangement and material of the ship and the condition thereof are in all respects satisfactory and that the ship complies with the applicable requirements of Annex I of the Convention.

This certificate is valid until (dd/mm/yyyy):⁴⁰
subject to surveys in accordance with regulation 6 of Annex I of the Convention.

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

Issued at:

(Place of issue of certificate)

37 For oil tankers.

38 Refer to the IMO Ship Identification Number Scheme adopted by the Organization by resolution A.600(15).

39 Delete as appropriate.

40 Insert the date of expiry as specified by the Administration in accordance with regulation 10.1 of Annex I of the Convention. The day and the month of this date correspond to the anniversary date as defined in regulation 1.27 of Annex I of the Convention, unless amended in accordance with regulation 10.8 of Annex I of the Convention.

(dd/mm/yyyy)
(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 6 of Annex I 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 (dd/mm/yyyy):
(Seal or stamp of the authority, as appropriate)

Annual/Intermediate⁴¹ survey: Signed:
(Signature of duly authorized official)
Place:
Date (dd/mm/yyyy):
(Seal or stamp of the authority, as appropriate)

Annual/Intermediate⁴² survey: Signed:
(Signature of duly authorized official)
Place:
Date (dd/mm/yyyy):
(Seal or stamp of the authority, as appropriate)

41 Delete as appropriate.

42 Delete as appropriate.

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Annual survey: Signed:
(Signature of duly authorized official)
Place:
Date (dd/mm/yyyy):
(Seal or stamp of the authority, as appropriate)

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

THIS IS TO CERTIFY that, at an annual/intermediate⁴³ survey in accordance with regulation 10.8.3 of Annex I of the Convention, the ship was found to comply with the relevant provisions of the Convention:

Signed:
(Signature of duly authorized official)
Place:
Date (dd/mm/yyyy):
(Seal or stamp of the authority, as appropriate)

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

The ship complies with the relevant provisions of the Convention, and this Certificate shall, in accordance with regulation 10.3 of Annex I of the Convention, be accepted as valid until (dd/mm/yyyy):

Signed:
(Signature of duly authorized official)
Place:
Date (dd/mm/yyyy):
(Seal or stamp of the authority, as appropriate)

43 Delete as appropriate.

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

The ship complies with the relevant provisions of the Convention, and this Certificate shall, in accordance with regulation 10.4 of Annex I of the Convention, be accepted as valid until (dd/mm/yyyy):

Signed:

(Signature of duly authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

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

This Certificate shall, in accordance with regulation 10.5 or 10.6⁴⁴ of Annex I of the Convention, be accepted as valid until (dd/mm/yyyy):

Signed:

(Signature of duly authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

44 Delete as appropriate.

**ENDORSEMENT FOR ADVANCEMENT OF ANNIVERSARY DATE
WHERE REGULATION 10.8 APPLIES**

In accordance with regulation 10.8 of Annex I of the Convention, the new anniversary date is (dd/mm/yyyy):

Signed:

(Signature of duly authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

In accordance with regulation 10.8 of Annex I of the Convention, the new anniversary date is (dd/mm/yyyy):

Signed:

(Signature of duly authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

Appendix

FORM A

**Supplement to the International Oil Pollution Prevention Certificate
(IOPP Certificate)**

**RECORD OF CONSTRUCTION AND EQUIPMENT FOR SHIPS
OTHER THAN OIL TANKERS**

in respect of the provisions of Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as “the Convention”).

Notes:

- 1 This Form is to be used for the third type of ships as categorized in the IOPP Certificate, i.e. “ship other than any of the above”. For oil tankers and ships other than oil tankers with cargo tanks coming under regulation 2.2 of Annex I of the Convention, Form B shall be used.
- 2 This Record shall be permanently attached to the IOPP Certificate. The IOPP Certificate shall be available on board the ship at all times.
- 3 The language of the original Record shall be at least in English, French or Spanish. If an official language of the issuing country is also used, this shall prevail in case of a dispute or discrepancy.
- 4 Entries in boxes shall be made by inserting either a cross (x) for the answers “yes” and “applicable” or a dash (–) for the answers “no” and “not applicable” as appropriate.
- 5 Regulations mentioned in this Record refer to regulations of Annex I of the Convention and resolutions refer to those adopted by the International Maritime Organization.

1 Particulars of ship

- 1.1 Name of ship.
- 1.2 Distinctive number or letters.
- 1.3 Port of registry
- 1.4 Gross tonnage
- 1.5 Date of build:
 - 1.5.1 Date of building contract
 - 1.5.2 Date on which keel was laid or ship was at a similar stage of construction
 - 1.5.3 Date of delivery
- 1.6 Major conversion (if applicable):
 - 1.6.1 Date of conversion contract
 - 1.6.2 Date on which conversion was commenced.
 - 1.6.3 Date of completion of conversion.

- 1.7 The ship has been accepted by the Administration as a “ship delivered on or before 31 December 1979” under regulation 1.28.1 due to unforeseen delay in delivery

2 Equipment for the control of oil discharge from machinery space bilges and oil fuel tanks
(regulations 16 and 14)

2.1 Carriage of ballast water in oil fuel tanks:

- 2.1.1 The ship may under normal conditions carry ballast water in oil fuel tanks

2.2 Type of oil filtering equipment fitted

- 2.2.1 Oil filtering (15 ppm) equipment (regulation 14.6)

- 2.2.2 Oil filtering (15 ppm) equipment with alarm and automatic stopping device (regulation 14.7)

2.3 Approval standards:⁴⁵

2.3.1 The separating/filtering equipment:

- .1 has been approved in accordance with resolution A.393(X);

- .2 has been approved in accordance with resolution MEPC.60(33);

45 Refer to the Recommendation on international performance and test specifications of oily water separating equipment and oil content meters adopted by the Organization on 14 November 1977 by resolution A.393(X), which superseded resolution A.233(VII). Further reference is made to the Guidelines and specifications for pollution prevention equipment for machinery space bilges adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.60(33), which, effective on 6 July 1993, superseded resolutions A.393(X) and A.444(XI) and the revised Guidelines and specifications for pollution prevention equipment for machinery spaces of ships adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.107(49) which, effective from 1 January 2005, superseded resolutions MEPC.60(33), A.393(X) and A.444(XI).

- .3 has been approved in accordance with resolution MEPC.107(49);
- .4 has been approved in accordance with resolution A.233(VII);
- .5 has been approved in accordance with national standards not based upon resolution A.393(X) or A.233(VII);
- .6 has not been approved.
- 2.3.2 The process unit has been approved in accordance with resolution A.444(XI).
- 2.3.3 The oil content meter:
 - .1 has been approved in accordance with resolution A.393(X);
 - .2 has been approved in accordance with resolution MEPC.60(33);
 - .3 has been approved in accordance with resolution MEPC.107(49).
- 2.4 Maximum throughput of the system ism³/h.
- 2.5 Waiver of regulation 14:
 - 2.5.1 The requirements of regulation 14.1 or 14.2 are waived in respect of the ship in accordance with regulation 14.5.
 - 2.5.1.1 The ship is engaged exclusively on voyages within special area(s):
 - 2.5.1.2 The ship is certified under the International Code of Safety for High-Speed Craft and engaged on a scheduled service with a turn-around time not exceeding 24 hours

Schedule 1

2.5.2 The ship is fitted with holding tank(s) for the total retention on board of all oily bilge water as follows:

Tank identification	Tank location		Volume (m ³)
	Frames (from)–(to)	Lateral position	
Total volume:..... m³			

3 Means for retention and disposal of oil residues (sludge) (regulation 12) and bilge water holding tank(s)⁴⁶

3.1 The ship is provided with oil residue (sludge) tanks as follows:

Tank identification	Tank location		Volume (m ³)
	Frames (from)–(to)	Lateral position	
Total volume:..... m³			

3.2 Means for the disposal of residues in addition to the provisions of sludge tanks:

- 3.2.1 Incinerator for oil residues, capacityl/h
- 3.2.2 Auxiliary boiler suitable for burning oil residues
- 3.2.3 Tank for mixing oil residues with fuel oil, capacity . . m³
- 3.2.4 Other acceptable means:.....

⁴⁶ Bilge water holding tank(s) are not required by the Convention, entries in the table under paragraph 3.3 are voluntary

3.3 The ship is fitted with holding tank(s) for the retention on board of oily bilge water as follows:

Tank identification	Tank location		Volume (m ³)
	Frames (from)–(to)	Lateral position	
Total volume:..... m³			

4 Standard discharge connection
(regulation 13)

4.1 The ship is provided with a pipeline for the discharge of residues from machinery bilges and sludges to reception facilities, fitted with a standard discharge connection in accordance with regulation 13

5 Shipboard oil/marine pollution emergency plan
(regulation 37)

5.1 The ship is provided with a shipboard oil pollution emergency plan in compliance with regulation 37

5.2 The ship is provided with a shipboard marine pollution emergency plan in compliance with regulation 37.3

6 Exemption

6.1 Exemptions have been granted by the Administration from the requirements of chapter 3 of Annex I of the Convention in accordance with regulation 3.1 on those items listed under paragraph(s)
.....of this Record

7 Equivalentents (regulation 5)

7.1 Equivalentents have been approved by the Administration for certain requirements of Annex I on those items listed under paragraph(s) of this record

THIS IS TO CERTIFY that this Record is correct in all respects.

Issued at

(Place of issue of the Record)

.....

(Date of issue)

.....

(Signature of duly authorized official issuing the Record)

(Seal or stamp of the issuing authority, as appropriate)

FORM B

Supplement to the International Oil Pollution Prevention Certificate (IOPP Certificate)

RECORD OF CONSTRUCTION AND EQUIPMENT FOR OIL TANKERS

in respect of the provisions of Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as “the Convention”).

Notes:

- 1 This form is to be used for the first two types of ships as categorized in the IOPP Certificate, i.e. “oil tankers” and “ships other than oil tankers with cargo tanks coming under regulation 2.2 of Annex I of the Convention”. For the third type of ships as categorized in the IOPP Certificate, Form A shall be used.
- 2 This Record shall be permanently attached to the IOPP Certificate. The IOPP Certificate shall be available on board the ship at all times.

- 3 The language of the original Record shall be at least in English, French or Spanish. If an official language of the issuing country is also used, this shall prevail in case of a dispute or discrepancy.
- 4 Entries in boxes shall be made by inserting either a cross (x) for the answers “yes” and “applicable” or a dash (–) for the answers “no” and “not applicable” as appropriate.
- 5 Unless otherwise stated, regulations mentioned in this Record refer to regulations of Annex I of the Convention and resolutions refer to those adopted by the International Maritime Organization.

1 Particulars of ship

- 1.1 Name of ship.
- 1.2 Distinctive number or letters.
- 1.3 Port of registry
- 1.4 Gross tonnage
- 1.5 Carrying capacity of ship (m³)
- 1.6 Deadweight of ship. (tonnes) (regulation 1.23)
- 1.7 Length of ship. (m) (regulation 1.19)
- 1.8 Date of build:
 - 1.8.1 Date of building contract
 - 1.8.2 Date on which keel was laid or ship was at a similar stage of construction
 - 1.8.3 Date of delivery
- 1.9 Major conversion (if applicable):
 - 1.9.1 Date of conversion contract
 - 1.9.2 Date on which conversion was commenced.
 - 1.9.3 Date of completion of conversion.
- 1.10 Unforeseen delay in delivery:
 - 1.10.1 The ship has been accepted by the Administration as a “ship delivered on or before 31 December 1979” under regulation 1.28.1 due to unforeseen delay in delivery

Schedule 1

- 1.10.2 The ship has been accepted by the Administration as an “oil tanker delivered on or before 1 June 1982” under regulation 1.28.3 due to unforeseen delay in delivery
- 1.10.3 The ship is not required to comply with the provisions of regulation 26 due to unforeseen delay in delivery
- 1.11 Type of ship:
- 1.11.1 Crude oil tanker
- 1.11.2 Product carrier
- 1.11.3 Product carrier not carrying fuel oil or heavy diesel oil as referred to in regulation 20.2, or lubricating oil
- 1.11.4 Crude oil/product carrier
- 1.11.5 Combination carrier
- 1.11.6 Ship, other than an oil tanker, with cargo tanks coming under regulation 2.2 of Annex I of the Convention
- 1.11.7 Oil tanker dedicated to the carriage of products referred to in regulation 2.4
- 1.11.8 The ship, being designated as a “crude oil tanker” operating with COW, is also designated as a “product carrier” operating with CBT, for which a separate IOPP Certificate has also been issued
- 1.11.9 The ship, being designated as a “product carrier” operating with CBT, is also designated as a “crude oil tanker” operating with COW, for which a separate IOPP Certificate has also been issued

2 Equipment for the control of oil discharge from machinery space bilges and oil fuel tanks (regulations 16 and 14)

2.1 Carriage of ballast water in oil fuel tanks:

2.1.1 The ship may under normal conditions carry ballast water in oil fuel tanks

2.2 Type of oil filtering equipment fitted:

2.2.1 Oil filtering (15 ppm) equipment (regulation 14.6)

2.2.2 Oil filtering (15 ppm) equipment with alarm and automatic stopping device (regulation 14.7)

2.3 Approval standards:⁴⁷

2.3.1 The separating/filtering equipment:

.1 has been approved in accordance with resolution A.393(X)

.2 has been approved in accordance with resolution MEPC.60(33)

.3 has been approved in accordance with resolution MEPC.107(49)

.4 has been approved in accordance with resolution A.233(VII);

⁴⁷ Refer to the Recommendation on international performance and test specifications of oily water separating equipment and oil content meters adopted by the Organization on 14 November 1977 by resolution A.393(X), which superseded resolution A.233(VII). Further reference is made to the Guidelines and specifications for pollution prevention equipment for machinery space bilges adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.60(33), which, effective on 6 July 1993, superseded resolutions A.393(X) and A.444(XI) and the revised Guidelines and specifications for pollution prevention equipment for machinery spaces of ships adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.107(49) which, effective from 1 January 2005, superseded resolutions MEPC.60(33), A.393(X) and A.444(XI).

Schedule 1

- .5 has been approved in accordance with national standards not based upon resolution A.393(X) or A.233(VII)
- .6 has not been approved
- 2.3.2 The process unit has been approved in accordance with resolution A.444(XI)
- 2.3.3 The oil content meter:
 - .1 has been approved in accordance with resolution A.393(X);
 - .2 has been approved in accordance with resolution MEPC.60(33);
 - .3 has been approved in accordance with resolution MEPC.107(49)

2.4 Maximum throughput of the system is m³/h.

2.5 Waiver of regulation 14:

2.5.1 The requirements of regulation 14.1 or 14.2 are waived in respect of the ship in accordance with regulation 14.5.

The ship is engaged exclusively on voyages within special area(s):

2.5.2 The ship is fitted with holding tank(s) for the total retention on board of all oily bilge water as follows:

Tank identification	Tank location		Volume (m ³)
	Frames (from)–(to)	Lateral position	
Total volume: m³			

2.5.3 In lieu of the holding tank(s) the ship is provided with arrangements to transfer bilge water to the slop tank.

3 Means for retention and disposal of oil residues (sludge) (regulation 12) and bilge water holding tank(s)⁴⁸

3.1 The ship is provided with oil residue (sludge) tanks as follows:

Tank identification	Tank location		Volume (m ³)
	Frames (from)–(to)	Lateral position	
Total volume:..... m³			

3.2 Means for the disposal of residues in addition to the provisions of sludge tanks:

- 3.2.1 Incinerator for oil residues, capacityl/h
- 3.2.2 Auxiliary boiler suitable for burning oil residues
- 3.2.3 Tank for mixing oil residues with fuel oil, capacity . . m³
- 3.2.4 Other acceptable means:.....

3.3 The ship is provided with holding tank(s) for the retention on board of oily bilge water as follows:

Tank identification	Tank location		Volume (m ³)
	Frames (from)–(to)	Lateral position	
Total volume:..... m³			

4 Standard discharge connection (regulation 13)

- 4.1 The ship is provided with a pipeline for the discharge of residues from machinery bilges to reception facilities, fitted with a standard discharge connection in compliance with regulation 13

48 Bilge water holding tank(s) are not required by the Convention, entries in the table under paragraph 3.3 are voluntary.

Schedule 1

5 Construction (regulations 18, 19, 20, 23, 26, 27 and 28)

5.1 In accordance with the requirements of regulation 18, 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 18

5.2 Segregated ballast tanks (SBT):

5.2.1 The ship is provided with SBT in compliance with regulation 18

5.2.2 The ship is provided with SBT, in compliance with regulation 18, which are arranged in protective locations (PL) in compliance with regulations 18.12 to 18.15

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 18.8, 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:		 m ³

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

5.3.4 The ship has common piping and pumping arrangements for ballasting the CBT and handling cargo oil

5.3.5 The ship has separate independent piping and pumping arrangements for ballasting the CBT

5.4 Crude oil washing (COW):

5.4.1 The ship is equipped with a COW system in compliance with regulation 33

5.4.2 The ship is equipped with a COW system in compliance with regulation 33 except that the effectiveness of the system has not been confirmed in accordance with regulation 33.1 and paragraph 4.2.10 of the Revised COW Specifications (resolution A.446(XI) as amended by resolutions A.497(XII) and A.897(21))

5.4.3 The ship has been supplied with a valid Crude Oil Washing Operations and Equipment Manual, which is dated. . . .
.....

5.4.4 The ship is not required to be but is equipped with COW in compliance with the safety aspects of the Revised COW Specifications (resolution A.446(XI) as amended by resolutions A.497(XII) and A.897(21))

Schedule 1

5.5 Exemption from regulation 18:

5.5.1 The ship is solely engaged in trade between
.....
in accordance with regulation 2.5 and is therefore
exempted from the requirements of regulation 18

5.5.2 The ship is operating with special ballast arrangements in
accordance with regulation 18.10 and is therefore
exempted from the requirements of regulation 18

5.6 Limitation of size and arrangements of cargo tanks
(regulation 26):

5.6.1 The ship is required to be constructed according to, and
complies with, the requirements of regulation 26

5.6.2 The ship is required to be constructed according to, and
complies with, the requirements of regulation 26.4
(see regulation 2.2)

5.7 Subdivision and stability (regulation 28):

5.7.1 The ship is required to be constructed according to, and
complies with, the requirements of regulation 28

5.7.2 Information and data required under regulation 28.5 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 27

5.7.4 Information and data required under regulation 27 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 19 and complies with the requirements of:
.1 paragraph 3 (double-hull construction)

-
- .2 paragraph 4 (mid-height deck tankers 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 19.6 (double bottom requirements)
 - 5.8.3 The ship is not required to comply with the requirements of regulation 19
 - 5.8.4 The ship is subject to regulation 20 and:
 - .1 is required to comply with paragraphs 2 to 5, 7 and 8 of regulation 19 and regulation 28 in respect of paragraph 28.6 not later than
 - .2 is allowed to continue operation in accordance with regulation 20.5 until
 - .3 is allowed to continue operation in accordance with regulation 20.7 until
 - 5.8.5 The ship is not subject to regulation 20
 - 5.8.6 The ship is subject to regulation 21 and:
 - .1 is required to comply with regulation 21.4 not later than
 - .2 is allowed to continue operation in accordance with regulation 21.5 until
 - .3 is allowed to continue operation in accordance with regulation 21.6.1 until
 - .4 is allowed to continue operation in accordance with regulation 21.6.2 until
 - .5 is exempted from the provisions of regulation 21 in accordance with regulation 21.7.2

Schedule 1

- 5.8.7 The ship is not subject to regulation 21
- 5.8.8 The ship is subject to regulation 22 and:
 - .1 complies with the requirements of regulation 22.2
 - .2 complies with the requirements of regulation 22.3
 - .3 complies with the requirements of regulation 22.5
- 5.8.9 The ship is not subject to regulation 22
- 5.9 Accidental oil outflow performance:
 - 5.9.1 The ship complies with the requirements of regulation 23

6 Retention of oil on board (regulations 29, 31 and 32)

- 6.1 Oil discharge monitoring and control system:
 - 6.1.1 The ship comes under category oil tanker as defined in resolution A.496(XII) or A.586(14)⁴⁹ (*delete as appropriate*)
 - 6.1.2 The oil discharge monitoring and control system has been approved in accordance with resolution MEPC.108(49)
 - 6.1.3 The system comprises:
 - .1 control unit
 - .2 computing unit
 - .3 calculating unit
 - 6.1.4 The system is:
 - .1 fitted with a starting interlock
 - .2 fitted with automatic stopping device

49 Oil tankers the keels of which are laid, or which are at a similar stage of construction, on or after 2 October 1986 should be fitted with a system approved under resolution A.586(14).

- 6.1.5 The oil content meter is approved under the terms of resolution A.393(X) or A.586(14) or MEPC.108(49)⁵⁰ (*delete as appropriate*) suitable for:
- .1 crude oil
 - .2 black products
 - .3 white products
 - .4 oil-like noxious liquid substances as listed in the attachment to the certificate
- 6.1.6 The ship has been supplied with an operations manual for the oil discharge monitoring and control system
- 6.2 Slop tanks:
- 6.2.1 The ship is provided with dedicated slop tank(s) with the total capacity of m³, which is . . . % of the oil carrying capacity, in accordance with:
- .1 regulation 29.2.3
 - .2 regulation 29.2.3.1
 - .3 regulation 29.2.3.2
 - .4 regulation 29.2.3.3
- 6.2.2 Cargo tanks have been designated as slop tanks

50 For oil content meters installed on tankers built prior to 2 October 1986, refer to the Recommendation on international performance and test specifications for oily-water separating equipment and oil content meters adopted by the Organization by resolution A.393(X). For oil content meters as part of discharge monitoring and control systems installed on tankers built on or after 2 October 1986, refer to the Guidelines and specifications for oil discharge monitoring and control systems for oil tankers adopted by the Organization by resolution A.586(14). For oil content meters as part of discharge monitoring and control systems installed on tankers built on or after 1 January 2005, refer to the revised Guidelines and specifications for oil discharge monitoring and control systems for oil tankers adopted by the Organization by resolution MEPC.108(49).

Schedule 1

6.3 Oil/water interface detectors:

6.3.1 The ship is provided with oil/water interface detectors approved under the terms of resolution MEPC.5(XIII)⁵¹

6.4 Exemptions from regulations 29, 31 and 32:

6.4.1 The ship is exempted from the requirements of regulations 29, 31 and 32 in accordance with regulation 2.4

6.4.2 The ship is exempted from the requirements of regulations 29, 31 and 32 in accordance with regulation 2.2

6.5 Waiver of regulations 31 and 32:

6.5.1 The requirements of regulations 31 and 32 are waived in respect of the ship in accordance with regulation 3.5. The ship is engaged exclusively on:

.1 specific trade under regulation 2.5:
.
.

.2 voyages within special area(s):
.
.

.3 voyages within 50 nautical miles of the nearest land outside special area(s) of 72 hours or less in duration restricted to:
.
.

51 Refer to the Specification for oil/water interface detectors adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.5(XIII).

7 Pumping, piping and discharge arrangements

(regulation 30)

- 7.1 The overboard discharge outlets for segregated ballast are located:
- 7.1.1 Above the waterline
- 7.1.2 Below the waterline
- 7.2 The overboard discharge outlets, other than the discharge manifold, for clean ballast are located:⁵²
- 7.2.1 Above the waterline
- 7.2.2 Below the waterline
- 7.3 The overboard discharge outlets, other than the discharge manifold, for dirty ballast water or oil-contaminated water from cargo tank areas are located:⁵³
- 7.3.1 Above the waterline
- 7.3.2 Below the waterline in conjunction with the part flow arrangements in compliance with regulation 30.6.5
- 7.3.3 Below the waterline
- 7.4 Discharge of oil from cargo pumps and oil lines (regulations 30.4 and 30.5):
- 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

⁵² Only those outlets which can be monitored are to be indicated.

⁵³ Only those outlets which can be monitored are to be indicated.

Schedule 1

8 Shipboard oil/marine pollution emergency plan
(regulation 37)

- 8.1 The ship is provided with a shipboard oil pollution emergency plan in compliance with regulation 37
- 8.2 The ship is provided with a shipboard marine pollution emergency plan in compliance with regulation 37.3

9 Exemption

- 9.1 Exemptions have been granted by the Administration from the requirements of chapter 3 of Annex I of the Convention in accordance with regulation 3.1 on those items listed under paragraph(s)
.....
.....of this Record

10 Equivalentents (regulation 5)

- 10.1 Equivalentents have been approved by the Administration for certain requirements of Annex I on those items listed under paragraph(s)
.....
.....of this Record

THIS IS TO CERTIFY that this Record is correct in all respects.

Issued at

(Place of issue of the Record)

(dd/mm/yyyy);

(Date of issue)

(Signature of duly authorized official issuing the Record)

(Seal or stamp of the issuing authority, as appropriate)

Appendix III Form of Oil Record Book**Oil Record Book****Part I Machinery space operations (*All ships*)**

Name of ship:

Distinctive number or letters:

Gross tonnage:

Period from: to:

Note: Oil Record Book Part I shall be provided to every oil tanker of 150 gross tonnage and above and every ship of 400 gross tonnage and above, other than oil tankers, to record relevant machinery space operations. For oil tankers, Oil Record Book Part II shall also be provided to record relevant cargo/ballast operations.

Introduction

The following pages of this section show a comprehensive list of items of machinery space operations which are, when appropriate, to be recorded in the Oil Record Book in accordance with regulation 17 of Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78). The items have been grouped into operational sections, each of which is denoted by a letter Code.

When making entries in the Oil Record Book Part I, the date, operational code and item number shall be inserted in the appropriate columns and the required particulars shall be recorded chronologically in the blank spaces.

Each completed operation shall be signed for and dated by the officer or officers in charge. The master of the ship shall sign each completed page.

The Oil Record Book Part I contains many references to oil quantity. The limited accuracy of tank measurement devices, temperature variations and

Schedule 1

clinging will affect the accuracy of these readings. The entries in the Oil Record Book Part I should be considered accordingly.

In the event of accidental or other exceptional discharge of oil, statement shall be made in the Oil Record Book Part I of the circumstances of, and the reasons for, the discharge.

Any failure of the oil filtering equipment shall be noted in the Oil Record Book Part I.

The entries in the Oil Record Book Part I, for ships holding an IOPP Certificate, shall be at least in English, French or Spanish. Where entries in official language of the State whose flag the ship is entitled to fly are also used, this shall prevail in case of a dispute or discrepancy.

The Oil Record Book Part I shall be kept in such a place as to be readily available for inspection at all reasonable times and, except in the case of unmanned ships under tow, shall be kept on board the ship. It shall be preserved for a period of three years after the last entry has been made.

The competent authority of the Government of a Party to the Convention may inspect the Oil Record Book Part I on board any ship to which this Annex applies while the ship is in its port or offshore terminals and may make a copy of any entry in that book and may require the master of the ship to certify that the copy is a true copy of such entry. Any copy so made which has been certified by the master of the ship as a true copy of an entry in the Oil Record Book Part I shall be made admissible in any judicial proceedings as evidence of the facts stated in the entry. The inspection of an Oil Record Book Part I and the taking of a certified copy by the competent authority under this paragraph shall be performed as expeditiously as possible without causing the ship to be unduly delayed.

List Of Items To Be Recorded

- (A) Ballasting or cleaning of oil fuel tanks
 - 1 Identity of tank(s) ballasted.
 - 2 Whether cleaned since they last contained oil and, if not, type of oil previously carried.

-
- 3 Cleaning process:
 - .1 position of ship and time at the start and completion of cleaning;
 - .2 identify tank(s) in which one or another method has been employed (rinsing through, steaming, cleaning with chemicals; type and quantity of chemicals used, in cubic metres);
 - .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, in cubic metres.

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

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

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

11 Collection of oil residues.

Quantities of oil residues (sludge and other oil residues) retained on board. The quantity should be recorded weekly:⁵⁴ (This means that the quantity must be recorded once a week even if the voyage lasts more than one week)

12 Methods of disposal of residue.

- .1 identity of tank(s)
- .2 capacity of tank(s)m³
- .3 total quantity of retention m³.

State quantity of oil residues disposed of, the tank(s) emptied and the quantity of contents retained in cubic metres:

- .1 to reception facilities (identify port);⁵⁵
- .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, in cubic metres.⁵⁶

54 Tanks listed in item 3.1 of forms A and B of the Supplement in the IOPP Certificate used for sludge.

55 Ships' masters should obtain from the operator of the reception facilities, which includes 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 Part I, 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 Part I.

56 In case of discharge or disposal of bilge water from holding tank(s), state identity and capacity of holding tank(s) and quantity retained in holding tank.

-
- 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);⁵⁷
 - .3 transfer to slop tank or holding tank (indicate tank(s); state quantity retained in tank(s), in cubic metres).

(E) Automatic discharge overboard or disposal otherwise of bilge water which has accumulated in machinery spaces

- 16 Time and position of ship at which the system has been put into automatic mode of operation for discharge overboard, through 15 ppm equipment.
- 17 Time when the system has been put into automatic mode of operation for transfer of bilge water to holding tank (identify tank).
- 18 Time when the system has been put into manual operation.

(F) Condition of the oil filtering equipment

- 19 Time of system failure.⁵⁸
- 20 Time when system has been made operational.
- 21 Reasons for failure.

57 Ships' masters should obtain from the operator of the reception facilities, which includes 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 Part I, 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 Part I.

58 The condition of the oil filtering equipment covers also the alarm and automatic stopping devices, if applicable.

Schedule 1

(G) Accidental or other exceptional discharges of oil

- 22 Time of occurrence.
- 23 Place or position of ship at time of occurrence.
- 24 Approximate quantity and type of oil.
- 25 Circumstances of discharge or escape, the reasons therefor and general remarks.

(H) Bunkering of fuel or bulk lubricating oil

- 26 Bunkering:
 - .1 Place of bunkering.
 - .2 Time of bunkering.
 - .3 Type and quantity of fuel oil and identity of tank(s) (state quantity added, in tonnes, and total content of tank(s)).
 - .4 Type and quantity of lubricating oil and identity of tank(s) (state quantity added, in tonnes, and total content of tank(s)).

(I) Additional operational procedures and general remarks

Name of ship

Distinctive number or letters

MACHINERY SPACE OPERATIONS

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge

Signature of master

Oil Record Book

Part II Cargo/ballast operations (*Oil tankers*)

Name of ship:

Distinctive number or letters:

Gross tonnage:

Period from: to:

Note: Every oil tanker of 150 gross tonnage and above shall be provided with Oil Record Book Part II to record relevant cargo/ballast operations. Such a tanker shall also be provided with Oil Record Book Part I to record relevant machinery space operations.

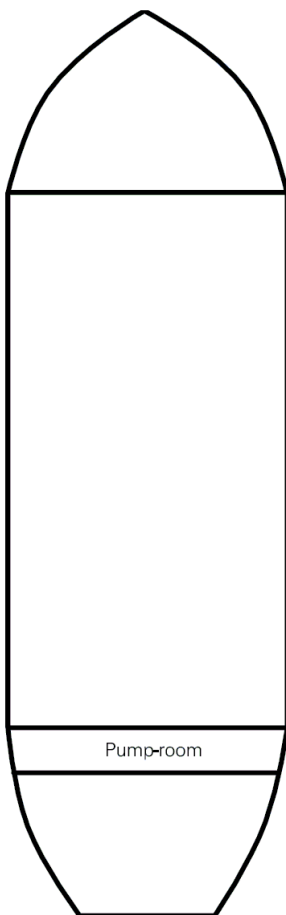
Schedule 1

Name of ship

Distinctive number or letters

PLAN VIEW OF CARGO AND SLOP TANKS

(to be completed on board)



96037

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

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

Introduction

The following pages of this section show a comprehensive list of items of cargo and ballast operations which are, when appropriate, to be recorded in the Oil Record Book Part II in accordance with regulation 36 of Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78). The items have been grouped into operational sections, each of which is denoted by a code letter.

When making entries in the Oil Record Book Part II, the date, operational code and item number shall be inserted in the appropriate columns and the required particulars shall be recorded chronologically in the blank spaces.

Each completed operation shall be signed for and dated by the officer or officers in charge. Each completed page shall be countersigned by the master of the ship.

In respect of the oil tankers engaged in specific trades in accordance with regulation 2.5 of Annex I of MARPOL 73/78, appropriate entry in the Oil Record Book Part II shall be endorsed by the competent port State authority.⁵⁹

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

In the event of accidental or other exceptional discharge of oil, a statement shall be made in the Oil Record Book Part II of the circumstances of, and the reasons for, the discharge.

Any failure of the oil discharge monitoring and control system shall be noted in the Oil Record Book Part II.

The entries in the Oil Record Book Part II, for ships holding an IOPP Certificate, shall be at least in English, French or Spanish. Where entries in an official language of the State whose flag the ship is entitled to fly are also used, this shall prevail in case of a dispute or discrepancy.

The Oil Record Book Part II shall be kept in such a place as to be readily available for inspection at all reasonable times and, except in the case of

⁵⁹ This sentence should only be inserted for the Oil Record Book of a tanker engaged in a specific trade.

Schedule 1

unmanned ships under tow, shall be kept on board the ship. It shall be preserved for a period of three years after the last entry has been made.

The competent authority of the Government of a Party to the Convention may inspect the Oil Record Book Part II on board the ship to which this Annex applies while the ship is in its port or offshore terminals and may make copy of any entry in that book and may require the master of the ship to certify that the copy is a true copy of such entry. Any copy so made which has been certified by the master of the ship as a true copy of an entry in the Oil Record Book Part II shall be made admissible in any juridical proceedings as evidence of the facts stated in the entry. The inspection of an Oil Record Book Part II and taking of a certified copy by the competent authority under this paragraph shall be performed as expeditiously as possible without causing the ship to be unduly delayed.

List Of Items To Be Recorded

(A) Loading of oil cargo

- 1 Place of loading.
- 2 Type of oil loaded and identity of tank(s).
- 3 Total quantity of oil loaded (state quantity added, in cubic metres, at 15°C and the total content of tank(s), in cubic metres).

(B) Internal transfer of oil cargo during voyage

- 4 Identity of tank(s):
 - .1 from:
 - .2 to: (state quantity transferred and total quantity of tank(s), in cubic metres).
- 5 Was (were) the tank(s) in 4.1 emptied? (If not, state quantity retained, in cubic metres.)

(C) Unloading of oil cargo

- 6 Place of unloading.

- 7 Identity of tank(s) unloaded.
- 8 Was (were) the tank(s) emptied? (If not, state quantity retained, in cubic metres.)

(D) Crude oil washing (COW tankers only)

(To be completed for each tank being crude oil washed)

- 9 Port where crude oil washing was carried out or ship's position if carried out between two discharge ports.
- 10 Identity of tank(s) washed.⁶⁰
- 11 Number of machines in use.
- 12 Time of start of washing.
- 13 Washing pattern employed.⁶¹
- 14 Washing line pressure.
- 15 Time washing was completed or stopped.
- 16 State method of establishing that tank(s) was (were) dry.
- 17 Remarks.⁶²

(E) Ballasting of cargo tanks

- 18 Position of ship at start and end of ballasting.
- 19 Ballasting process:
 - .1 identity of tank(s) ballasted;
 - .2 time of start and end;

60 When an individual tank has more machines than can be operated simultaneously, as described in the Operations and Equipment Manual, then the section being crude oil washed should be identified, e.g. No. 2 centre, forward section.

61 In accordance with the Operations and Equipment Manual, enter whether single-stage or multi-stage method of washing is employed. If multi-stage method is used, give the vertical arc covered by the machines and the number of times that arc is covered for that particular stage of the programme.

62 If the programmes given in the Operations and Equipment Manual are not followed, then the reasons must be given under Remarks.

- .3 quantity of ballast received. Indicate total quantity of ballast for each tank involved in the operation, in cubic metres.

(F) Ballasting of dedicated clean ballast tanks (CBT tankers only)

- 20 Identity of tank(s) ballasted.
- 21 Position of ship when water intended for flushing, or port ballast was taken to dedicated clean ballast tank(s).
- 22 Position of ship when pump(s) and lines were flushed to slop tank.
- 23 Quantity of the oily water which, after line flushing, is transferred to the slop tank(s) or cargo tank(s) in which slop is preliminarily stored (identify tank(s)). State total quantity, in cubic metres.
- 24 Position of ship when additional ballast water was taken to dedicated clean ballast tank(s).
- 25 Time and position of ship when valves separating the dedicated clean ballast tanks from cargo and stripping lines were closed.
- 26 Quantity of clean ballast taken on board, in cubic metres.

(G) Cleaning of cargo tanks

- 27 Identity of tank(s) cleaned.
- 28 Port or ship's position.
- 29 Duration of cleaning.
- 30 Method of cleaning.⁶³
- 31 Tank washings transferred to:

63 Hand-hosing, machine washing and/or chemical cleaning. Where chemically cleaned, the chemical concerned and amount used should be stated.

- .1 reception facilities (state port and quantity, in cubic metres);⁶⁴
- .2 slop tank(s) or cargo tank(s) designated as slop tank(s) (identify tank(s); state quantity transferred and total quantity, in cubic metres).

(H) Discharge of dirty ballast

- 32 Identity of tank(s).
- 33 Time and position of ship at start of discharge into the sea.
- 34 Time and position of ship on completion of discharge into the sea.
- 35 Quantity discharged into the sea, in cubic metres.
- 36 Ship's speed(s) during discharge.
- 37 Was the discharge monitoring and control system in operation during the discharge?
- 38 Was a regular check kept on the effluent and the surface of the water in the locality of the discharge?
- 39 Quantity of oily water transferred to slop tank(s) (identify slop tank(s)). State total quantity, in cubic metres.
- 40 Discharged to shore reception facilities (identify port and quantity involved, in cubic metres).⁶⁵

64 Ships' masters should obtain from the operator of the reception facilities, which includes 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 Part II, 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 Part II.

65 Ships' masters should obtain from the operator of the reception facilities, which includes 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 Part II, 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 Part II.

(I) Discharge of water from slop tanks into the sea

- 41 Identity of slop tanks.
- 42 Time of settling from last entry of residues, or
- 43 Time of settling from last discharge.
- 44 Time and position of ship at start of discharge.
- 45 Ullage of total contents at start of discharge.
- 46 Ullage of oil/water interface at start of discharge.
- 47 Bulk quantity discharged in cubic metres and rate of discharge in m³/hour.
- 48 Final quantity discharged in cubic metres and rate of discharge in m³/hour.
- 49 Time and position of ship on completion of discharge.
- 50 Was the discharge monitoring and control system in operation during the discharge?
- 51 Ullage of oil/water interface on completion of discharge, in metres.
- 52 Ship's speed(s) during discharge.
- 53 Was a regular check kept on the effluent and the surface of the water in the locality of the discharge?
- 54 Confirm that all applicable valves in the ship's piping system have been closed on completion of discharge from the slop tanks.

(J) Disposal of residues and oily mixtures not otherwise dealt with

- 55 Identity of tank(s).
- 56 Quantity disposed of from each tank. (State the quantity retained, in cubic metres.)

57 Method of disposal:

- .1 to reception facilities (identify port and quantity involved);⁶⁶
- .2 mixed with cargo (state quantity);
- .3 transferred to (an)other tank(s) (identify tank(s); state quantity transferred and total quantity in tank(s), in cubic metres); and
- .4 other method (state which); state quantity disposed of, in cubic metres.

(K) Discharge of clean ballast contained in cargo tanks

- 58 Position of ship at start of discharge of clean ballast.
- 59 Identity of tank(s) discharged.
- 60 Was (were) the tank(s) empty on completion?
- 61 Position of ship on completion if different from 58.
- 62 Was a regular check kept on the effluent and the surface of the water in the locality of the discharge?

(L) Discharge of ballast from dedicated clean ballast tanks (CBT tankers only)

- 63 Identity of tank(s) discharged.
- 64 Time and position of ship at start of discharge of clean ballast into the sea.
- 65 Time and position of ship on completion of discharge into the sea.
- 66 Quantity discharged, in cubic metres:

⁶⁶ Ships' masters should obtain from the operator of the reception facilities, which includes 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 Part II, 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 Part II.

Schedule 1

- .1 into the sea; or
- .2 to reception facility (identify port).⁶⁷

- 67 Was there any indication of oil contamination of the ballast water before or during discharge into the sea?
- 68 Was the discharge monitored by an oil content meter?
- 69 Time and position of ship when valves separating dedicated clean ballast tanks from the cargo and stripping lines were closed on completion of deballasting.

(M) Condition of oil discharge monitoring and control system

- 70 Time of system failure.
- 71 Time when system has been made operational.
- 72 Reasons for failure.

(N) Accidental or other exceptional discharges of oil

- 73 Time of occurrence.
- 74 Port or ship's position at time of occurrence.
- 75 Approximate quantity, in cubic metres, and type of oil.
- 76 Circumstances of discharge or escape, the reasons therefor and general remarks.

⁶⁷ Ships' masters should obtain from the operator of the reception facilities, which includes 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 Part II, 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 Part II.

(O) Additional operational procedures and general remarks

TANKERS ENGAGED IN SPECIFIC TRADES

(P) Loading of ballast water

- 77 Identity of tank(s) ballasted.
- 78 Position of ship when ballasted.
- 79 Total quantity of ballast loaded in cubic metres.
- 80 Remarks.

(Q) Re-allocation of ballast water within the ship

- 81 Reasons for re-allocation.

(R) Ballast water discharge to reception facility

- 82 Port(s) where ballast water was discharged.
- 83 Name or designation of reception facility.
- 84 Total quantity of ballast water discharged in cubic metres.
- 85 Date, signature and stamp of port authority official.

Name of ship

Distinctive number or letters

CARGO/BALLAST OPERATIONS (OIL TANKERS)

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge

Schedule 1

Date	Code (letter)	Item (number)	Record of operations/signature of officer in charge

Signature of master

Unified Interpretations of Annex I

Notes: For the purposes of the Unified Interpretations, the following abbreviations are used:

- MARPOL 73/78 The 1973 MARPOL Convention as modified by the 1978 Protocol relating thereto
- Regulation Regulation in Annex I of MARPOL 73/78
- IOPP Certificate International Oil Pollution Prevention Certificate
- SBT Segregated ballast tanks

CBT	Dedicated clean ballast tanks
COW	Crude oil washing system
IGS	Inert gas systems
PL	Protective location of segregated ballast tanks
CAS	Condition Assessment Scheme

1 Definitions

Reg 1.1 *Definition of "oil"*

- 1.1 (Animal and vegetable oils are found to fall under the category of "noxious liquid substance", and therefore this interpretation has been deleted (see Annex II, appendix II, of MARPOL 73/78).)

Treatment for oily rags

- 1.2 Oily rags, as defined in the Guidelines for the Implementation of Annex V of MARPOL 73/78, should be treated in accordance with Annex V and the procedures set out in the Guidelines.

Reg 1.5 *Definition of an oil tanker*

- 1.3 FPSOs and FSUs are not *oil tankers* and are not to be used for the transport of oil except that, with the specific agreement by the flag and relevant coastal States on a voyage basis, produced oil may be transported to port in abnormal and rare circumstances.

2 Major conversion

- Reg 1.9
- 2.1 The deadweight to be used for determining the application of provisions of Annex I is the deadweight assigned to an oil tanker at the time of the assignment of the load lines. If the load lines are reassigned for the purpose of altering the deadweight, without alteration of the structure of the ship, any substantial alteration of the deadweight consequential upon such reassignments should not be construed as a “major conversion” as defined in regulation 1.9. However, the IOPP Certificate should indicate only one deadweight of the ship and be renewed on every reassignment of load lines.
 - 2.2 If a crude oil tanker of 40,000 tonnes deadweight and above delivered on or before 1 June 1982 as defined in regulation 1.28.3 satisfying the requirements of COW changes its trade for the carriage of product oil⁶⁸ conversion to CBT or SBT and reissuing of the IOPP Certificate will be necessary (see paragraph 19 below). Such conversion should not be considered as a “major conversion” as defined in regulation 1.9.
 - 2.3 When an oil tanker is used solely for the storage of oil and is subsequently put into service in the transport of oil, such a change of function should not be construed as a “major conversion” as defined in regulation 1.9.
 - 2.4 The conversion of an existing oil tanker to a combination carrier, or the shortening of a tanker by removing a transverse section of cargo tanks, should constitute a “major conversion” as defined in regulation 1.9.
 - 2.5 The conversion of an existing oil tanker to a segregated ballast tanker by the addition of a transverse section of tanks should constitute a “major conversion” as defined in regulation 1.9 only when the cargo-carrying capacity of the tanker is increased.

68 “Product oil” means any oil other than crude oil as defined in regulation 1.2.

- 2.6 When a ship built as a combination carrier operates exclusively in the bulk cargo trade, the ship may be treated as a ship other than an oil tanker and Form A of the Record of Construction and Equipment should be issued to the ship. The change of such a ship from the bulk trade to the oil trade should not be construed as a “major conversion” as defined in regulation 1.9.

3 Definition of “segregated ballast”

- Reg 1.18 3.1 The segregated ballast system should be a system which is “completely separated from the cargo oil and fuel systems” as required by regulation 1.18. Nevertheless, provision may be made for emergency discharge of the segregated ballast by means of a connection to a cargo pump through a portable spool piece. In this case non-return valves should be fitted on the segregated ballast connections to prevent the passage of oil to the segregated ballast tanks. The portable spool piece should be mounted in a conspicuous position in the pump-room and a permanent notice restricting its use should be prominently displayed adjacent to it.
- 3.2 Sliding type couplings should not be used for expansion purposes where lines for cargo oil or fuel oil pass through tanks for segregated ballast, and where lines for segregated ballast pass through cargo oil or fuel oil tanks. This interpretation is applicable to ships, the keel of which is laid, or which are at a similar stage of construction, on or after 1 July 1992.

4 Unforeseen delay in delivery of ships

- Reg 1.28 4.1 For the purpose of defining the category of a ship under regulation 1.28, a ship for which the building contract (or keel laying) and delivery were scheduled before the dates specified in these regulations, but which has been subject to delay in delivery beyond the specific date due to unforeseen circumstances beyond the control of the builder and the owner, may be accepted by the Administration as a ship of the category related to the estimated date of delivery. The treatment of such ships should be considered by the Administration on a case-by-case basis, bearing in mind the particular circumstances.
- 4.2 It is important that ships delivered after the specified dates due to unforeseen delay and allowed to be treated as a ship of the category related to the estimated date of delivery by the Administration should also be accepted as such by port States. In order to ensure this, the following practice is recommended to Administrations when considering an application for such a ship:
- .1 the Administration should thoroughly consider applications on a case-by-case basis, bearing in mind the particular circumstances. In doing so in the case of a ship built in a foreign country, the Administration may require a formal report from the authorities of the country in which the ship was built, stating that the delay was due to unforeseen circumstances beyond the control of the builder and the owner;
 - .2 when a ship is treated as a ship of the category related to the estimated date of delivery upon such an application, the IOPP Certificate for the ship should be endorsed to indicate that the ship is accepted by the Administration as such a ship; and
 - .3 the Administration should report to the Organization on the identity of the ship and the grounds on which the ship has been accepted as such a ship.

5 Definition of generation of ships

Regs. 1.28.2, 1.28.4, 1.28.6, 1.28.7, 1.28.8

For the purpose of defining the ships in accordance with regulations 1.28.2, 1.28.4, 1.28.6, 1.28.7, 1.28.8, a ship which falls into any one of the categories listed in subparagraphs 1, 2, 3, 4.1, 4.2, or 4.3 of these paragraphs should be considered as a ship falling under the corresponding definition.

6 Annex I substances which through their physical properties inhibit effective product/water separation and monitoring

- Reg 2.4
- 6.1 The Government of the receiving Party should establish appropriate measures in order to ensure that provisions of 6.2 are complied with.
- 6.2 A tank which has been unloaded should, subject to the provisions of 6.3, be washed and all contaminated washings should be discharged to a reception facility before the ship leaves the port of unloading for another port.
- 6.3 At the request of the ship's master, the Government of the receiving Party may exempt the ship from the requirements referred to in 6.2, where it is satisfied that:
- .1 the tank unloaded is to be reloaded with the same substance or another substance compatible with the previous one and that the tanker will not be washed or ballasted prior to loading; and
 - .2 the tank unloaded is neither washed nor ballasted at sea if the ship is to proceed to another port unless it has been confirmed in writing that a reception facility at that port is available and adequate for the purpose of receiving the residues and solvents necessary for the cleaning operations.
- 6.4 An exemption referred to in 6.3 should only be granted by the Government of the receiving Party to a ship engaged in voyages to ports or terminals under the jurisdiction of other Parties to the Convention. When

such an exemption has been granted it should be certified in writing by the Government of the receiving Party.

- 6.5 In the case of ships retaining their residues on board and proceeding to ports or terminals under the jurisdiction of other Parties to the Convention, the Government of the receiving Party is advised to inform the next port of call of the particulars of the ship and cargo residues, for their information and appropriate action for the detection of violations and enforcement of the Convention.

7 Conditions for waiver

Regs. 3.4, 3.5, 14.5.3 The International Oil Pollution Prevention Certificate should contain sufficient information to permit the port State to determine if the ship complies with the waiver conditions regarding the phrase “restricted voyages as determined by the Administration”. This may include a list of ports, the maximum duration of the voyage between ports having reception facilities, or similar conditions as established by the Administration.

8 Voyages of 72 hours or less in duration

Regs. 3.4 and 3.5.2.2.2 The time limitation “of 72 hours or less in duration” in regulations 3.4 and 3.5.2.2.2 should be counted:

- .1 from the time the tanker leaves the special area, when a voyage starts within a special area; or
- .2 from the time the tanker leaves a port situated outside the special area to the time the tanker approaches a special area.

9 Definition of “all oily mixtures”

Regs. 3.4 and 3.5.2.2.3 The phrase “all oily mixtures” in regulations 3.4 and 3.5.2.2.3 includes all ballast water and tank washing residues from cargo oil tanks.

10 Equivalents

Reg. 5 10.1 Acceptance by an Administration under regulation 5 of any fitting, material, appliance, or apparatus as an alternative to that required by Annex I includes type approval of pollution prevention equipment which is equivalent to that specified in resolution A.393(X)⁶⁹. An Administration that allows such type approval shall communicate particulars thereof, including the test results on which the approval of equivalency was based, to the Organization in accordance with regulation 5.2.

With regard to the term “appropriate action, if any” in regulation 5.2, any Party to the Convention that has an objection to an equivalency submitted by another Party should communicate this objection to the Organization and to the Party which allowed the equivalency within one year after the Organization circulates the equivalency to the Parties. The Party objecting to the equivalency should specify whether the objection pertains to ships entering its ports.

69 For oily-water separating equipment for machinery space bilges of ships, refer to the Guidelines and specifications for pollution prevention equipment for machinery space bilges, adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.60(33), which, effective on 6 July 1993, superseded resolution A.393(X), and the revised Guidelines and specifications for pollution prevention equipment for machinery spaces of ships, adopted by the Organization by resolution MEPC.107(49). For oil discharge monitoring and control systems installed on oil tankers built before 2 October 1986, refer to the Guidelines and specifications for oil discharge monitoring and control systems for oil tankers, and for oil discharge monitoring and control systems installed on oil tankers built after 2 October 1986, refer to the Revised guidelines and specifications for oil discharge monitoring and control systems, which were adopted by the Organization by resolutions A.496(XII) and A.586(14), respectively; see IMO sales publication I646E. For oil discharge monitoring and control systems installed on oil tankers the keels of which are laid or are in a similar stage of construction on or after 1 January 2005, refer to the Revised guidelines and specifications for oil discharge monitoring and control systems, adopted by the Organization by resolution MEPC.108(49).

11 Survey and inspection

- Reg 6.1.3 and 6.1.4 11.1 *Intermediate and annual survey for ships not required to hold an IOPP Certificate*

The applicability of regulations 6.1.3 and 6.1.4 to ships which are not required to hold an International Oil Pollution Prevention Certificate should be determined by the Administration.

12 Designation of the type of oil tankers

- Regs. 7, 19 12.1 Oil tankers must be designated on the Supplement Form B to the IOPP Certificate as either “crude oil tanker”, “product carrier” or “crude oil/product carrier”. Furthermore, the requirements contained in regulation 19 differ for different age categories of “crude oil tankers” and “product carriers”, and compliance with these provisions is recorded on the IOPP Certificate. Oil trades in which different types of oil tankers are allowed to be engaged are as follows:
- .1 *Crude oil/product carrier* is allowed to carry either crude oil or product oil, or both simultaneously;
 - .2 *Crude oil tanker* is allowed to carry crude oil but is prohibited from carrying product oil; and
 - .3 *Product carrier* is allowed to carry product oil but is prohibited from carrying crude oil.
- 12.2 In determining the designation of the type of oil tanker on the IOPP Certificate based on the compliance with the provisions for SBT, PL, CBT and COW, the following standards should apply.
- 12.3 *Oil tankers delivered after 1 June 1982 as defined in regulation 1.28.4 of less than 20,000 tonnes deadweight*
- 12.3.1 These oil tankers may be designated as “crude oil/product carriers”.

-
- 12.4 *Oil tankers delivered after 1 June 1982 as defined in regulation 1.28.4 of 20,000 tonnes deadweight and above*
- 2.4.1 Oil tankers satisfying the requirements for SBT + PL+ COW may be designated as “crude oil/product carrier”.
- 12.4.2 Oil tankers satisfying the requirements for SBT + PL but not COW should be designated as “product carrier”.
- 12.4.3 Oil tankers of 20,000 tonnes deadweight and above but less than 30,000 tonnes deadweight not carrying crude oil, fuel oil, heavy diesel oil or lubricating oil as cargo, not fitted with SBT + PL, should be designated as “product carrier”.
- 12.5 *Oil tankers delivered on or before 1 June 1982 as defined in regulation 1.28.3 but delivered after 31 December 1979 as defined in regulation 1.28.2 of 70,000 tonnes deadweight and above*
- 12.5.1 The oil tankers satisfying the requirements for SBT may be designated as “crude oil/product carrier”.
- 12.6 *Oil tankers delivered on or before 1 June 1982 as defined in regulation 1.28.3 of less than 40,000 tonnes deadweight*
- 12.6.1 These oil tankers may be designated as “crude oil/product carrier”.
- 12.7 *Oil tankers delivered on or before 1 June 1982 as defined in regulation 1.28.3 of 40,000 tonnes deadweight and above*
- 12.7.1 Oil tankers satisfying the requirements for SBT should be designated as “crude oil/product carrier”.
- 12.7.2 Oil tankers satisfying the requirements for COW only should be designated as “crude oil tanker”.
- 12.7.3 Oil tankers satisfying the requirements for CBT should be designated as “product carrier”.

13 New form of IOPP Certificate or its Supplement

Reg. 9 In the case where the form of the IOPP Certificate or its Supplement is amended, and this amendment does not cause a shortening of the validity of the ship's IOPP Certificate, the existing form of the certificate or supplement which is current when the amendment enters into force may remain valid until the expiry of that certificate, provided that, at the first survey after the date of entry into force of the amendment, necessary changes are indicated in the existing certificate or supplement by means of suitable corrections, e.g. striking over the invalid entry and typing the new entry.

14 Revalidation of an IOPP Certificate

Reg. 10 Where an annual or an intermediate survey required in regulation 6 of Annex I of MARPOL 73/78 is not carried out within the period specified in that regulation, the IOPP Certificate ceases to be valid. When a survey corresponding to the requisite survey is carried out subsequently, the validity of the Certificate may be restored without altering the anniversary and expiry date of the original Certificate and the Certificate endorsed to this effect. The thoroughness and stringency of such survey will depend on the period for which the prescribed survey has elapsed and the conditions of the ship.

15 Capacity of sludge tanks

Reg. 12.1 15.1 To assist Administrations in determining the adequate capacity of sludge tanks, the following criteria may be used as guidance. These criteria should not be construed as determining the amount of oily residues which will be produced by the machinery installation in a given period of time. The capacity of sludge tanks may, however, be calculated upon any other reasonable assumptions. For a ship the keel of which is laid or which is at a similar stage of construction on or after 31

December 1990, the guidance given in items .4 and .5 below should be used in lieu of the guidance contained in items .1 and .2.

- .1 For ships which do not carry ballast water in oil fuel tanks, the minimum sludge tank capacity (V_1) should be calculated by the following formula:

$$V_1 = K_1CD(m^3)$$

where: $K_1 = 0.01$ for ships where heavy fuel oil is purified for main engine use, or 0.005 for ships using diesel oil or heavy fuel oil which does not require purification before use,

C = daily fuel oil consumption (tonnes); and

D = maximum period of voyage between ports where sludge can be discharged ashore (days). In the absence of precise data a figure of 30 days should be used.

- .2 When such ships are fitted with homogenizers, sludge incinerators or other recognized means on board for the control of sludge, the minimum sludge tank capacity (V_1) should, in lieu of the above, be:

$V_1 = 1 \text{ m}^3$ for ships of 400 gross tonnage and above but less than 4000 gross tonnage, or 2 m^3 for ships of 4000 gross tonnage and above.

- .3 For ships which carry ballast water in fuel oil tanks, the minimum sludge tank capacity (V_2) should be calculated by the following formula:

$$V_2 = V_1 + K_2B(m^3)$$

where: V_1 = sludge tank capacity specified in .1 or .2 above in m^3 ,

Schedule 1

K_2 = 0.01 for heavy fuel oil bunker tanks, or 0.005 for diesel oil bunker tanks, and

B = capacity of water ballast tanks which can also be used to carry oil fuel (tonnes).

- .4 For ships which do not carry ballast water in fuel oil tanks, the minimum sludge tank capacity (V_1) should be calculated by the following formula:

$$V_1 = K_1 CD(m^3)$$

where: K_1 = 0.015 for ships where heavy fuel oil is purified for main engine use or 0.005 for ships using diesel oil or heavy fuel oil which does not require purification before use,

C = daily fuel oil consumption (m^3); and

D = maximum period of voyage between ports where sludge can be discharged ashore (days). In the absence of precise data, a figure of 30 days should be used.

- .5 For ships fitted with homogenizers, sludge incinerators or other recognized means on board for the control of sludge, the minimum sludge tank capacity should be:

.5.1 50% of the value calculated according to item .4 above; or

.5.2 1 m^3 for ships of 400 gross tonnage and above but less than 4000 gross tonnage or 2 m^3 for ships of 4000 gross tonnage and above; whichever is the greater.

- 15.2 Administrations should establish that in a ship the keel of which is laid or which is at a similar stage of construction on or after 31 December 1990, adequate tank capacity, which may include the sludge tank(s) referred to under 15.1 above, is available also for leakage, drain and waste oils from the machinery installations. In existing installations this should be

taken into consideration as far as reasonable and practicable.

16 Overboard connection of sludge tanks

Reg. 12.2 Ships having piping to and from sludge tanks to overboard discharge outlets, other than the standard discharge connection referred to in regulation 13, installed prior to 4 April 1993 may comply with regulation 12.2 by the installation of blanks in this piping.

17 Cleaning of sludge tanks and discharge of residues

Reg. 12.3 17.1 To assist Administrations in determining the adequacy of the design and construction of sludge tanks to facilitate their cleaning and the discharge of residues to reception facilities, the following guidance is provided, having effect on ships the keel of which is laid or which is at a similar stage of construction on or after 31 December 1990:

- .1 sufficient man-holes should be provided such that, taking into consideration the internal structure of the sludge tanks, all parts of the tank can be reached to facilitate cleaning;
- .2 sludge tanks in ships operating with heavy oil, that needs to be purified for use, should be fitted with adequate heating arrangements or other suitable means to facilitate the pumpability and discharge of the tank content;
- .3 there should be no interconnections between the sludge tank discharge piping and bilge-water piping other than possible common piping leading to the standard discharge connection referred to in regulation 13. However, arrangements may be made for draining of settled water from the sludge tanks by means of manually operated self-closing valves or equivalent arrangements; and

- .4 the sludge tank should be provided with a designated pump for the discharge of the tank content to reception facilities. The pump should be of a suitable type, capacity and discharge head, having regard to the characteristics of the liquid being pumped and the size and position of tank(s) and the overall discharge time.

18 Automatic stopping device required by regulation 15.3.2

Regs. 14,
15

Regulation 15.3.2 includes a reference to regulation 14.7 which requires both a 15 ppm bilge alarm and a stopping device which will ensure that the discharge is automatically stopped when the oil content of the effluent exceeds 15 ppm. Since, however, this is not a requirement of regulation 14 for ships of less than 10,000 gross tonnage, such ships need not be required to be equipped with such alarm and stopping device if no effluent from machinery space bilge is to be discharged within special areas. Conversely, the discharge of effluent within special areas from ships without 15ppm bilge alarm and an automatic stopping device is a contravention of the Convention even if the oil content of the effluent is below 15 ppm.

19 Control of discharge of ballast water from oil fuel tanks

Reg. 14.1 19.1 The second sentence of regulation 14.1 should be interpreted as follows:

Any ship of 400 gross tonnage and above but less than 10,000 gross tonnage:

- .1 which does not carry water ballast in oil fuel tanks should be fitted with 15 ppm oil filtering equipment for the control of discharge of machinery space bilges;
- .2 which carries water ballast in oil fuel tanks should be fitted with the equipment required by regulation 14.2 for the control of machinery space bilges and

dirty ballast water from oil fuel tanks. Ships on which it is not reasonable to fit this equipment should retain on board dirty ballast water from oil fuel tanks and discharge it to reception facilities.

19.2 The above equipment should be of adequate capacity to deal with the quantities of effluent to be discharged.

20 Oil filtering equipment

Regs. 14.1, 14.2 Oil filtering equipment referred to in regulations 14.1 and 14.2 is a 15 ppm bilge separator and may include any combination of a separator, filter or coalescer and also a single unit designed to produce an effluent with oil content not exceeding 15 ppm

21 Waivers for restricted voyages

Reg. 14.5.3.4 The International Oil Pollution Prevention Certificate should contain sufficient information to permit the port State to determine if the ship complies with the waiver conditions regarding the phrase “restricted voyages as determined by the Administration”. This may include a list of ports, the maximum duration of the voyage between ports having reception facilities, or similar conditions as established by the Administration.

22 Controls of discharge of oil

Reg. 15 22.1 *Transfer of non-oil-cargo related oily residues to slop tanks of oil tankers*

22.1.1 If non-oil-cargo related oily residues are transferred to slop tanks of oil tankers, the discharge of such residues should be in compliance with regulation 34.

22.1.2 The above interpretation should not be construed as relaxing any existing prohibition of piping arrangements connecting the engine-room and slop tanks which may permit cargo to enter the machinery spaces. Any arrangements provided for machinery space bilge

discharges into slop tanks should incorporate adequate means to prevent any backflow of liquid cargo and gases into the machinery spaces. Any such arrangements do not constitute a relaxing of the requirements of regulation 14 with respect to oil filtering equipment.

23 Oil fuel

Reg. 16.2 23.1 *Large quantities of oil fuel*

23.1.1 The phrase “large quantities of oil fuel” in regulation 16.2 refers to ships which are required to stay at sea for extended periods because of the particular nature of their operation and trade. Under the circumstances considered, these ships would be required to fill their empty oil fuel tanks with water ballast in order to maintain sufficient stability and safe navigation conditions.

23.1.2 Such ships may include *inter alia* certain large fishing vessels or ocean-going tugs. Certain other types of ships which for reasons of safety, such as stability, may be required to carry ballast in oil fuel tanks may also be included in this category.

24 Application of regulation 16.4

Reg. 16.4 When the separation of oil fuel tanks and water ballast tanks is unreasonable or impracticable for ships covered by regulation 16.4, ballast water may be carried in oil fuel tanks, provided that such ballast water is discharged into the sea in compliance with regulations 15.2, 15.3, 15.5 and 15.6 or into reception facilities in compliance with regulation 15.9.

25 Oil tankers used for the storage of dirty ballast

Regs. 18, 19, 20, 33 and 35

When an oil tanker is used as a floating facility to receive dirty ballast discharged from oil tankers, such a tanker is not required to comply with the provisions of regulations 18, 19, 20, 33 and 35.

26 SBT, CBT, COW and PL requirements

Reg. 18.3.2

26.1 *Capacity of SBT*

For the purpose of application of regulation 18.3.2, the following operations of oil tankers are regarded as falling within the category of exceptional cases:

- .1 when combination carriers are required to operate beneath loading or unloading gantries;
- .2 when tankers are required to pass under a low bridge;
- .3 when local port or canal regulations require specific draughts for safe navigation;
- .4 when loading and unloading arrangements require the tanker to be at a draught deeper than that achieved when all segregated ballast tanks are full;
- .5 close-up inspection or/and steel thickness measurement using rafts where permitted by the rules; and
- .6 tank hydrostatic pressure tests.

27 Segregated ballast conditions for oil tankers less than 150 metres in length

Reg. 18.5

27.1 In determining the minimum draught and trim of oil tankers less than 150 metres in length to be qualified as SBT oil tankers, the Administration should follow the guidance set out in appendix 1.

27.2 The formulae set out in appendix 1 replace those set out in regulation 18.2, and these oil tankers should also

comply with the conditions laid down in regulations 18.3 and 18.4 in order to be qualified as SBT oil tankers.

28 Oil tankers as defined in regulation 1.28.3 of 40,000 tonnes deadweight and above with CBT and COW

Regs. 18.7, 18.8 28.1 Oil tankers as defined in regulation 1.28.3 of 40,000 tonnes deadweight and above which are fitted with CBT and COW and designated as “crude oil/product carriers” in the Supplement to the IOPP Certificate operate as follows:

- .1 They should always operate with CBT and neither crude oil nor product oil should be carried in dedicated clean ballast tanks; and
- .2 When carrying a complete or partial cargo of crude oil they should, in the crude carrying tanks, also operate with COW for sludge control.

28.2 Approved procedures by the Administration for changeover between COW and CBT modes on tankers with common or separate independent piping and pump arrangements for cargo and (CBT) ballast handling should be continuously acceptable as long as carriage of crude oil in CBT mode is not given as permissible.

29 Capacity of CBT

Reg. 18.8 29.1 For the purposes of determining the capacity of CBT, the following tanks may be included:

- .1 segregated ballast tanks; and
- .2 cofferdams and fore and after peak tanks, provided that they are exclusively used for the carriage of ballast water and are connected with permanent piping to ballast water pumps.

30 CBT oil content meter

Reg. 18.8.3 The discharge of ballast from the dedicated clean ballast tanks should be continuously monitored (but not necessarily recorded) by the oil content meter required by regulation 18.8.3 so that the oil content, if any, in the ballast water can be observed from time to time. This oil content meter is not required to come into operation automatically.

31 Protective location of SBT

- Regs. 18.12 to 18.15 31.1 The measurement of the minimum width of wing tanks and of the minimum vertical depth of double bottom tanks should be taken and values of protective areas (PA_c and PA_s) should be calculated in accordance with the “Interim recommendation for a unified interpretation of regulations 18.12 – 18.15 – Protective location of segregated ballast spaces” set out in appendix 2.
- 31.2 Ships being built in accordance with this interpretation should be regarded as meeting the requirements of regulations 18.12 – 18.15 and would not need to be altered if different requirements were to result from a later interpretation.
- 31.3 If, in the opinion of the Administration, any oil tanker the keel of which was laid or which was at a similar stage of construction before 1 July 1980 complies with the requirements of regulation 18.12 – 18.15 without taking into account the above Interim Recommendation, the Administration may accept such tanker as complying with regulations 18.12 – 18.15.

32 Oil tankers with independent tanks

Reg. 19 Oil tankers with independent tanks are considered as double-hull oil tankers, provided that they are designed and constructed to be such that the minimum distances between the cargo tank boundaries and ship bottom and

side-shell plating comply with the provisions of regulation 19.

33 Width of wing tanks and height of double bottom tanks at turn of the bilge area

Reg. 19.3.3 The requirements of Reg. 19.3.3 at turn of the bilge areas are applicable throughout the entire tank length.

34 Aggregate capacity of ballast tanks

Reg. 19.4 34.1 Any ballast carried in localized inboard extensions, indentations or recesses of the double hull, such as bulkhead stools, should be excess ballast above the minimum requirement for segregated ballast capacity according to regulation 18.

34.2 In calculating the aggregate capacity under regulation 19.3.4, the following should be taken into account:

- .1 the capacity of engine-room ballast tanks should be excluded from the aggregate capacity of ballast tanks;
- .2 the capacity of ballast tank located inboard of double hull should be excluded from the aggregate capacity of ballast tanks (see figure 1).

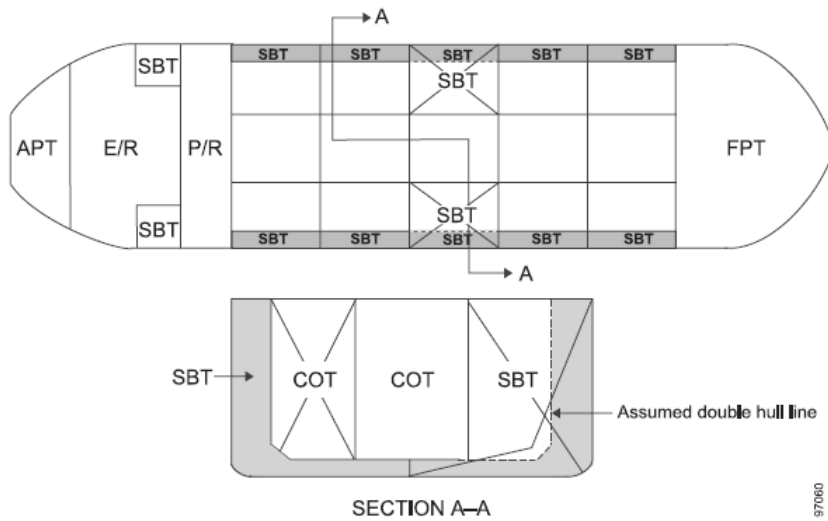


Figure 1

- .3 spaces such as void spaces located in the double hull within the cargo tank length should be included in the aggregate capacity of ballast tanks (see figure 2).

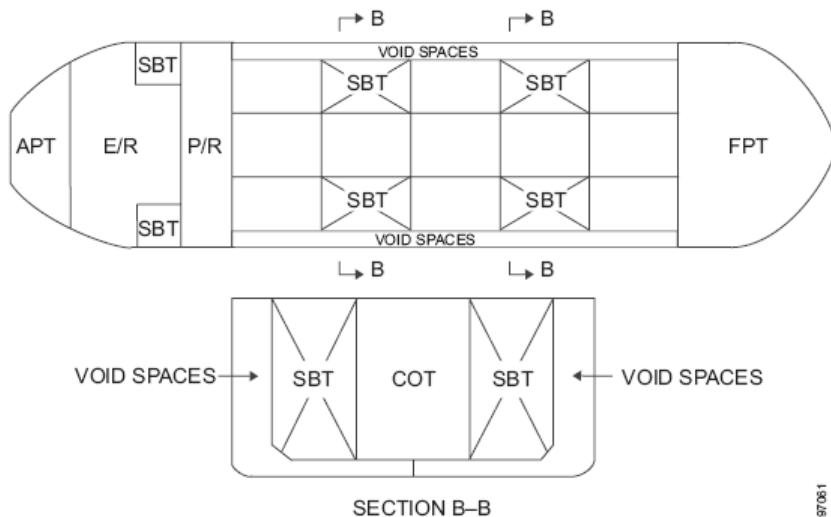


Figure 2

35 Definition of double side wing tanks

Reg. 19.6.2 35.1 Wing tanks required for the protection of the entire cargo tank length by regulation 19.6.2, for the purpose of compliance with regulation 21.4.2, can be used as cargo tanks for the carriage of oil other than heavy grade oils when the ship is provided with cargo tanks so arranged that the capacity of each cargo tank does not exceed 700 m³.

36 Definition of Category 2 oil tanker

Reg. 20.3.2 Any Category 2 oil tanker must be provided with segregated ballast tanks protectively located (SBT/PL).

37 Major conversion in respect of regulation 20.4

Reg. 20.4 For the purpose of determining the application date for the requirements of regulation 20.4 of MARPOL Annex I, where an oil tanker has undergone a major conversion, as defined in regulation 1 of MARPOL Annex I, that has resulted in the replacement of the fore-body, including the entire cargo carrying section, the major conversion completion date of the oil tanker shall be deemed to be the date of delivery of the ship referred to in regulation 20.4 of MARPOL Annex I, provided that:

- .1 the oil tanker conversion was completed before 6 July 1996;
- .2 the conversion included the replacement of the entire cargo section and fore-body and the tanker complies with all the relevant provisions of MARPOL Annex I applicable at the date of completion of the major conversion; and
- .3 the original delivery date of the oil tanker will apply when considering the 15 years of age threshold relating to the first CAS survey to be completed in accordance with regulation 20.6 of MARPOL Annex I.

38 Wing tanks and double bottom spaces of tankers as defined in regulation 1.28.5 used for water ballast

Reg. 20.6 38.1 If the wing tanks and double bottom tanks referred to in regulation 20.6 are used for water ballast, the ballast arrangement should at least be in compliance with the Revised specifications for oil tankers with dedicated CBT (resolution A.495(XII)).

39 Definition of “heavy grade oil”

Reg. 21.2.2 The reference to “fuel oils” in the definition of “heavy grade oil” in regulation 21.2.2 should be interpreted as

referring to oils, other than crude oils, having either a density at 15°C higher than 900 kg/m³ or a kinematic viscosity at 50°C greater than 180 mm²/s.

40 Requirements for the Condition Assessment Scheme (CAS)

Reg. 21.6.1 The first CAS survey shall be carried out concurrent with the first intermediate or renewal survey:

- after 5 April 2005, or
- after the date when the ship reaches 15 years of age,

whichever occurs later.

41 Pump-room bottom protection

Reg. 22.5 The term *pump-room* means a cargo pump-room. Ballast piping is permitted to be located within the pump-room double bottom provided any damage to that piping does not render the ship's pumps located in the "pump-room" ineffective.

The double bottom protecting the "pump-room" can be a void tank, a ballast tank or, unless prohibited by other regulations, a fuel oil tank.

42 Tank size limitation and damage stability

Reg. 24.1.2 42.1 *Bottom damage assumptions*

When applying the figures for bottom damage within the forward part of the ship as specified in regulation 24.1.2 for the purpose of calculating both oil outflow and damage stability, 0.3L from the forward perpendicular should be the aftermost point of the extent of damage.

43 Hypothetical oil outflow for combination carriers

- Reg. 25 For the purpose of calculation of the hypothetical oil outflow for combination carriers:
- .1 the volume of a cargo tank should include the volume of the hatchway up to the top of the hatchway coamings, regardless of the construction of the hatch, but may not include the volume of any hatch cover; and
 - .2 for the measurement of the volume to moulded lines, no deduction should be made for the volume of internal structures.

44 Calculation of hypothetical oil outflow

- Reg. 25.1.2 In a case where the width b_i is not constant along the length of a particular wing tank, the smallest b_i value in the tank should be used for the purposes of assessing the hypothetical outflows of oil O_c and O_s .

45 Intact stability

- Reg. 27 45.1 The vessel should be loaded with all cargo tanks filled to a level corresponding to the maximum combined total of vertical moment of volume plus free surface inertia moment at 0° heel, for each individual tank. Cargo density should correspond to the available cargo deadweight at the displacement at which transverse KM reaches a minimum value, assuming full departure consumables and 1% of the total water ballast capacity. The maximum free surface moment should be assumed in all ballast conditions. For the purpose of calculating GM_O , liquid free surface corrections should be based on the appropriate upright free surface inertia moment. The righting lever curve may be corrected on the basis of liquid transfer moments.
- 45.2 For proving compliance with regulation 27 of Annex I to MARPOL 73/78, as an alternative to the loading case

described in MARPOL Unified Interpretation 45.1 it is accepted to carry out an extensive analysis covering all possible combinations of cargo and ballast tank loading. For such extensive analysis conditions, it is considered that:

- .1 weight, centre of gravity co-ordinates and free surface moment for all tanks should be according to the actual content considered in the calculations; and
- .2 the extensive calculations should be carried out in accordance with the following:
 - .2.1 the draughts should be varied between light ballast and scantling draught;
 - .2.2 consumables including but not restricted to fuel oil, diesel oil and fresh water corresponding to 97%, 50% and 10% content should be considered;
 - .2.3 for each draught and variation of consumables, the available deadweight should comprise ballast water and cargo, such that combinations between maximum ballast and minimum cargo and vice versa are covered. In all cases, the number of ballast and cargo tanks loaded should be chosen to reflect the worst combination of VCG and free surface effects. Operational limits on the number of tanks considered to be simultaneously slack and exclusion of specific tanks should not be permitted. All ballast tanks should have at least 1% content;
 - .2.4 cargo densities between the lowest and highest intended to be carried should be considered; and
 - .2.5 sufficient steps between all limits should be examined to ensure that the worst conditions are identified. A minimum of 20 steps for the range of cargo and ballast content, between

1% and 99% of total capacity, should be examined. More closely spaced steps near critical parts of the range may be necessary.

At every stage the criteria described in paragraph 1 of regulation 27 should be met.

46 Operating draught

Reg. 28.1 With regard to the term “any operating draught reflecting actual partial or full load conditions”, the information required should enable the damage stability to be assessed under conditions the same as or similar to those under which the ship is expected to operate.

47 Suction wells

Reg. 28.2 For the purpose of determining the extent of assumed damage under regulation 28.2, suction wells may be neglected, 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.

48 Tanks with smooth walls

Reg. 29.2.3.3 The term “tanks with smooth walls” should be taken to include the main cargo tanks of oil/bulk/ore carriers which may be constructed with vertical framing of a small depth. Vertically corrugated bulkheads are considered smooth walls.

49 Pumping and piping arrangements

Reg. 30.2 49.1 Piping arrangements for discharge above the waterline

49.1.1 Under regulation 30.2, lines for discharge to the sea above the waterline must be led either:

Schedule 1

- .1 to a ship's discharge outlet located above the waterline in the deepest ballast condition; or
 - .2 to a midship discharge manifold or, where fitted, a stern or bow loading/discharge facility above the upper deck.
- 49.1.2 The ship's side discharge outlet referred to in 49.1.1.1 should be so located that its lower edge will not be submerged when the ship carries the maximum quantity of ballast during its ballast voyages, having regard to the type and trade of the ship. The discharge outlet located above the waterline in the following ballast condition will be accepted as complying with this requirement:
- .1 on oil tankers not provided with SBT or CBT, the ballast condition when the ship carries both normal departure ballast and normal clean ballast simultaneously; and
 - .2 on oil tankers provided with SBT or CBT, the ballast condition when the ship carries ballast water in segregated or dedicated clean ballast tanks, together with additional ballast in cargo oil tanks in compliance with regulation 18.3.
- 49.1.3 The Administration may accept piping arrangements which are led to the ship's side discharge outlet located above the departure ballast waterline but not above the waterline in the deepest ballast condition, if such arrangements have been fitted before 1 January 1981.
- 49.1.4 Although regulation 30.2 does not preclude the use of the facility referred to in 49.1.1.2 for the discharge of ballast water, it is recognized that the use of this facility is not desirable, and it is strongly recommended that ships be provided with either the side discharge outlets referred to in 49.1.1.1 or the part flow arrangements referred to in regulation 30.6.5.

50 Small diameter line

Reg. 30.4.2 50.1 For the purpose of application of regulation 30.4.2, the cross-sectional area of the small diameter line should not exceed:

- .1 10% of that of a main cargo discharge line for oil tankers delivered after 1 June 1982, as defined in regulation 1.28.4, or oil tankers delivered on or before 1 June 1982, as defined in regulation 1.28.3, not already fitted with a small diameter line; or
- .2 25% of that of a main cargo discharge line for oil tankers delivered on or before 1 June 1982, as defined in regulation 1.28.3, already fitted with such a line. (See paragraph 4.4.5 of the revised COW Specifications contained in resolution A.446(XI) as amended by the Organization by resolutions A.497(XII) and A.897(21)).

50.2 *Connection of the small diameter line to the manifold valve*

The phrase “connected outboard of” with respect to the small diameter line for discharge ashore should be interpreted to mean a connection on the downstream side of the tanker’s deck manifold valves, both port and starboard, when the cargo is being discharged. This arrangement would permit drainage back from the tanker’s cargo lines to be pumped ashore with the tanker’s manifold valves closed through the same connections as for main cargo lines (see the sketch shown in appendix 3).

51 Part flow system specifications

Reg. 30.6.5.2 The Specifications for the Design, Installation and Operation of a Part Flow System for Control of Overboard Discharges referred to in regulation 30.6.5.2 is set out in appendix 4.

52 Examples of positive means

Reg. 30.7 Examples of positive means may take the form of blanks, spectacle blanks, pipeline blinds, evacuation or vacuum systems, or air or water pressure systems. In the event that the evacuation or vacuum systems, or air or water pressure systems are used, then these systems are to be equipped with both a pressure gauge and alarm system to enable the continuous monitoring of the status of the pipeline section, and thereby the valve integrity, between the sea chest and inboard valves.

53 Total quantity of discharge

Reg. 34.1.5 The phrase “the total quantity of the particular cargo of which the residue formed a part” in regulation 34.1.5 relates to the total quantity of the particular cargo which was carried on the previous voyage and should not be construed as relating only to the total quantity of cargo which was contained in the cargo tanks into which water ballast was subsequently loaded.

54 Shipboard oil pollution emergency plan

Reg. 37.1 *Equivalent provision for application of requirement for oil pollution emergency plans*

Any fixed or floating drilling rig or other offshore installation when engaged in the exploration, exploitation or associated offshore processing of sea-bed mineral resources, which has an oil pollution emergency plan co-ordinated with, and approved in accordance with procedures established by, the coastal State, should be regarded as complying with regulation 37.

55 Adequate reception facilities for substances regulated by regulation 2.4

Reg. 38 Unloading ports receiving substances regulated by regulation 2.4 (which include *inter alia* high-density oils) should have adequate facilities dedicated for such products, allowing the entire tank-cleaning operation to be carried out in the port, and should have adequate reception facilities for the proper discharge and reception of cargo residues and solvent necessary for the cleaning operation in accordance with paragraph 6.2 of the Unified Interpretations.

56 Requirements for fixed or floating platforms

Reg. 39 56.1 *Application of MARPOL 73/78*

Art.
2(3)(b)(ii) 56.2 There are five categories of discharges that may be associated with the operation of fixed or floating platforms covered by this regulation when engaged in the exploration and exploitation of mineral resources, i.e.:

- .1 machinery space drainage;
- .2 offshore processing drainage;
- .3 production water discharge;
- .4 displacement water discharge; and
- .5 contaminated seawater from operational purposes such as produced oil tank cleaning water, produced oil tank hydrostatic testing water, water from ballasting of produced oil tank to carry out inspection by rafting.

Only the discharge of machinery space drainage and contaminated ballast should be subject to MARPOL 73/78 (see diagram shown in appendix 5).

Appendices to Unified Interpretations of Annex I

Appendix 1 **Guidance to Administrations concerning draughts recommended for segregated ballast tankers below 150 m in length**

Introduction

- 1 Three formulations are set forth as guidance to Administrations concerning minimum draught requirements for segregated ballast tankers below 150 m in length.
- 2 The formulations are based both on the theoretical research and surveys of actual practice on tankers of differing configuration reflecting varying degrees of concern with propeller emergence, vibration, slamming, speed loss, rolling, docking and other matters. In addition, certain information concerning assumed sea conditions is included.
- 3 Recognizing the nature of the underlying work, the widely varying arrangement of smaller tankers and each vessel's unique sensitivity to wind and sea conditions, no basis for recommending a single formulation is found.

Caution

- 4 It must be cautioned that the information presented should be used as general guidance for Administrations. With regard to the unique operating requirements of a particular vessel, the Administration should be satisfied that the tanker has sufficient ballast capacity for safe operation. In any case the stability should be examined independently.
- 5 *Formulation A*
 - .1 mean draught (m) = $0.200 + 0.032L$
 - .2 maximum trim = $(0.024 - 6 \times 10^{-5}L)L$
- 6 These expressions were derived from a study of 26 tankers ranging in length from 50 to 150 m. The draughts, in some cases, were abstracted from ship's trim and stability books

and represent departure ballast conditions. The ballast conditions represent sailing conditions in weather up to and including Beaufort 5.

7 *Formulation B*

- .1 minimum draught at bow (m) = $0.700 + 0.0170L$
- .2 minimum draught at stern (m) = $2.300 + 0.030L$ or
- .3 minimum mean draught (m) = $1.550 + 0.023L$
- .4 maximum trim = $1.600 + 0.013L$

8 These expressions resulted from investigations based on theoretical research, model and full scale tests. These formulae are based on a Sea 6 (International Sea Scale).

9 *Formulation C*

- .1 minimum draught aft (m) = $2.0000 + 0.0275L$
- .2 minimum draught forward (m) = $0.5000 + 0.0225L$

10 These expressions provide for certain increased draughts to aid in the prevention of propeller emergence and slamming in higher length ships.

Appendix 2

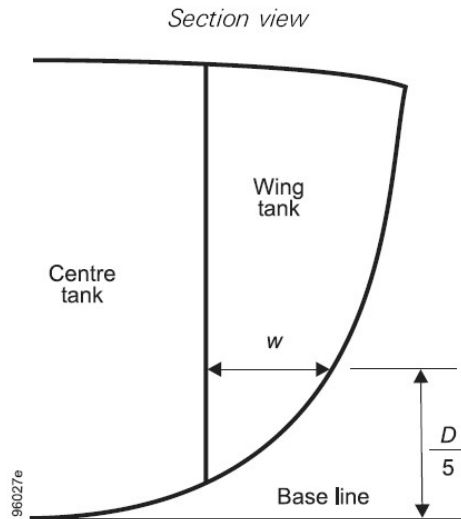
Interim recommendation for a unified interpretation of regulations 18.12 to 18.15 “Protective location of segregated ballast spaces”

- 1 Regulation 18.15 of Annex I of MARPOL 73/78 relating to the measurement of the 2 m minimum width of wing tanks and the measurement of the minimum vertical depth of double bottom tanks of 2 m or $B/15$ in respect of tanks at the ends of the ship where no identifiable bilge area exists should be interpreted as given hereunder. No difficulty exists in the measurement of the tanks in the parallel middle body of the ship where the bilge area is clearly identified. The regulation does not explain how the measurements should be taken.
- 2 The minimum width of wing tanks should be measured at a height of $D/5$ above the base line providing a reasonable level

above which the 2 m width of collision protection should apply, under the assumption that in all cases $D/5$ is above the upper turn of bilge amidships (see figure 1). The minimum height of double bottom tanks should be measured at a vertical plane measured $D/5$ inboard from the intersection of the shell with a horizontal line $D/5$ above the base line (see figure 2).

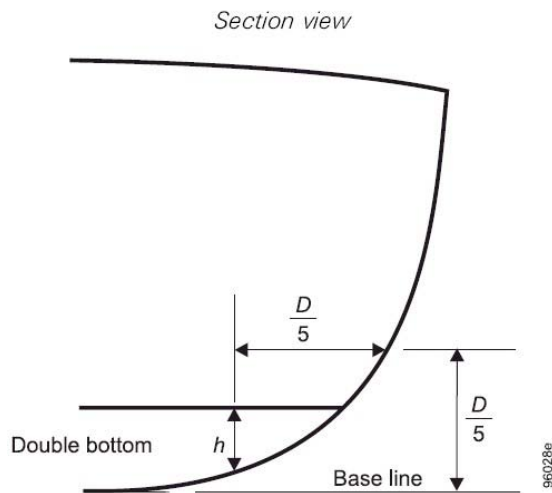
- 3 The PA_c value for a wing tank which does not have a minimum width of 2 m throughout its length would be zero; no credit should be given for that part of the tank in which the minimum width is in excess of 2 m. No credit should be given in the assessment of PA_s to any double bottom tank, part of which does not meet the minimum depth requirements anywhere within its length. If, however, the projected dimensions of the bottom of the cargo tank above the double bottom fall entirely within the area of the double bottom tank or space which meets the minimum height requirement and provided the side bulkheads bounding the cargo tank above are vertical or have a slope of not more than 45° from the vertical, credit may be given to the part of the double bottom tank defined by the projection of the cargo tank bottom. For similar cases where the wing tanks above the double bottom are segregated ballast tanks or void spaces, such credit may also be given. This would not, however, preclude in the above cases credit being given to a PA_s value in the first case and to a PA_c value in the second case where the respective vertical or horizontal protection complies with the minimum distances prescribed in regulation 18.15.
- 4 Projected dimensions should be used as shown in examples of figures 3 to 8. Figures 7 and 8 represent measurement of the height for the calculation of PA_c for double bottom tanks with sloping tank top. Figures 9 and 10 represent the cases where credit is given in calculation of PA_s to part or the whole of a double bottom tank.

Figure 1 – Measurement of minimum width of wing ballast tank at ends of ship



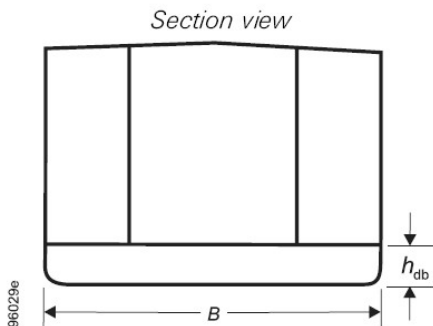
w must be at least 2 metres along the entire length of the tank for the tank to be used in the calculation of PA_c

Figure 2 - Measurement of minimum height of double bottom tank at ends of ship



h must be at least 2 metres or $\frac{B}{15}$, whichever is less, along the entire length of the tank for the tank to be used in the calculation of PA_s

Figure 3 - Calculation of PA_c and PA_s for double bottom tank amidships



If h_{db} is at least 2 metres or $\frac{B}{15}$, whichever is less, along entire tank length,

$$PA_c = h_{db} \times \text{double bottom tank length} \times 2$$

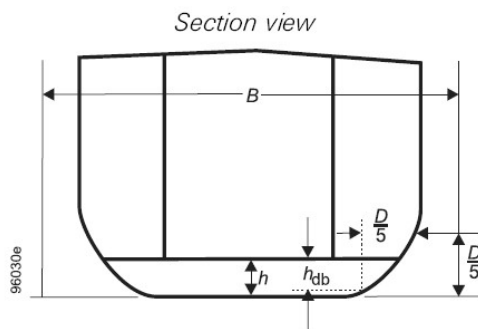
$$PA_s = B \times \text{double bottom tank length}$$

If h_{db} is less than 2 metres or $\frac{B}{15}$, whichever is less,

$$PA_c = h_{db} \times \text{double bottom tank length} \times 2$$

$$PA_s = 0$$

Figure 4 - Calculation of PA_c and PA_s for double bottom tank at ends of ship



If h_{db} is at least 2 metres or $\frac{B}{15}$, whichever is less, along entire tank length,

$$PA_c = h \times \text{double bottom tank length} \times 2$$

$$PA_s = B \times \text{double bottom tank length}$$

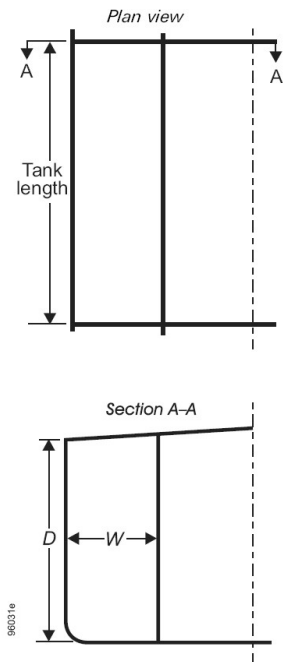
If h_{db} is less than 2 metres or $\frac{B}{15}$, whichever is less,

$$PA_c = h \times \text{double bottom tank length} \times 2$$

$$PA_s = 0$$

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Figure 5 – Calculation of PA_C and PA_S for wing tank amidships



If W is 2 metres or more,

$$PA_C = D \times \text{tank length} \times 2^{70}$$

$$PA_S = W \times \text{tank length} \times 2^{71}$$

If W is less than 2 metres,

$$PA_C = 0$$

$$PA_S = W \times \text{tank length} \times 2^{72}$$

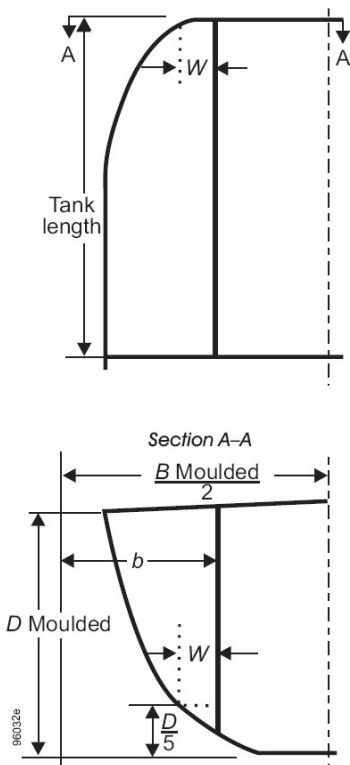
70 To include port and starboard.

71 To include port and starboard.

72 To include port and starboard.

Figure 6 - Calculation of PA_c and PA_s for wing tank at end of ship

Plan view at D



If W is 2 metres or more,

$$PA_c = D \times \text{tank length} \times 2^{73}$$

$$PA_s = b \times \text{tank length} \times 2^{74}$$

If W is less than 2 metres,

$$PA_c = 0$$

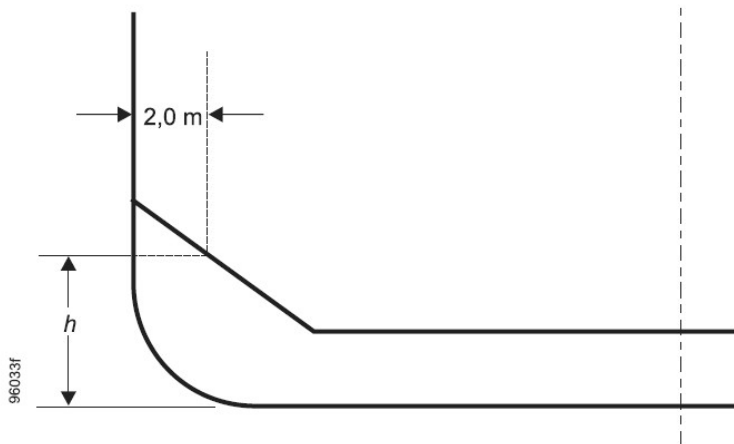
73 To include port and starboard.

74 To include port and starboard.

$$PA_s = b \times \text{tank length} \times 2^{75}$$

Figure 7 - Measurement of h for calculation of PA_c for double bottom tanks with sloping tank tops (1)

Section view



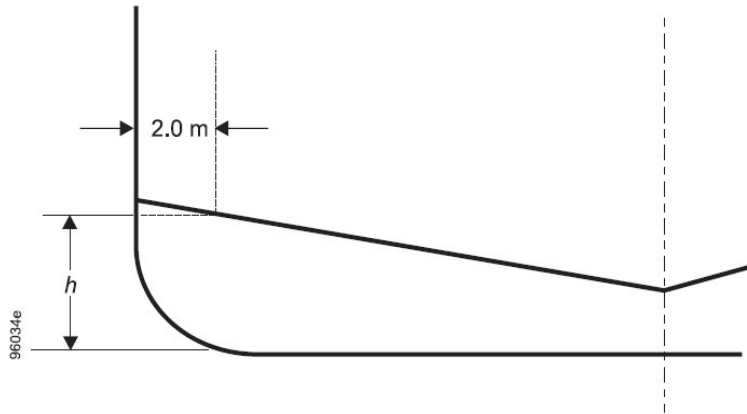
$$PA_c = h \times \text{double bottom tank length} \times 2^{76}$$

75 To include port and starboard.

76 To include port and starboard.

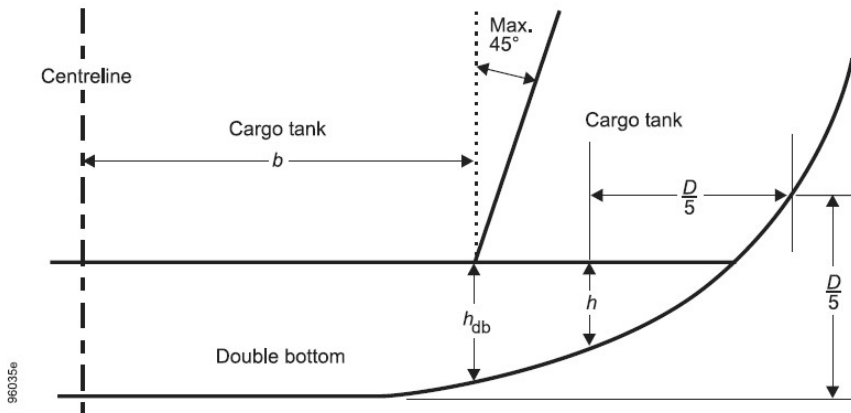
Figure 8 – Measurement of h for calculation of PA_c for double bottom tanks with sloping tank tops (2)

Section view



$$PA_c = h \times \text{double bottom tank length} \times 2^{77}$$

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

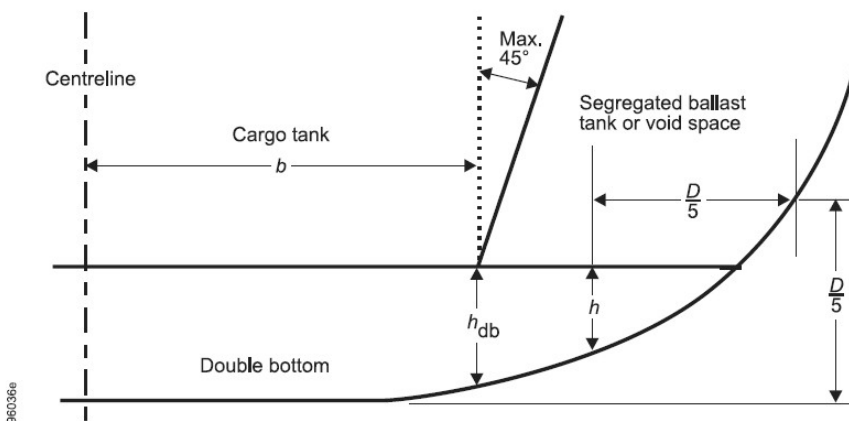


77 To include port and starboard.

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:

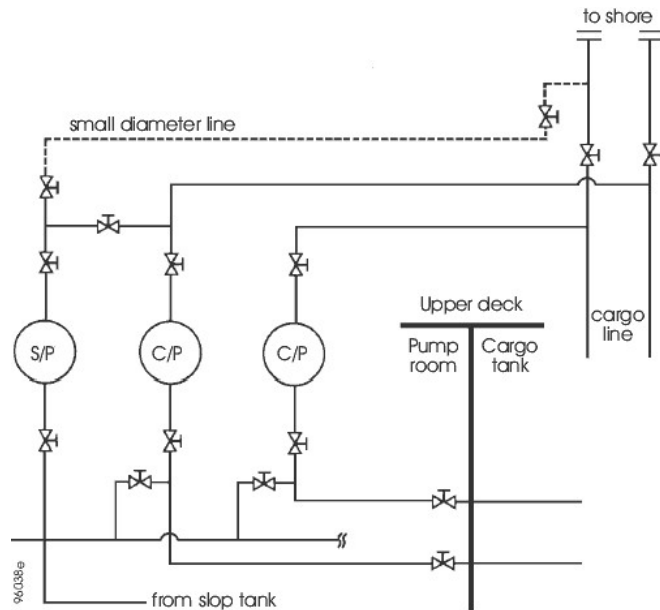
$$PA_s = 2b \times \text{cargo tank length}$$

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 3**Connection of small diameter line to the manifold valve****Appendix 4****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 30.6.5 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 Oil tankers delivered on or before 31 December 1979, as defined in regulation 1.28.1, may, in accordance with regulation 30.6.5 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 led through permanent piping to a readily accessible location on the upper deck or above where it may be visually observed during the discharge operation and provided that the arrangements comply with the requirements established by the 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;
 - .2 sample water piping system;
 - .3 sample feed pump(s);

- .4 display arrangements;
 - .5 sample discharge arrangements; and, subject to the diameter of the sample piping,
 - .6 flushing arrangement.
- 3.6 The part flow system shall comply with the applicable safety requirements.

4 System arrangement

4.1 Sampling points

4.1.1 Sampling point location:

- .1 Sampling points shall be so located that relevant samples can be obtained of the effluent being discharged through outlets below the waterline which are used for operational discharges.
- .2 Sampling points shall as far as practicable be located in pipe sections where a turbulent flow is normally encountered.
- .3 Sampling points shall as far as practicable be arranged in accessible locations in vertical sections of the discharge piping.

4.1.2 Sampling probes:

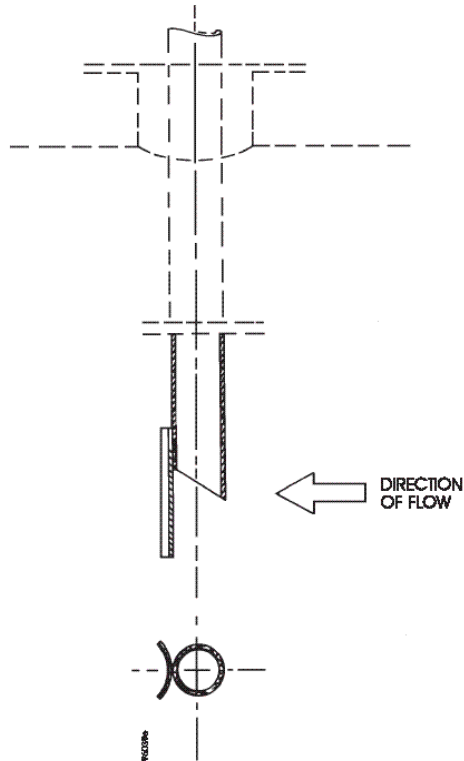
- .1 Sampling probes shall be arranged to protrude into the pipe a distance of about one fourth of the pipe diameter.
- .2 Sampling probes shall be arranged for easy withdrawal for cleaning.
- .3 The part flow system shall have a stop valve fitted adjacent to each probe, except that where the probe is mounted in a cargo line, two stop valves shall be fitted in series, in the sample line.
- .4 Sampling probes should be of corrosion-resistant and oil-resistant material, of adequate strength, properly jointed and supported.
- .5 Sampling probes shall have shape that is not prone to becoming clogged by particle contaminants and should

not generate high hydrodynamic pressures at the sampling probe tip. Figure 1 is an example of one suitable shape of a sampling probe.

- .6 Sampling probes shall have the same nominal bore as the sample piping.

4.2 *Sample piping*

- .1 The sample piping shall be arranged as straight as possible between the sampling points and the display arrangement. Sharp bends and pockets where settled oil or sediment may accumulate should be avoided.
- .2 The sample piping shall be so arranged that sample water is conveyed to the display arrangement within 20 s. The flow velocity in the piping should not be less than 2 m/s.

Figure 1 – Sampling probe for a part flow display system

- .3 The diameter of the piping shall not be less than 40 mm if no fixed flushing arrangement is provided and shall not be less than 25 mm if a pressurized flushing arrangement as detailed in paragraph 4.4 is installed.
- .4 The sample piping should be of corrosion-resistant and oil-resistant material, of adequate strength, properly jointed and supported.
- .5 Where several sampling points are installed, the piping shall be connected to a valve chest at the suction side of the sample feed pump.

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4.3 Sample feed pump

- .1 The sample feed pump capacity shall be suitable to allow the flow rate of the sample water to comply with 4.2.2.

4.4 Flushing arrangement

- .1 If the diameter of sample piping is less than 40 mm, a fixed connection from a pressurized sea or fresh water piping system shall be installed for flushing of the sample piping system.

4.5 Display arrangement

- .1 The display arrangement shall consist of a display chamber provided with a sight glass. The chamber should be of a size that will allow a free fall stream of the sample water to be clearly visible over a length of at least 200 mm. The Administration may approve equivalent arrangements.
- .2 The display arrangement shall incorporate valves and piping in order to allow part of the sample flow to bypass the display chamber to obtain a laminar flow for display in the chamber.
- .3 The display arrangement shall be designed to be easily opened and cleaned.
- .4 The interior of the display chamber shall be white except for the background wall which shall be so coloured as to facilitate the observation of any change in the quality of the sample water.
- .5 The lower part of the display chamber shall be shaped like a funnel for collection of the sample water.
- .6 A test cock for taking a grab sample shall be provided in order that a sample of the water can be examined independent of that in the display chamber.
- .7 The display arrangement shall be adequately lighted to facilitate visual observation of the sample water.

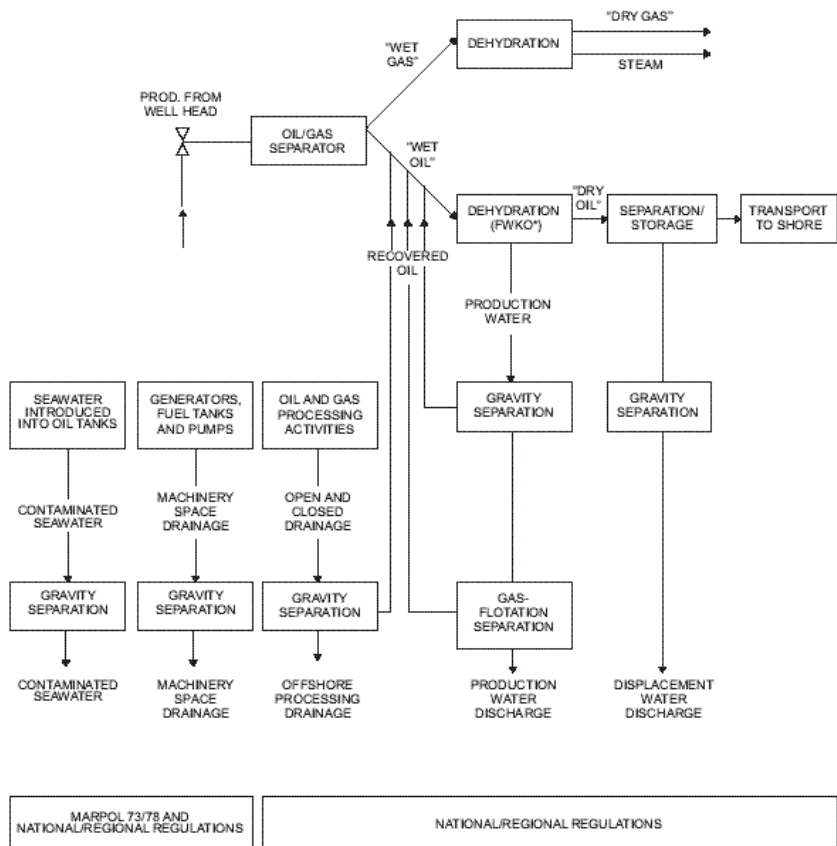
4.6 Sample discharge arrangement

- .1 The sample water leaving the display chamber shall be routed to the sea or to a slop tank through fixed piping of adequate diameter.

5 Operation

- 5.1 When a discharge of dirty ballast water or other oil-contaminated water from the cargo tank area is taking place through an outlet below the waterline, the part flow system shall provide sample water from the relevant discharge outlet at all times.
- 5.2 The sample water should be observed particularly during those phases of the discharge operation when the greatest possibility of oil contamination occurs. The discharge shall be stopped whenever any traces of oil are visible in the flow and when the oil content meter reading indicates that the oil content exceeds permissible limits.
- 5.3 On those systems that are fitted with flushing arrangements, the sample piping should be flushed after contamination has been observed and, additionally, it is recommended that the sample piping be flushed after each period of usage.
- 5.4 The 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.

Appendix 5 Discharges from fixed or floating platforms



* FWKO means “free-water knock out”.

Annex II **Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk**

Chapter 1 **General**

Regulation 1 **Definitions**

For the purposes of this Annex:

- 1 *Anniversary date* means the day and the month of each year which will correspond to the date of expiry of the International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk.
- 2 *Associated piping* means the pipeline from the suction point in a cargo tank to the shore connection used for unloading the cargo and includes all ship's piping, pumps and filters which are in open connection with the cargo unloading line.
- 3 *Ballast water*

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

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

- 4 *Chemical Codes*

Bulk Chemical Code means the Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.20(22), as amended by the Organization, provided that such amendments are adopted

and brought into force in accordance with the provisions of article 16 of the present Convention concerning amendment procedures applicable to an appendix to an Annex.

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

- 5 *Depth of water* means the charted depth.
- 6 *En route* means that the ship is under way at sea on a course or courses, including deviation from the shortest direct route, which as far as practicable for navigational purposes, will cause any discharge to be spread over as great an area of the sea as is reasonable and practicable.
- 7 *Liquid substances* are those having a vapour pressure not exceeding 0.28 MPa absolute at a temperature of 37.8°C.
- 8 *Manual* means Procedures and Arrangements Manual in accordance with the model given in appendix 6 of this Annex.
- 9 *Nearest land*. The term “from the nearest land” means from the baseline from which the territorial sea in question is established in accordance with international law, except that, for the purposes of the present Convention “from the nearest land” off the north-eastern coast of Australia shall mean from the line drawn from a point on the coast of Australia in:
 - latitude 11°00' S, longitude 142°08' E
 - to a point in latitude 10°35' S, longitude 141°55' E,
 - thence to a point latitude 10°00' S, longitude 142°00' E,
 - thence to a point latitude 09°10' S, longitude 143°52' E,
 - thence to a point latitude 09°00' S, longitude 144°30' E,
 - thence to a point latitude 10°41' S, longitude 145°00' E,
 - thence to a point latitude 13°00' S, longitude 145°00' E,

thence to a point latitude 15°00' S, longitude 146°00' E,
thence to a point latitude 17°30' S, longitude 147°00' E,
thence to a point latitude 21°00' S, longitude 152°55' E,
thence to a point latitude 24°30' S, longitude 154°00' E,
thence to a point on the coast of Australia
in latitude 24°42' S, longitude 153°15' E.

- 10 *Noxious liquid substance* means any substance indicated in the Pollution Category column of chapter 17 or 18 of the International Bulk Chemical Code or provisionally assessed under the provisions of regulation 6.3 as falling into category X, Y or Z.
- 11 *ppm* means ml/m³.
- 12 *Residue* means any noxious liquid substance which remains for disposal.
- 13 *Residue/water mixture* means residue to which water has been added for any purpose (e.g. tank cleaning, ballasting, bilge slops).
- 14 *Ship construction*
 - 14.1 *Ship constructed* means a ship the keel of which is laid or which is at a similar stage of construction. A ship converted to a chemical tanker, irrespective of the date of construction, shall be treated as a chemical tanker constructed on the date on which such conversion commenced. This conversion provision shall not apply to the modification of a ship which complies with all of the following conditions:
 - .1 the ship is constructed before 1 July 1986; and
 - .2 the ship is certified under the Bulk Chemical Code to carry only those products identified by the Code as substances with pollution hazards only.
 - 14.2 *Similar stage of construction* means the stage at which:
 - .1 construction identifiable with a specific ship begins; and

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

15 *Solidifying/non-solidifying*

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

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

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

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

16 *Tanker*

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

16.2 *NLS tanker* means a ship constructed or adapted to carry a cargo of noxious liquid substances in bulk and includes an “oil tanker” as defined in Annex I of the present Convention when certified to carry a cargo or part cargo of noxious liquid substances in bulk.

17 *Viscosity*

17.1 *High-viscosity substance* means a noxious liquid substance in category X or Y with a viscosity equal to or greater than 50 mPa·s at the unloading temperature.

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

Regulation 2 Application

1 Unless expressly provided otherwise, the provisions of this Annex shall apply to all ships certified to carry noxious liquid substances in bulk.

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

Regulation 3 Exceptions

- 1 The discharge requirements of this Annex shall not apply to the discharge into the sea of noxious liquid substances or mixtures containing such substances when such a discharge:
 - .1 is necessary for the purpose of securing the safety of a ship or saving life at sea; or
 - .2 results from damage to a ship or its equipment:
 - .2.1 provided that all reasonable precautions have been taken after the occurrence of the damage or discovery of the discharge for the purpose of preventing or minimizing the discharge; and
 - .2.2 except if the owner or the master acted either with intent to cause damage, or recklessly and with knowledge that damage would probably result; or
 - .3 is approved by the Administration, when being used for the purpose of combating specific pollution incidents in order to minimize the damage from pollution. Any such discharge shall be subject to the approval of any Government in whose jurisdiction it is contemplated the discharge will occur.

Regulation 4 Exemptions

- 1 With respect to amendments to carriage requirements due to the upgrading of the categorization of a substance, the following shall apply:
 - .1 where an amendment to this Annex and the International Bulk Chemical Code and Bulk Chemical Code involves changes to the structure or equipment and fittings due to the upgrading of the requirements for the carriage of certain substances, the Administration may modify or delay for a specified period the application of such an

- amendment to ships constructed before the date of entry into force of that amendment, if the immediate application of such an amendment is considered unreasonable or impracticable. Such relaxation shall be determined with respect to each substance;
- .2 the Administration allowing a relaxation of the application of an amendment under this paragraph shall submit to the organization a report giving details of the ship or ships concerned, the cargoes certified to carry, the trade in which each ship is engaged and the justification for the relaxation, for circulation to the Parties to the Convention for their information and appropriate action, if any, and reflect the exemption on the Certificate as referred to in regulation 7 or 9 of this Annex;
 - .3 Notwithstanding the above, an Administration may exempt ships from the carriage requirements under regulation 11 for ships certified to carry individually identified vegetable oils identified by the relevant footnote in chapter 17 of the IBC Code, provided the ship complies with the following conditions:
 - .3.1 subject to this regulation, the NLS tanker shall meet all requirements for ship type 3 as identified in the IBC Code except for cargo tank location;
 - .3.2 under this regulation, cargo tanks shall be located at the following distances inboard. The entire cargo tank length shall be protected by ballast tanks or spaces other than tanks that carry oil as follows:
 - .3.2.1 wing tanks or spaces shall be arranged such that cargo tanks are located inboard of the moulded line of the side shell plating nowhere less than 760 mm;
 - .3.2.2 double bottom tanks or spaces shall be arranged such that the distance between the bottom of the cargo tanks and the moulded line of the bottom shell plating measured at right angles to the bottom shell plating is not less than $B/15$ (m) or 2.0 m at the

centreline, whichever is the lesser. The minimum distance shall be 1.0 m;

- .3.3 the relevant certificate shall indicate the exemption granted.
- 2 Subject to the provisions of paragraph 3 of this regulation, the provisions of regulation 12.1 need not apply to a ship constructed before 1 July 1986 which is engaged in restricted voyages as determined by the Administration between:
- .1 ports or terminals within a State Party to the present Convention; or
 - .2 ports or terminals of States Parties to the present Convention.
- 3 The provisions of paragraph 2 of this regulation shall only apply to a ship constructed before 1 July 1986 if:
- .1 each time a tank containing category X, Y or Z substances or mixtures is to be washed or ballasted, the tank is washed in accordance with a prewash procedure approved by the Administration in compliance with appendix 6 of this Annex, and the tank washings are discharged to a reception facility;
 - .2 subsequent washings or ballast water are discharged to a reception facility or at sea in accordance with other provisions of this Annex;
 - .3 the adequacy of the reception facilities at the ports or terminals referred to above, for the purpose of this paragraph, is approved by the Governments of the States Parties to the present Convention within which such ports or terminals are situated;
 - .4 in the case of ships engaged in voyages to ports or terminals under the jurisdiction of other States Parties to the present Convention, the Administration communicates to the Organization, for circulation to the Parties to the Convention, particulars of the exemption, for their information and appropriate action, if any; and

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- .5 the certificate required under this Annex is endorsed to the effect that the ship is solely engaged in such restricted voyages.
- 4 For a ship whose constructional and operational features are such that ballasting of cargo tanks is not required and cargo tank washing is only required for repair or dry-docking, the Administration may allow exemption from the provisions of regulation 12, provided that all of the following conditions are complied with:
 - .1 the design, construction and equipment of the ship are approved by the Administration, having regard to the service for which it is intended;
 - .2 any effluent from tank washings which may be carried out before a repair or dry-docking is discharged to a reception facility, the adequacy of which is ascertained by the Administration;
 - .3 the certificate required under this Annex indicates:
 - .3.1 that each cargo tank is certified for the carriage of a restricted number of substances which are comparable and can be carried alternately in the same tank without intermediate cleaning; and
 - .3.2 the particulars of the exemption;
 - .4 the ship carries a Manual approved by the Administration; and
 - .5 in the case of ships engaged in voyages to ports or terminals under the jurisdiction of other States Parties to the present Convention, the Administration communicates to the organization, for circulation to the Parties to the Convention, particulars of the exemption, for their information and appropriate action, if any.

Regulation 5 Equivalents

- 1 The Administration may allow any fitting, material, appliance or apparatus to be fitted in a ship as an alternative to that required by this Annex if such fitting, material, appliance or apparatus is at least as effective as that required by this Annex.

This authority of the Administration shall not extend to the substitution of operational methods to effect the control of discharge of noxious liquid substances as equivalent to those design and construction features which are prescribed by regulations in this Annex.

- 2 The Administration which allows a fitting, material, appliance or apparatus as alternative to that required by this Annex, under paragraph 1 of this regulation, shall communicate to the Organization, for circulation to the Parties to the Convention, particulars thereof, for their information and appropriate action, if any.
- 3 Notwithstanding the provisions of paragraphs 1 and 2 of this regulation, the construction and equipment of liquefied gas carriers certified to carry noxious liquid substances listed in the applicable Gas Carrier Code, shall be deemed to be equivalent to the construction and equipment requirements contained in regulations 11 and 12 of this Annex, provided that the gas carrier meets all following conditions:
 - .1 hold a Certificate of Fitness in accordance with the appropriate Gas Carrier Code for ships certified to carry liquefied gases in bulk;
 - .2 hold an International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk, in which it is certified that the gas carrier may carry only those noxious liquid substances identified and listed in the appropriate Gas Carrier Code;
 - .3 be provided with segregated ballast arrangements;
 - .4 be provided with pumping and piping arrangements which, to the satisfaction of the Administration, ensure that the quantity of cargo residue remaining in the tank and its associated piping after unloading does not exceed the applicable quantity of residue as required by regulation 12.1, 12.2 or 12.3; and
 - .5 be provided with a Manual, approved by the Administration, ensuring that no operational mixing of cargo residues and water will occur and that no cargo

residues will remain in the tank after applying the ventilation procedures prescribed in the Manual.

Chapter 2 Categorization of noxious liquid substances

Regulation 6 Categorization and listing of noxious liquid substances and other substances

- 1 For the purpose of the regulations of this Annex, noxious liquid substances shall be divided into four categories as follows:
 - .1 Category X: Noxious liquid substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a major hazard to either marine resources or human health and, therefore, justify the prohibition of the discharge into the marine environment;
 - .2 Category Y: Noxious liquid substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a hazard to either marine resources or human health or cause harm to amenities or other legitimate uses of the sea and therefore justify a limitation on the quality and quantity of the discharge into the marine environment;
 - .3 Category Z: Noxious liquid substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a minor hazard to either marine resources or human health and therefore justify less stringent restrictions on the quality and quantity of the discharge into the marine environment;
 - .4 Other substances: Substances indicated as OS (Other Substances) in the pollution category column of chapter 18 of the International Bulk Chemical Code which have been evaluated and found to fall outside category X, Y or Z as defined in regulation 6.1 of this Annex because they are, at present, considered to present no harm to

marine resources, human health, amenities or other legitimate uses of the sea when discharged into the sea from tank cleaning or deballasting operations. The discharge of bilge or ballast water or other residues or mixtures containing only substances referred to as “Other Substances” shall not be subject to any requirements of the Annex.

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

Chapter 3 Surveys and certification

Regulation 7 Survey and certification of chemical tankers

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

shall have the same force and receive the same recognition as the certificate issued under regulation 9 of this Annex.

Regulation 8 Surveys

- 1 Ships carrying noxious liquid substances in bulk shall be subject to the surveys specified below:
 - .1 An initial survey before the ship is put in service or before the Certificate required under regulation 9 of this Annex is issued for the first time, and which shall include a complete survey of its structure, equipment, systems, fittings, arrangements and material in so far as the ship is covered by this Annex. This survey shall be such as to ensure that the structure, equipment, systems, fittings, arrangements and material fully comply with the applicable requirements of this Annex.
 - .2 A renewal survey at intervals specified by the Administration, but not exceeding 5 years, except where regulation 10.2, 10.5, 10.6, or 10.7 of this Annex is applicable. The renewal survey shall be such as to ensure that the structure, equipment, systems, fittings, arrangements and material fully comply with applicable requirements of this Annex.
 - .3 An intermediate survey within 3 months before or after the second anniversary date or within 3 months before or after the third anniversary date of the Certificate which shall take the place of one of the annual surveys specified in paragraph 1.4 of this regulation. The intermediate survey shall be such as to ensure that the equipment and associated pump and piping systems fully comply with the applicable requirements of this Annex and are in good working order. Such intermediate surveys shall be endorsed on the Certificate issued under regulation 9 of this Annex.
 - .4 An annual survey within 3 months before or after each anniversary date of the Certificate including a general inspection of the structure, equipment, systems, fittings, arrangements and material referred to in paragraph 1.1 of this regulation to ensure that they have been

maintained in accordance with paragraph 3 of this regulation and that they remain satisfactory for the service for which the ship is intended. Such annual surveys shall be endorsed on the Certificate issued under regulation 9 of this Annex.

- .5 An additional survey either general or partial, according to the circumstances, shall be made after a repair resulting from investigations prescribed in paragraph 3 of this regulation, or whenever any important repairs or renewals are made. The survey shall be such as to ensure that the necessary repairs or renewals have been effectively made, that the material and workmanship of such repairs or renewals are in all respects satisfactory and that the ship complies in all respects with the requirements of this Annex.
- 2.1 Surveys of ships, as regards the enforcement of the provisions of this Annex, shall be carried out by officers of the Administration. The Administration may, however, entrust the surveys either to surveyors nominated for the purpose or to organizations recognized by it.
 - 2.2 The recognized organization, referred to in paragraph 2.1 of this regulation, shall comply with the Guidelines adopted by the Organization by resolution A.739(18), as may be amended by the Organization, and the specification adopted by the Organization by resolution A.789(19), as may be amended by the Organization, provided that such amendments are adopted, brought into force and take effect in accordance with the provisions of article 16 of the present Convention concerning the amendment procedures applicable to this Annex.
 - 2.3 An Administration nominating surveyors or recognizing organizations to conduct surveys as set forth in paragraph 2.1 of this regulation shall, as a minimum, empower any nominated surveyor or recognized organization to:
 - .1 require repairs to a ship; and
 - .2 carry out surveys if requested by the appropriate authorities of a port State.

Schedule 1

- 2.4 The Administration shall notify the Organization of the specific responsibilities and conditions of the authority delegated to the nominated surveyors or recognized organizations, for circulation to Parties to the present Convention for the information of their officers.
- 2.5 When a nominated surveyor or recognized organization determines that the condition of the ship or its equipment does not correspond substantially with the particulars of the Certificate, or is such that the ship is not fit to proceed to sea without presenting an unreasonable threat of harm to the marine environment, such surveyor or organization shall immediately ensure that corrective action is taken and shall in due course notify the Administration. If such corrective action is not taken the Certificate should be withdrawn and the Administration shall be notified immediately, and if the ship is in a port of another Party, the appropriate authorities of the port State shall also be notified immediately. When an officer of the Administration, a nominated surveyor or a recognized organization has notified the appropriate authorities of the port State, the Government of the port State concerned shall give such officer, surveyor or organization any necessary assistance to carry out their obligations under this regulation. When applicable, the Government of the port State concerned shall take such steps as will ensure that the ship shall not sail until it can proceed to sea or leave the port for the purpose of proceeding to the nearest appropriate repair yard available without presenting an unreasonable threat of harm to the marine environment.
- 2.6 In every case, the Administration concerned shall fully guarantee the completeness and efficiency of the survey and shall undertake to ensure the necessary arrangements to satisfy this obligation.
- 3.1 The condition of the ship and its equipment shall be maintained to conform with the provisions of the present Convention to ensure that the ship in all respects will remain fit to proceed to sea without presenting an unreasonable threat of harm to the marine environment.
- 3.2 After any survey of the ship required under paragraph 1 of this regulation has been completed, no change shall be made in the

structure, equipment, systems, fittings, arrangements or material covered by the survey, without the sanction of the Administration, except the direct replacement of such equipment and fittings.

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

Regulation 9 Issue or endorsement of Certificate

- 1 An International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk shall be issued, after an initial or renewal survey in accordance with the provisions of regulation 8 of this Annex, to any ship intended to carry noxious liquid substances in bulk and which is engaged in voyages to ports or terminals under the jurisdiction of other Parties to the Convention.
- 2 Such Certificate shall be issued or endorsed either by the Administration or by any person or organization duly authorized by it. In every case, the Administration assumes full responsibility for the Certificate.
- 3.1 The Government of a Party to the Convention may, at the request of the Administration, cause a ship to be surveyed and, if satisfied that the provisions of this Annex are complied with, shall issue or authorize the issue of an International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk to the ship and, where appropriate, endorse or authorize the endorsement of that Certificate on the ship, in accordance with this Annex.

Schedule 1

- 3.2 A copy of the Certificate and a copy of the survey report shall be transmitted as soon as possible to the requesting Administration.
- 3.3 A Certificate so issued shall contain a statement to the effect that it has been issued at the request of the Administration and it shall have the same force and receive the same recognition as the Certificate issued under paragraph 1 of this regulation.
- 3.4 No International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk shall be issued to a ship which is entitled to fly the flag of a State which is not a party.
- 4 The International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk shall be drawn up in the form corresponding to the model given in appendix 3 to this Annex and shall be at least in English, French or Spanish. Where entries in an official national language of the State whose flag the ship is entitled to fly are also used, this shall prevail in the case of a dispute or discrepancy.

Regulation 10 Duration and validity of Certificate

- 1 An International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk shall be issued for a period specified by the Administration which shall not exceed 5 years.
- 2.1 Notwithstanding the requirements of paragraph 1 of this regulation, when the renewal survey is completed within 3 months before the expiry date of the existing Certificate, the new Certificate shall be valid from the date of completion of the renewal survey to a date not exceeding 5 years from the date of expiry of the existing Certificate.
- 2.2 When the renewal survey is completed after the expiry date of the existing Certificate, the new Certificate shall be valid from the date of completion of the renewal survey to a date not exceeding 5 years from the date of expiry of the existing Certificate.

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- 2.3 When the renewal survey is completed more than 3 months before the expiry date of the existing Certificate, the new Certificate shall be valid from the date of completion of the renewal survey to a date not exceeding 5 years from the date of completion of the renewal survey.
 - 3 If a Certificate is issued for a period of less than 5 years, the Administration may extend the validity of the Certificate beyond the expiry date to the maximum period specified in paragraph 1 of this regulation, provided that the surveys referred to in regulation 8.1.3 and 8.1.4 of this Annex applicable when a Certificate is issued for a period of 5 years are carried out as appropriate.
 - 4 If a renewal survey has been completed and a new Certificate cannot be issued or placed on board the ship before the expiry date of the existing Certificate, the person or organization authorized by the Administration may endorse the existing Certificate and such a Certificate shall be accepted as valid for a further period which shall not exceed 5 months from the expiry date.
 - 5 If a ship at the time when a Certificate expires is not in a port in which it is to be surveyed, the Administration may extend the period of validity of the Certificate but this extension shall be granted only for the purpose of allowing the ship to complete its voyage to the port in which it is to be surveyed, and then only in cases where it appears proper and reasonable to do so. No Certificates shall be extended for a period longer than 3 months, and a ship to which an extension is granted shall not, on its arrival in the port in which it is to be surveyed, be entitled by virtue of such extension to leave that port without having a new Certificate. When the renewal survey is completed, the new Certificate shall be valid to a date not exceeding 5 years from the date of expiry of the existing Certificate before the extension was granted.
 - 6 A Certificate issued to a ship engaged on short voyages which has not been extended under the foregoing provisions of this regulation may be extended by the Administration for a period of grace of up to one month from the date of expiry stated on it. When the renewal survey is completed, the new Certificate shall be valid to a date not exceeding 5 years from the date of

expiry of the existing Certificate before the extension was granted.

- 7 In special circumstances, as determined by the Administration, a new Certificate need not be dated from the date of expiry of the existing Certificate as required by paragraph 2.2, 5 or 6 of this regulation. In these special circumstances, the new Certificate shall be valid to a date not exceeding 5 years from the date of completion of the renewal survey.
- 8 If an annual or intermediate survey is completed before the period specified in regulation 8 of this Annex, then:
 - .1 the anniversary date shown on the Certificate shall be amended by endorsement to a date which shall not be more than 3 months later than the date on which the survey was completed;
 - .2 the subsequent annual or intermediate survey required by regulation 8 of this Annex shall be completed at the intervals prescribed by that regulation using the new anniversary date;
 - .3 the expiry date may remain unchanged provided one or more annual or intermediate surveys, as appropriate, are carried out so that the maximum intervals between the surveys prescribed by regulation 8 of this Annex are not exceeded.
- 9 A Certificate issued under regulation 9 of this Annex shall cease to be valid in any of the following cases:
 - .1 if the relevant surveys are not completed within the periods specified under regulation 8.1 of this Annex;
 - .2 if the Certificate is not endorsed in accordance with regulation 8.1.3 or 8.1.4 of this Annex;
 - .3 upon transfer of the ship to the flag of another State. A new Certificate shall only be issued when the Government issuing the new Certificate is fully satisfied that the ship is in compliance with the requirements of regulation 8.3.1 and 8.3.2 of this Annex. In the case of a transfer between Parties, if requested within 3 months after the transfer has taken place, the Government of the

Party whose flag the ship was formerly entitled to fly shall, as soon as possible, transmit to the Administration copies of the Certificate carried by the ship before the transfer and, if available, copies of the relevant survey reports.

Chapter 4 Design, construction, arrangement and equipment

Regulation 11 Design, construction, equipment and operations

- 1 The design, construction, equipment and operation of ships certified to carry noxious liquid substances in bulk identified in chapter 17 of the International Bulk Chemical Code, shall be in compliance with the following provisions to minimize the uncontrolled discharge into the sea of such substances:
 - .1 the International Bulk Chemical Code when the chemical tanker is constructed on or after 1 July 1986; or
 - .2 the Bulk Chemical Code as referred to in paragraph 1.7.2 of that Code for:
 - .2.1 ships for which the building contract is placed on or after 2 November 1973 but constructed before 1 July 1986, and which are engaged on voyages to ports or terminals under the jurisdiction of other States Parties to the Convention; and
 - .2.2 ships constructed on or after 1 July 1983 but before 1 July 1986, which are engaged solely on voyages between ports or terminals within the State the flag of which the ship is entitled to fly.
 - .3 The Bulk Chemical Code as referred to in paragraph 1.7.3 of that Code for:
 - .3.1 ships for which the building contract is placed before 2 November 1973 and which are engaged on voyages to ports or terminals under the

jurisdiction of other States Parties to the Convention; and

- .3.2 ships constructed before 1 July 1983 which are solely engaged on voyages between ports or terminals within the State the flag of which the ship is entitled to fly.
- 2 In respect of ships other than chemical tankers or liquefied gas carriers certified to carry noxious liquid substances in bulk identified in chapter 17 of the International Bulk Chemical Code, the Administration shall establish appropriate measures based on the Guidelines⁷⁸ developed by the Organization in order to ensure that the provisions shall be such as to minimize the uncontrolled discharge into the sea of such substances.

Regulation 12 Pumping, piping, unloading arrangements and slop tanks

- 1 Every ship constructed before 1 July 1986 shall be provided with a pumping and piping arrangement to ensure that each tank certified for the carriage of substances in category X or Y does not retain a quantity of residue in excess of 300 litres in the tank and its associated piping and that each tank certified for the carriage of substances in category Z does not retain a quantity of residue in excess of 900 litres in the tank and its associated piping. A performance test shall be carried out in accordance with appendix 5 of this Annex.
- 2 Every ship constructed on or after 1 July 1986 but before 1 January 2007 shall be provided with a pumping and piping arrangement to ensure that each tank certified for the carriage of substances in category X or Y does not retain a quantity of residue in excess of 100 litres in the tank and its associated piping and that each tank certified for the carriage of substances in category Z does not retain a quantity of residue in excess of 300 litres in the tank and its associated piping. A

78 Reference is made to resolutions A.673(16), as may be further amended, and MEPC.148(54).

performance test shall be carried out in accordance with appendix 5 of this Annex.

- 3 Every ship constructed on or after 1 January 2007 shall be provided with a pumping and piping arrangement to ensure that each tank certified for the carriage of substances in category X, Y or Z does not retain a quantity of residue in excess of 75 litres in the tank and its associated piping. A performance test shall be carried out in accordance with appendix 5 of this Annex.
- 4 For a ship other than a chemical tanker constructed before 1 January 2007 which cannot meet the requirements for the pumping and piping arrangements for substances in category Z referred to in paragraphs 1 and 2 of this regulation no quantity requirement shall apply. Compliance is deemed to be reached if the tank is emptied to the most practicable extent.
- 5 Pumping performance tests referred to in paragraphs 1, 2 and 3 of this regulation shall be approved by the Administration. Pumping performance tests shall use water as the test medium.
- 6 Ships certified to carry substances of category X, Y or Z shall have an underwater discharge outlet (or outlets).
- 7 For ships constructed before 1 January 2007 and certified to carry substances in category Z an underwater discharge outlet as required under paragraph 6 of this regulation is not mandatory.
- 8 The underwater discharge outlet (or outlets) shall be located within the cargo area in the vicinity of the turn of the bilge and shall be so arranged as to avoid the re-intake of residue/water mixtures by the ship's seawater intakes.
- 9 The underwater discharge outlet arrangement shall be such that the residue/water mixture discharged into the sea will not pass through the ship's boundary layer. To this end, when the discharge is made normal to the ship's shell plating, the minimum diameter of the discharge outlet is governed by the following equation:

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

where

d = minimum diameter of the discharge outlet (m)

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

Q_d = the maximum rate selected at which the ship may discharge a residue/water mixture through the outlet (m³/h).

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

11 *Slop tanks*

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

Chapter 5 Operational discharges of residues of noxious liquid substances

Regulation 13 Control of discharges of residues of noxious liquid substances

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

1 *Discharge provisions*

1.1 The discharge into the sea of residues of substances assigned to category X, Y or Z or of those provisionally assessed as such or ballast water, tank washings or other mixtures containing such substances shall be prohibited unless such

discharges are made in full compliance with the applicable operational requirements contained in this Annex.

- 1.2 Before any prewash or discharge procedure is carried out in accordance with this regulation, the relevant tank shall be emptied to the maximum extent in accordance with the procedures prescribed in the Manual.
- 1.3 The carriage of substances which have not been categorized, provisionally assessed or evaluated as referred to in regulation 6 of this Annex or of ballast water, tank washings or other mixtures containing such residues shall be prohibited along with any consequential discharge of such substances into the sea.

2 *Discharge standards*

- 2.1 Where the provisions in this regulation allow the discharge into the sea of residues of substances in category X, Y or Z or of those provisionally assessed as such or ballast water, tank washings or other mixtures containing such substances, the following discharge standards shall apply:
 - .1 the ship is proceeding *en route* at a speed of at least 7 knots in the case of self-propelled ships or at least 4 knots in the case of ships which are not self-propelled;
 - .2 the discharge is made below the waterline through the underwater discharge outlet(s) not exceeding the maximum rate for which the underwater discharge outlet(s) is (are) designed; and
 - .3 the discharge is made at a distance of not less than 12 nautical miles from the nearest land in a depth of water of not less than 25 metres.
- 2.2 For ships constructed before 1 January 2007 the discharge into the sea of residues of substances in category Z or of those provisionally assessed as such or ballast water, tank washings or other mixtures containing such substances below the waterline is not mandatory.
- 2.3 The Administration may waive the requirements of paragraph 2.1.3 for substances in category Z, regarding the distance of not less than 12 nautical miles from the nearest land for ships solely engaged in voyages within waters subject to the

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

3 *Ventilation of cargo residues*

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

4 *Exemption for a prewash*

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

- .1 the unloaded tank is to be reloaded with the same substance or another substance compatible with the previous one and that the tank will not be washed or ballasted prior to loading; or
- .2 the unloaded tank is neither washed nor ballasted at sea. The prewash in accordance with the applicable paragraph of this regulation shall be carried out at another port provided that it has been confirmed in writing that a reception facility at that port is available and is adequate for such a purpose; or
- .3 the cargo residues will be removed by a ventilation procedure approved by the Administration in accordance with appendix 7 of this Annex.

5 *The use of cleaning agents or additives*

- 5.1 When a washing medium other than water, such as mineral oil or chlorinated solvent, is used instead of water to wash a tank, its discharge shall be governed by the provisions of either Annex I or Annex II which would apply to the medium had it been carried as cargo. Tank washing procedures involving the use of such a medium shall be set out in the Manual and be approved by the Administration.
- 5.2 When small amounts of cleaning additives (detergent products) are added to water in order to facilitate tank washing, no additives containing pollution category X components shall be used except those components that are readily biodegradable and present in a total concentration of less than 10% of the cleaning additive. No restrictions additional to those applicable to the tank due to the previous cargo shall apply.

6 *Discharge of residues of category X*

- 6.1 Subject to the provision of paragraph 1, the following provisions shall apply:
- .1 A tank from which a substance in category X has been unloaded shall be prewashed before the ship leaves the port of unloading. The resulting residues shall be discharged to a reception facility until the concentration of the substance in the effluent to such facility, as indicated by analyses of samples of the effluent taken by the surveyor, is at or below 0.1% by weight. When the required concentration level has been achieved, remaining tank washings shall continue to be discharged to the reception facility until the tank is empty. Appropriate entries of these operations shall be made in the Cargo Record Book and endorsed by the surveyor referred to in regulation 16.1.
 - .2 Any water subsequently introduced into the tank may be discharged into the sea in accordance with the discharge standards in regulation 13.2.
 - .3 Where the Government of the receiving party is satisfied that it is impracticable to measure the concentration of

the substance in the effluent without causing undue delay to the ship, that Party may accept an alternative procedure as being equivalent to obtain the required concentration in regulation 13.6.1.1 provided that:

- .3.1 the tank is prewashed in accordance with a procedure approved by the Administration in compliance with appendix 6 of this Annex; and
- .3.2 appropriate entries shall be made in the Cargo Record Book and endorsed by the surveyor referred to in regulation 16.1.

7 *Discharge of residues of category Y and Z*

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

- .1 With respect to the residue discharge procedures for substances in category Y or Z, the discharge standards in regulation 13.2 shall apply.
- .2 If the unloading of a substance of category Y or Z is not carried out in accordance with the Manual, a prewash shall be carried out before the ship leaves the port of unloading, unless alternative measures are taken to the satisfaction of the surveyor referred to in regulation 16.1 of this Annex to remove the cargo residues from the ship to quantities specified in this Annex. The resulting tank washings of the prewash shall be discharged to a reception facility at the port of unloading or another port with a suitable reception facility provided that it has been confirmed in writing that a reception facility at that port is available and is adequate for such a purpose.
- .3 For high-viscosity or solidifying substances in category Y, the following shall apply:
 - .3.1 a prewash procedure as specified in appendix 6 shall be applied;
 - .3.2 the residue/water mixture generated during the prewash shall be discharged to a reception facility until the tank is empty; and

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

- 7.2 Operational requirements for ballasting and deballasting
- 7.2.1 After unloading, and, if required, after a prewash, a cargo tank may be ballasted. Procedures for the discharge of such ballast are set out in regulation 13.2.
- 7.2.2 Ballast introduced into a cargo tank which has been washed to such an extent that the ballast contains less than 1 ppm of the substance previously carried may be discharged into the sea without regard to the discharge rate, ship's speed and discharge outlet location, provided that the ship is not less than 12 nautical miles from the nearest land and in water that is not less than 25 metres deep. The required degree of cleanliness has been achieved when a prewash as specified in appendix 6 has been carried out and the tank has been subsequently washed with a complete cycle of the cleaning machine for ships built before 1 July 1994 or with a water quantity not less than that calculated with $k = 1.0$.
- 7.2.3 The discharge into the sea of clean or segregated ballast shall not be subject to the requirements of this Annex.

8 *Discharges in the Antarctic Area*

- 8.1 *Antarctic Area* means the sea area south of latitude 60° S.
- 8.2 In the Antarctic Area any discharge into the sea of noxious liquid substances or mixtures containing such substances is prohibited.

Regulation 14 Procedures and Arrangements Manual

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

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

Regulation 15 Cargo Record Book

- 1 Every ship to which this Annex applies shall be provided with a Cargo Record Book, whether as part of the ship's official log-book or otherwise, in the form specified in appendix 2 to this Annex.
- 2 After completion of any operation specified in appendix 2 to this Annex, the operation shall be promptly recorded in the Cargo Record Book.
- 3 In the event of an accidental discharge of a noxious liquid substance or a mixture containing such a substance or a discharge under the provisions of regulation 3 of this Annex, an entry shall be made in the Cargo Record Book stating the circumstances of, and the reason for, the discharge.
- 4 Each entry shall be signed by the officer or officers in charge of the operation concerned and each page shall be signed by the master of the ship. The entries in the Cargo Record Book, for ships holding an International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk or a certificate referred to in regulation 7 of this Annex, shall be at least in English, French or Spanish. Where entries in an official national language of the State whose flag the ship is entitled to fly are also used, this shall prevail in case of a dispute or discrepancy.
- 5 The Cargo Record Book shall be kept in such a place as to be readily available for inspection and, except in the case of unmanned ships under tow, shall be kept on board the ship. It shall be retained for a period of three years after the last entry has been made.
- 6 The competent authority of the Government of a Party may inspect the Cargo Record Book on board any ship to which

this Annex applies while the ship is in its port, and may make a copy of any entry in that book and may require the master of the ship to certify that the copy is a true copy of such entry. Any copy so made which has been certified by the master of the ship as a true copy of an entry in the ship's Cargo Record Book shall be made admissible in any judicial proceedings as evidence of the facts stated in the entry. The inspection of a Cargo Record Book and the taking of a certified copy by the competent authority under this paragraph shall be performed as expeditiously as possible without causing the ship to be unduly delayed.

Chapter 6 Measures of control by port States

Regulation 16 Measures of control

- 1 The Government of each Party to the Convention shall appoint or authorize surveyors for the purpose of implementing this regulation. The surveyors shall execute control in accordance with control procedures developed by the Organization.⁷⁹
- 2 When a surveyor appointed or authorized by the Government of the Party to the Convention has verified that an operation has been carried out in accordance with the requirements of the Manual, or has granted an exemption for a prewash, then that surveyor shall make an appropriate entry in the Cargo Record Book.
- 3 The master of a ship certified to carry noxious liquid substances in bulk shall ensure that the provisions of regulation 13 and of this regulation have been complied with and that the Cargo Record Book is completed in accordance with regulation 15 whenever operations as referred to in that regulation take place.
- 4 A tank which has carried a category X substance shall be prewashed in accordance with regulation 13.6. The

⁷⁹ Refer to the Procedures for port State control adopted by the Organization by resolution A.787(19) as amended by resolution A.882(21) and as may be further amended.

appropriate entries of these operations shall be made in the Cargo Record Book and endorsed by the surveyor referred to under paragraph 1 of this regulation.

- 5 Where the Government of the receiving party is satisfied that it is impracticable to measure the concentration of the substance in the effluent without causing undue delay to the ship, that Party may accept the alternative procedure referred to in regulation 13.6.3 provided that the surveyor referred to under paragraph 1 of this regulation certifies in the Cargo Record Book that:
 - .1 the tank, its pump and piping systems have been emptied; and
 - .2 the prewash has been carried out in accordance with the provisions of appendix 6 of this Annex; and
 - .3 the tank washings resulting from such prewash have been discharged to a reception facility and the tank is empty.
- 6 At the request of the ship's master, the Government of the receiving Party may exempt the ship from the requirements for a prewash referred to in the applicable paragraphs of regulation 13 when one of the conditions of regulation 13.4 is met.
- 7 An exemption referred to in paragraph 6 of this regulation may only be granted by the Government of the receiving Party to a ship engaged in voyages to ports or terminals under the jurisdiction of other States Parties to the present Convention. When such an exemption has been granted, the appropriate entry made in the Cargo Record Book shall be endorsed by the surveyor referred to in paragraph 1 of this regulation.
- 8 If the unloading is not carried out in accordance with the pumping conditions for the tank approved by the Administrations and based on appendix 5 of this Annex, alternative measures may be taken to the satisfaction of the surveyor referred to in paragraph 1 of this regulation to remove the cargo residues from the ship to quantities specified in regulation 12 as applicable. The appropriate entries shall be made in the Cargo Record Book.

9 *Port State control on operational requirements*⁸⁰

- 9.1 A ship when in a port of another Party is subject to inspection by officers duly authorized by such Party concerning operational requirements under this Annex, where there are clear grounds for believing that the master or crew are not familiar with essential shipboard procedures relating to the prevention of pollution by noxious liquid substances.
- 9.2 In the circumstances given in paragraph 9.1 of this regulation, the Party shall take such steps as will ensure that the ship shall not sail until the situation has been brought to order in accordance with the requirements of this Annex.
- 9.3 Procedures relating to the port State control prescribed in article 5 of the present Convention shall apply to this regulation.
- 9.4 Nothing in this regulation shall be construed to limit the rights and obligations of a Party carrying out control over operational requirements specifically provided for in the present Convention.

Chapter 7 **Prevention of pollution arising from an incident involving noxious liquid substances**

Regulation 17 **Shipboard marine pollution emergency plan for noxious liquid substances**

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

80 Refer to the Procedures for port State control adopted by the Organization by resolution A.787(19) as amended by resolution A.882(21) and as may be further amended.

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- 2 Such a plan shall be based on the Guidelines⁸¹ developed by the Organization and written in a working language or languages understood by the master and officers. The plan shall consist at least of:
 - .1 the procedure to be followed by the master or other persons having charge of the ship to report a noxious liquid substances pollution incident, as required in article 8 and Protocol I of the present Convention, based on the Guidelines developed by the Organization;⁸²
 - .2 the list of authorities or persons to be contacted in the event of a noxious liquid substances pollution incident;
 - .3 a detailed description of the action to be taken immediately by persons on board to reduce or control the discharge of noxious liquid substances following the incident; and
 - .4 the procedures and point of contact on the ship for coordinating shipboard action with national and local authorities in combating the pollution.
- 3 In the case of ships to which regulation 37 of Annex I of the Convention also applies, such a plan may be combined with the shipboard oil pollution emergency plan required under regulation 37 of Annex I of the Convention. In this case, the title of such a plan shall be “Shipboard marine pollution emergency plan”.

81 Refer to “Guidelines for the development of shipboard marine pollution emergency plans for oil and/or noxious liquid substances” adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.85(44), as amended by resolution MEPC.137(53).

82 Refer to General principles for ship reporting systems and ship reporting requirements, including guidelines for reporting incidents involving dangerous goods, harmful substances and/or marine pollutants, adopted by the Organization by resolution A.851(20), as amended by resolution MEPC.138(53).

Chapter 8 Reception facilities

Regulation 18 Reception facilities and cargo unloading terminal arrangements

- 1 The Government of each Party to the Convention undertakes to ensure the provision of reception facilities according to the needs of ships using its ports, terminals or repair ports as follows:
 - .1 ports and terminals involved in ships' cargo handling shall have adequate facilities for the reception of residues and mixtures containing such residues of noxious liquid substances resulting from compliance with this Annex, without undue delay for the ships involved.
 - .2 ship repair ports undertaking repairs to NLS tankers shall provide facilities adequate for the reception of residues and mixtures containing noxious liquid substances for ships calling at that port.
- 2 The Government of each Party shall determine the types of facilities provided for the purpose of paragraph 1 of this regulation at each cargo loading and unloading port, terminal and ship repair port in its territories and notify the Organization thereof.
- 3 The Governments of Parties to the Convention, the coastlines of which border on any given special area, shall collectively agree and establish a date by which time the requirement of paragraph 1 of this regulation will be fulfilled and from which the requirements of the applicable paragraphs of regulation 13 in respect of that area shall take effect and notify the Organization of the date so established at least six months in advance of that date. The Organization shall then promptly notify all Parties of that date.
- 4 The Government of each Party to the Convention shall undertake to ensure that cargo unloading terminals shall provide arrangements to facilitate stripping of cargo tanks of ships unloading noxious liquid substances at these terminals. Cargo hoses and piping systems of the terminal, containing

noxious liquid substances received from ships unloading these substances at the terminal, shall not be drained back to the ship.

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

Appendices to Annex II

Appendix 1 Guidelines for the categorization of noxious liquid substances⁸³

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

83 Reference is made to MEPC.1/Circ. 512 on the Revised Guidelines for the provisional assessment of liquid substances transported in bulk.

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

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Abbreviated legend to the revised GESAMP Hazard Evaluation Procedure

Columns A and B – Aquatic environment					
Numerical rating	A			B	
	Bioaccumulation and biodegradation			Aquatic toxicity	
	A1* Bioaccumulation		A2* Biodegradation	B1* Acute toxicity	B2* Chronic toxicity
	log <i>P</i> _{OW}	BCF		LC/EC/IC ₅₀ (mg/l)	NOEC (mg/l)
0	< 1 or > ca. 7	not measurable	R: readily biodegradable	> 1000	> 1
1	≥ 1 – < 2	≥ 1 – < 10		> 100 – ≤ 1000	> 0.1 – ≤ 1
2	≥ 2 – < 3	≥ 10 – < 100	NR: not readily biodegradable	> 10 – ≤ 100	> 0.01 – ≤ 0.1
3	≥ 3 – < 4	≥ 100 – < 500		> 1 – ≤ 10	> 0.001 – ≤ 0.01
4	≥ 4 – < 5	≥ 500 – < 4000		inorg: inorganic substance	> 0.1 – ≤ 1
5	≥ 5 – < ca. 7	≥ 4000		> 0.01 – ≤ 0.1	
6				≤ 0.01	

Columns C and D – Human health (Toxic effects to mammals)						
Numerical rating	C			D		
	Acute mammalian toxicity			Irritation, corrosion & long-term health effects		
	C1 Oral toxicity LD ₅₀ (mg/kg)	C2 Percutaneous toxicity LD ₅₀ (mg/kg)	C3 Inhalation toxicity LC ₅₀ (mg/l)	D1 Skin irritation & corrosion	D2 Eye irritation & corrosion	D3* Long-term health effects
0	> 2000	> 2000	> 20	not irritating	not irritating	C – Carcinogen M – Mutagenic R – Reprotoxic S – Sensitizing A – Aspiration hazard T – Target organ systemic toxicity L – Lung injury N – Neurotoxic I – Immuno-toxic
1	> 300 – ≤ 2000	> 1000 – ≤ 2000	> 10 – ≤ 20	mildly irritating	mildly irritating	
2	> 50 – ≤ 300	> 200 – ≤ 1000	> 2 – ≤ 10	irritating	irritating	
3	> 5 – ≤ 50	> 50 – ≤ 200	> 0.5 – ≤ 2	severely irritating or corrosive 3A Corr. (≤ 4 h) 3B Corr. (≤ 1 h) 3C Corr. (≤ 3 min)	severely irritating	
4	≤ 5	≤ 50	≤ 0.5			

* These columns are used to define pollution categories.

Abbreviated legend to the revised GESAMP Hazard Evaluation Procedure (continued)

Column E Interferences with other uses of the sea			
E1 Tainting	E2* Physical effects on wildlife & benthic habitats	E3 Interference with coastal amenities	
		Numerical rating	Description & action
NT: not tainting (tested) T: tainting test positive	Ep: Persistent floater F: Floater S: Sinking substances	0	no interference no warning
		1	slightly objectionable warning, no closure of amenity
		2	moderately objectionable possible closure of amenity
		3	highly objectionable closure of amenity

* These columns are used to define pollution categories.

Appendix 2 Form of Cargo Record Book for ships carrying noxious liquid substances in bulk

CARGO RECORD BOOK FOR SHIPS CARRYING NOXIOUS LIQUID SUBSTANCES IN BULK

Name of ship

Distinctive number or letters

IMO Number

Gross tonnage

Period from to

Introduction

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

When making entries in the Cargo Record Book, the date, operational code and item number shall be inserted in the appropriate columns and the required particulars shall be recorded chronologically in the blank spaces.

Each completed operation shall be signed for and dated by the officer or officers in charge and, if applicable, by a surveyor authorized by the competent authority of the State in which the ship is unloading. Each completed page shall be countersigned by the master of the ship.

List of items to be recorded

Entries are required only for operations involving all categories of substances.

(A) Loading of cargo

- 1 Place of loading.
- 2 Identify tank(s), name of substance(s) and category(ies).

(B) Internal transfer of cargo

- 3 Name and category of cargo(es) transferred.
- 4 Identity of tanks:
 - .1 from:
 - .2 to:
- 5 Was (were) tank(s) in 4.1 emptied?
- 6 If not, quantity remaining in tank(s).

(C) Unloading of cargo

- 7 Place of unloading.
- 8 Identity of tank(s) unloaded.
- 9 Was (were) tank(s) emptied?
 - .1 If yes, confirm that the procedure for emptying and stripping has been performed in accordance with the ship's Procedures and Arrangements Manual (i.e. list, trim, stripping temperature).
 - .2 If not, quantity remaining in tank(s).
- 10 Does the ship's Procedures and Arrangements Manual require a prewash with subsequent disposal to reception facilities?
- 11 Failure of pumping and/or stripping system:
 - .1 time and nature of failure;
 - .2 reasons for failure;
 - .3 time when system has been made operational.

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

- 12 Identify tank(s), substance(s) and category(ies).
- 13 Washing method:
 - .1 number of cleaning machines per tank;
 - .2 duration of wash/washing cycles;
 - .3 hot/cold wash.
- 14 Prewash slops transferred to:
 - .1 reception facility in unloading port (identify port);⁸⁴
 - .2 reception facility otherwise (identify port).

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

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

- 15 State time, identify tank(s), substance(s) and category(ies) and state:
- .1 washing procedure used;
 - .2 cleaning agent(s) (identify agent(s) and quantities);
 - .3 ventilation procedure used (state number of fans used, duration of ventilation).
- 16 Tank washings transferred:
- .1 into the sea;
 - .2 to reception facility (identify port);⁸⁵
 - .3 to slops collecting tank (identify tank).

(F) Discharge into the sea of tank washings

- 17 Identify tank(s):
- .1 Were tank washings discharged during cleaning of tank(s)? If so, at what rate?
 - .2 Were tank washing(s) discharged from a slops collecting tank? If so, state quantity and rate of discharge.
- 18 Time pumping commenced and stopped.
- 19 Ship's speed during discharge.

(G) Ballasting of cargo tanks

- 20 Identity of tank(s) ballasted.
- 21 Time at start of ballasting.

⁸⁵ Ship's masters should obtain from the operator of the reception facilities, which include barges and tank trucks, a receipt or certificate specifying the quantity of tank washings transferred, together with the time and date of the transfer. The receipt or certificate should be kept together with the Cargo Record Book.

(H) Discharge of ballast water from cargo tanks

- 22 Identity of tank(s).
- 23 Discharge of ballast:
 - .1 into the sea;
 - .2 to reception facilities (identify port).⁸⁶
- 24 Time ballast discharge commenced and stopped.
- 25 Ship's speed during discharge.

(I) Accidental or other exceptional discharge

- 26 Time of occurrence.
- 27 Approximate quantity, substance(s) and category(ies).
- 28 Circumstances of discharge or escape and general remarks.

(J) Control by authorized surveyors

- 29 Identify port.
- 30 Identify tank(s), substance(s), category(ies) discharged ashore.
- 31 Have tank(s), pump(s), and piping system(s) been emptied?
- 32 Has a prewash in accordance with the ship's Procedures and Arrangements Manual been carried out?
- 33 Have tank washings resulting from the prewash been discharged ashore and is the tank empty?
- 34 An exemption has been granted from mandatory prewash.
- 35 Reasons for exemption.
- 36 Name and signature of authorized surveyor.

⁸⁶ Ship's masters should obtain from the operator of the reception facilities, which include barges and tank trucks, a receipt or certificate specifying the quantity of tank washings transferred, together with the time and date of the transfer. The receipt or certificate should be kept together with the Cargo Record Book.

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

(K) Additional operational procedures and remarks

Name of ship

Distinctive number or letters

IMO Number

CARGO/BALLAST OPERATIONS

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

Signature of master

Appendix 3 Form of International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk⁸⁷

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 (hereinafter referred to as “the Convention”) under the authority of the Government of:

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

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

Particulars of ship

Name of ship

Distinctive number or letters

IMO Number⁸⁸

Port of registry

Gross tonnage

THIS IS TO CERTIFY:

- 1 That the ship has been surveyed in accordance with regulation 8 of Annex II of the Convention.
- 2 That the survey showed that the structure, equipment, systems, fitting, arrangements and material of the ship and the condition

87 The NLS Certificate shall be at least in English, French or Spanish. Where entries in an official national language of the State whose flag the ship is entitled to fly are also used, this shall prevail in case of a dispute or discrepancy.

88 Refer to the IMO Ship Identification Number Scheme adopted by the Organization by resolution A.600(15).

thereof are in all respects satisfactory and that the ship complies with the applicable requirements of Annex II of the Convention.

- 3 That the ship has been provided with a Procedures and Arrangements Manual as required by regulation 14 of Annex II of the Convention, and that the arrangements and equipment of the ship prescribed in the Manual are in all respects satisfactory.
- 4 That the ship complies with the requirements of Annex II to MARPOL 73/78 for the carriage in bulk of the following noxious liquid substances, provided that all relevant provisions of Annex II are observed.

Noxious liquid substances	Conditions of carriage (tank numbers etc.)	Pollution category
Continued on additional signed and dated sheets		

This certificate is valid until (dd/mm/yyyy):.....
 subject to surveys in accordance with regulation 8 of Annex II of the Convention.

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

Issued at:

(Place of issue of certificate)

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(dd/mm/yyyy)
(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 8 of Annex II of the Convention, the ship was found to comply with the relevant provisions of the Convention:

Annual survey: Signed:
(Signature of duly authorized official)
Place:
Date (dd/mm/yyyy):
(Seal or stamp of the authority, as appropriate)

Annual/Intermediate⁸⁹ survey: Signed:
(Signature of duly authorized official)
Place:
Date (dd/mm/yyyy):
(Seal or stamp of the authority, as appropriate)

Annual/Intermediate⁹⁰ survey: Signed:
(Signature of duly authorized official)
Place:
Date (dd/mm/yyyy):

89 Delete as appropriate.

90 Delete as appropriate.

(Seal or stamp of the authority, as appropriate)

Annual survey: Signed:

(Signature of duly authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

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

THIS IS TO CERTIFY that, at an annual/intermediate⁹¹ survey in accordance with regulation 10.8.3 of Annex II of the Convention, the ship was found to comply with the relevant provisions of the Convention:

Signed:

(Signature of duly authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

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

The ship complies with the relevant provisions of the Convention, and this Certificate shall, in accordance with regulation 10.3 of Annex II of the Convention, be accepted as valid until (dd/mm/yyyy):

Signed:

(Signature of duly authorized official)

Place:

Date (dd/mm/yyyy):

91 Delete as appropriate.

(Seal or stamp of the authority, as appropriate)

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

The ship complies with the relevant provisions of the Convention, and this Certificate shall, in accordance with regulation 10.4 of Annex II of the Convention, be accepted as valid until (dd/mm/yyyy):

Signed:

(Signature of duly authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

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

This Certificate shall, in accordance with regulation 10.5 or 10.6 of Annex II of the Convention, be accepted as valid until (dd/mm/yyyy):

Signed:

(Signature of duly authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

ENDORSEMENT FOR ADVANCEMENT OF ANNIVERSARY DATE WHERE REGULATION 10.8 APPLIES

In accordance with regulation 10.8 of Annex II of the Convention, the new anniversary date is (dd/mm/yyyy):

Signed:

(Signature of duly authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

In accordance with regulation 10.8 of Annex II of the Convention, the new anniversary date is (dd/mm/yyyy):

Signed:

(Signature of duly authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

Appendix 4 Standard format for the Procedures and Arrangements Manual

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

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

Standard Format

MARPOL 73/78 Annex II Procedures And Arrangements Manual

Name of ship
Distinctive number or letters
IMO Number
Port of registry

Approval stamp of Administration:

Introduction

- 1 The International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as MARPOL 73/78) was established in order to prevent the pollution of the marine environment by discharges into the sea from ships of harmful substances or effluents containing such substances. In order to achieve its aim, MARPOL 73/78 contains six Annexes in which detailed regulations are given with respect to the handling on board ships and the discharge into the sea or release into the atmosphere of six main groups of harmful substances, i.e. Annex I (Mineral oils), Annex II (Noxious liquid substances carried in bulk), Annex III (Harmful substances carried in packaged form), Annex IV (Sewage), Annex V (Garbage) and Annex VI (Air pollution).
- 2 Regulation 13 of Annex II of MARPOL 73/78 (hereinafter referred to as “Annex II”) prohibits the discharge into the sea of noxious liquid substances of categories X, Y or Z or of ballast water, tank washings or other residues or mixtures containing such substances, except in compliance with specified conditions including procedures and arrangements based upon standards developed by

-
- the International Maritime Organization (IMO) to ensure that the criteria specified for each category will be met.
- 3 Annex II requires that each ship which is certified for the carriage of noxious liquid substances in bulk shall be provided with a Procedures and Arrangements Manual, hereinafter referred to as the “Manual”.
- 4 This Manual has been written in accordance with regulation 14 of Annex II and is concerned with the marine environmental aspects of the cleaning of cargo tanks and the discharge of residues and mixtures from these operations. The Manual is not a safety guide and reference shall be made to other publications specifically to evaluate safety hazards.
- 5 The purpose of the Manual is to identify the arrangements and equipment required to enable compliance with Annex II and to identify for the ship’s officers all operational procedures with respect to cargo handling, tank cleaning, slops handling, residue discharging, ballasting and deballasting which must be followed in order to comply with the requirements of Annex II.
- 6 In addition, this Manual, together with the ship’s Cargo Record Book and the Certificate issued under Annex II,⁹² 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 X, Y or Z substances shall take place, unless such discharges are made in full compliance with the operational procedures contained in this Manual.
- 8 This Manual has been approved by the Administration and no alteration or revision shall be made to any part of it without the prior approval of the Administration.

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

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schematic drawings shall be provided showing the following and be supported by textual explanation where necessary:

- .1 cargo piping arrangements with diameters;*
- .2 cargo pumping arrangements with pump capacities;*
- .3 piping arrangements of stripping system with diameters;*
- .4 pumping arrangements of stripping system with pump capacities;*
- .5 location of suction points of cargo lines and stripping lines inside every cargo tank;*
- .6 if a suction well is fitted, the location and cubic capacity thereof;*
- .7 line draining and stripping or blowing arrangements; and*
- .8 quantity and pressure of nitrogen or air required for line blowing if applicable.*

2.4 Description of ballast tanks and ballast pumping and piping arrangements

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

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

- .1 a general arrangement showing the segregated ballast tanks and cargo tanks to be used as ballast tanks together with their capacities (cubic metres);*
- .2 ballast piping arrangement;*
- .3 pumping capacity for those cargo tanks which may also be used as ballast tanks; and*
- .4 any interconnection between the ballast piping arrangements and the underwater outlet system.*

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

This section shall contain a description of the dedicated slop tank(s), if any, with the associated pumping and piping

arrangements. Line or schematic drawings shall be provided showing the following:

- .1 which dedicated slop tanks are provided together with the capacities of such tanks;*
- .2 pumping and piping arrangements of dedicated slop tanks with piping diameters and their connection with the underwater discharge outlet.*

2.6 Description of underwater discharge outlet for effluents containing noxious liquid substances

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

- .1 location and number of underwater discharge outlets;*
- .2 connections to underwater discharge outlets;*
- .3 location of all seawater intakes in relation to underwater discharge outlets.*

2.7 Description of flow rate indicating and recording devices

[Deleted]

2.8 Description of cargo tank ventilation system

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

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

- .1 the noxious liquid substances the ship is certified fit to carry having a vapour pressure over 5 kPa at 20°C suitable for cleaning by ventilation to be listed in paragraph 4.4.10 of the Manual;*
- .2 ventilation piping and fans;*
- .3 positions of the ventilation openings;*
- .4 the minimum flow rate of the ventilation system to adequately ventilate the bottom and all parts of the cargo tank;*

3.2 Cargo unloading

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

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

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

3.3 Cargo tank stripping

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

The procedures shall include the following:

- .1 operation of stripping system;*
- .2 list and trim requirements;*
- .3 line draining and stripping or blowing arrangements if applicable; and*
- .4 duration of the stripping time of the water test.*

3.4 Cargo temperature

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

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

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

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

- .1 failure of cargo tank stripping system; and*
- .2 failure of cargo tank heating system.*

-
- .4 Solidifying or high-viscosity substance
The properties of the substance should be obtained from the shipping document.
- .5 Miscibility with water
[Deleted]
- .6 Compatibility with slops containing other substances
This section shall contain instructions on the permissible and non-permissible mixing of cargo slops. Reference should be made to compatibility guides.
- .7 Discharge to reception facility
This section shall identify those substances the residues of which are required to be prewashed and discharged to a reception facility.
- .8 Discharging into the sea
This section shall contain information on the factors to be considered in order to identify whether the residue/water mixtures are permitted to be discharged into the sea.
- .9 Use of cleaning agents or additives
This section shall contain information on the use and disposal of cleaning agents (e.g. solvents used for tank cleaning) and additives to tank washing water (e.g. detergents).
- .10 Use of ventilation procedures for tank cleaning
This section shall make reference to all substances suitable for the use of ventilation procedures.
- 4.5 Having assessed the above information, the correct operational procedures to be followed should be identified using the instructions and flow diagram of section 5. Appropriate entries shall be made in the Cargo Record Book indicating the procedure adopted.

Section 5 Information and procedures

This section shall contain procedures, which will depend on the age of the ship and pumping efficiency. Examples of flow diagram referred to in this

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section are given at addendum A and incorporate comprehensive requirements applicable to both new and existing ships. The Manual for a particular ship shall only contain those requirements specifically applicable to that ship.

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

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

The Manual shall contain:

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

Outlines of the above table and addenda are shown below.

Table 2 Cargo tank information

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

a Tank numbers should be identical to those in the ship's Certificate of Fitness.

Addendum A

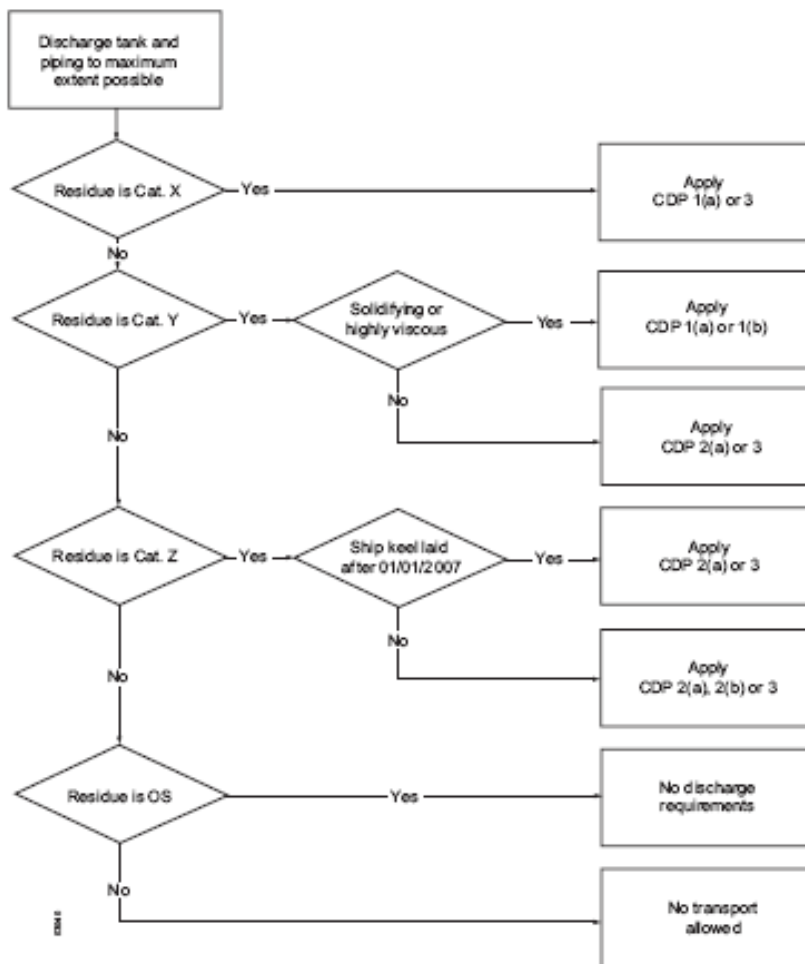
Flow diagrams Cleaning of cargo tanks and disposal of tank washings/ballast containing residues of category X, Y, and Z substances

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

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

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

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Ship details	Stripping requirements (in litres)		
	Category X	Category Y	Category Z
New ships: keel laid after 1 January 2007	75	75	75
IBC ships until 1 January 2007	100 + 50 tolerance	100 + 50 tolerance	300 + 50 tolerance

BCH ships	300 + 50 tolerance	300 + 50 tolerance	900 + 50 tolerance
Other ships: keel laid before 1 January 2007	N/A	N/A	Empty to the most possible extent

Cleaning and disposal procedures (CDP) (Start at the top of the column under the CDP number specified and complete each item procedure in the sequence marked)						
No.	Operation	Procedure number				
		1(a)	1(b)	2(a)	2(b)	3
1	Strip tank and piping to maximum extent, at least in compliance with the procedures in section 3 of this Manual	X	X	X	X	X
2	Apply prewash in accordance with addendum B of this Manual and discharge residue to reception facility	X	X			
3	Apply subsequent wash, additional to the prewash, with: a complete cycle of the cleaning machine(s) (for ships built before 1 July 1994) a water quantity not less than calculated with “k” = 1.0 (for ships built on or after 1 July 1994)		X			
4	Apply ventilation procedure in accordance with addendum C of this Manual					X
5	Ballast tanks or wash tank to commercial standards	X		X	X	X
6	Ballast added to tank		X			

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7	Conditions for discharge of ballast/residue/water mixtures other than prewash:					
	.1 distance from land > 12 nautical miles	X		X	X	
	.2 ship's speed >7 knots	X		X	X	
	.3 water depth > 25 metres	X		X	X	
	.4 Using underwater discharge (not exceeding permissible discharge rate)	X		X		
8	Conditions for discharge of ballast:					
	.1 distance from land > 12 nautical miles		X			
	.2 water depth > 25 metres		X			
9	Any water subsequently introduced into a tank may be discharged into the sea without restrictions	X	X	X	X	X

Addendum B Prewash procedures

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

- .1 cleaning machine positions to be used;*
- .2 slops pumping out procedure;*
- .3 requirements for hot washing;*
- .4 number of cycles of cleaning machine (or time); and*
- .5 minimum operating pressures.*

Addendum C Ventilation procedures

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

- .1 ventilation positions to be used;*
- .2 minimum flow or speed of fans;*
- .3 procedures for ventilating cargo pipeline, pumps, filters, etc.; and*
- .4 procedures for ensuring that tanks are dry on completion.*

Addendum D Additional information and operational instructions required or accepted by the Administration

This addendum to the Manual shall contain additional information and operational instructions required or accepted by the Administration.

Appendix 5 Assessment of residue quantities in cargo tanks, pumps and associated piping**1 Introduction****1.1 Purpose**

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

1.2 Background

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

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

2 Design criteria and performance test

- 2.1 The cargo pumping systems should be designed to meet the required maximum amount of residue per tank and associated piping as specified in regulation 12 of Annex II to the satisfaction of the Administration.
- 2.2 In accordance with regulation 12.5 the cargo pumping systems shall be tested with water to prove their performance. Such water tests shall, by measurement, show that the system meets the requirements of regulation 12. In respect of regulations 12.1 and 12.2 a tolerance of 50 litres per tank is acceptable.

3 Water performance test

- 3.1 Test condition
- 3.1.1 The ship's trim and list shall be such as to provide favourable drainage to the suction point. During the water test the ship's trim shall not exceed 3° by the stern, and the ship's list shall not exceed 1°.
- 3.1.2 The trim and list chosen for the water test shall be recorded. This shall be the minimum favourable trim and list used during the water test.
- 3.1.3 During the water test, means shall be provided to maintain a backpressure of not less than 100 kPa at the cargo tank's unloading manifold (see figures 5-1 and 5-2).
- 3.1.4 The time taken to complete the water test shall be recorded for each tank, recognizing that this may need to be amended as a result of subsequent tests.
- 3.2 Test procedure
- 3.2.1 Ensure that the cargo tank to be tested and its associated piping have been cleaned and that the cargo tank is safe for entry.

-
- 3.2.2 Fill the cargo tank with water to a depth necessary to carry out normal end of unloading procedures.
- 3.2.3 Discharge and strip water from the cargo tank and its associated piping in accordance with the proposed procedures.
- 3.2.4 Collect all water remaining in the cargo tank and its associated piping into a calibrated container for measurement. Water residues shall be collected, *inter alia*, from the following points:
- .1 the cargo tank suction and its vicinity;
 - .2 any entrapped areas on the cargo tank bottom;
 - .3 the low point drain of the cargo pump; and
 - .4 all low point drains of piping associated with the cargo tank up to the manifold valve.
- 3.2.5 The total water volumes collected above determine the stripping quantity for the cargo tank.
- 3.2.6 Where a group of tanks is served by a common pump or piping, the water test residues associated with the common system(s) may be apportioned equally among the tanks provided that the following operational restriction is included in the ship's approved Manual: "For sequential unloading of tanks in this group, the pump or piping is not to be washed until all tanks in the group have been unloaded."

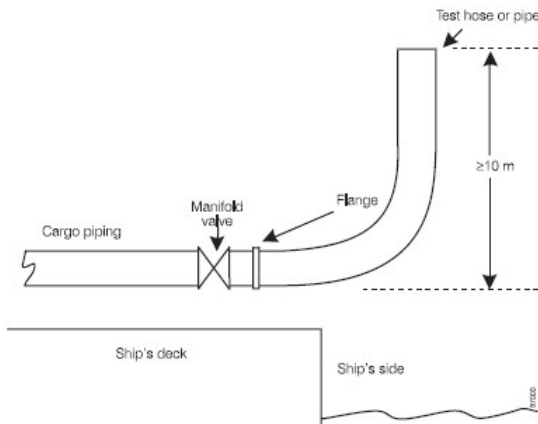


Figure 5-1

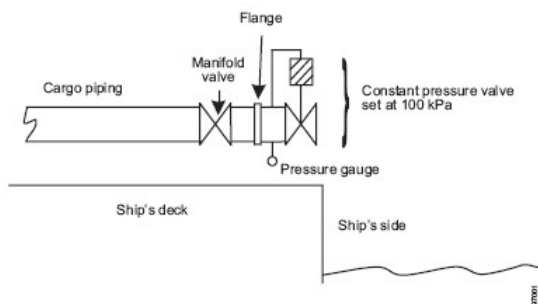


Figure 5-2

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

Appendix 6 Prewash Procedures

A For ships built before 1 July 1994

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

Prewash procedures for non-solidifying substances

- 1 Tanks shall be washed by means of a rotary water jet, operated at sufficiently high water pressure. In the case of category X substances, cleaning machines shall be operated in such locations that all tank surfaces are washed. In the case of category Y substances, only one location need be used.
- 2 During washing, the amount of water in the tank shall be minimized by continuously pumping out slops and promoting flow to the suction point (positive list and trim). If this condition cannot be met, the washing procedure shall be repeated three times, with thorough stripping of the tank between washings.
- 3 Those substances which have a viscosity equal to or greater than 50 mPa·s at 20°C shall be washed with hot water (temperature at least 60°C), unless the properties of such substances make the washing less effective.
- 4 The number of cycles of the cleaning machine used shall not be less than that specified in table 6-1. A cleaning machine cycle is defined as the period between two consecutive identical orientations of the tank cleaning machine (rotation through 360°).
- 5 After washing, the tank cleaning machine(s) shall be kept operating long enough to flush the pipeline, pump and filter, and discharge to shore reception facilities shall be continued until the tank is empty.

Prewash procedures for solidifying substances

- 1 Tanks shall be washed as soon as possible after unloading. If possible, tanks shall be heated prior to washing.
- 2 Residues in hatches and manholes shall preferably be removed prior to the prewash.
- 3 Tanks shall be washed by means of a rotary water jet operated at sufficiently high water pressure and in locations to ensure that all tank surfaces are washed.
- 4 During washing, the amount of water in the tank shall be minimized by pumping out slops continuously and promoting flow to the suction point (positive list and trim). If this condition cannot

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be met, the washing procedure shall be repeated three times with thorough stripping of the tank between washings.

- 5 Tanks shall be washed with hot water (temperature at least 60°C) unless the properties of such substances make the washing less effective.
- 6 The number of cycles of the cleaning machine used shall not be less than that specified in table 6-1. A cleaning machine cycle is defined as the period between two consecutive identical orientations of the machine (rotation through 360°).
- 7 After washing, the cleaning machine(s) shall be kept operating long enough to flush the pipeline, pump and filter, and discharge to shore reception facilities shall be continued until the tank is empty.

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

Category of substance	Number of cleaning machine cycles	
	Non-solidifying substances	Solidifying substances
Category X	1	2
Category Y	$\frac{1}{2}$	1

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

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

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

Prewash procedures for non-solidifying substances without recycling

- 1 Tanks shall be washed by means of a rotary jet(s), operated at sufficiently high water pressure. In the case of category X substances, cleaning machines shall be operated in such locations that all tank surfaces are washed. In the case of category Y substances, only one location need be used.
- 2 During washing, the amount of liquid in the tank shall be minimized by continuously pumping out slops and promoting flow to the suction point. If this condition cannot be met, the washing procedure shall be repeated three times, with thorough stripping of the tank between washings.
- 3 Those substances which have a viscosity equal to or greater than 50 mPa·s at 20°C shall be washed with hot water (temperature at least 60°C), unless the properties of such substances make the washing less effective.
- 4 The quantities of wash water used shall not be less than those specified in paragraph 20 or determined according to paragraph 21.
- 5 After prewashing, the tanks and lines shall be thoroughly stripped.

Prewash procedures for solidifying substances without recycling

- 6 Tanks shall be washed as soon as possible after unloading. If possible, tanks should be heated prior to washing.
- 7 Residues in hatches and manholes should preferably be removed prior to the prewash.
- 8 Tanks shall be washed by means of a rotary jet(s) operated at sufficiently high water pressure and in locations to ensure that all tank surfaces are washed.
- 9 During washing, the amount of liquid in the tank shall be minimized by pumping out slops continuously and promoting flow to the suction point. If this condition cannot be met, the washing procedure shall be repeated three times with thorough stripping of the tank between washings.

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- 10 Tanks shall be washed with hot water (temperature at least 60°C), unless the properties of such substances make the washing less effective.
- 11 The quantities of wash water used shall not be less than those specified in paragraph 20 or determined according to paragraph 21.
- 12 After prewashing, the tanks and lines shall be thoroughly stripped.

Prewash procedures with recycling of washing medium

- 13 Washing with a recycled washing medium may be adopted for the purpose of washing more than one cargo tank. In determining the quantity, due regard must be given to the expected amount of residues in the tanks and the properties of the washing medium and whether any initial rinse or flushing is employed. Unless sufficient data are provided, the calculated end concentration of cargo residues in the washing medium shall not exceed 5% based on nominal stripping quantities.
- 14 The recycled washing medium shall only be used for washing tanks having contained the same or similar substance.
- 15 A quantity of washing medium sufficient to allow continuous washing shall be added to the tank or tanks to be washed.
- 16 All tank surfaces shall be washed by means of a rotary jet(s) operated at sufficiently high pressure. The recycling of the washing medium may either be within the tank to be washed or via another tank, e.g. a slop tank.
- 17 The washing shall be continued until the accumulated throughput is not less than that corresponding to the relevant quantities given in paragraph 20 or determined according to paragraph 21.
- 18 Solidifying substances and substances with a viscosity equal to or greater than 50 mPa·s at 20°C shall be washed with hot water (temperature at least 60°C) when water is used as the washing medium, unless the properties of such substances make the washing less effective.
- 19 After completing the tank washing with recycling to the extent specified in paragraph 17, the washing medium shall be discharged and the tank thoroughly stripped. Thereafter, the tank shall be subjected to a rinse, using clean washing medium, with continuous

drainage and discharged to a reception facility. The rinse shall as a minimum cover the tank bottom and be sufficient to flush the pipelines, pump and filter.

Minimum quantity of water to be used in a prewash

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

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

where

Q = the required minimum quantity in cubic metres

r = the residual quantity per tank in cubic metres. The value of r shall be the value demonstrated in the actual stripping efficiency test, but shall not be taken lower than 0.100 m³ for a tank volume of 500 m³ and above and 0.040 m³ for a tank volume of 100 m³ and below. For tank sizes between 100 m³ and 500 m³ the minimum value of r allowed to be used in the calculations is obtained by linear interpolation.

For category X substances the value of r shall either be determined based on stripping tests according to the Manual, observing the lower limits as given above, or be taken to be 0.9 m³.

V = tank volume in cubic metres

k = a factor having values as follows:

Category X, non-solidifying, low-viscosity substance, $k = 1.2$

Category X, solidifying or high-viscosity substance, $k = 2.4$

Category Y, non-solidifying, low-viscosity substance, $k = 0.5$

Category Y, solidifying or high-viscosity substance, $k = 1.0$

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

Stripping quantity (m ³)	Tank volume (m ³)		
	100	500	3000
≤ 0.04	1.2	2.9	5.4
0.10	2.5	2.9	5.4
0.30	5.9	6.8	12.2
0.90	14.3	16.1	27.7

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

Appendix 7 Ventilation procedures

- 1 Cargo residues of substances with a vapour pressure greater than 5 kPa at 20°C may be removed from a cargo tank by ventilation.
- 2 Before residues of noxious liquid substances are ventilated from a tank, the safety hazards relating to cargo flammability and toxicity shall be considered. With regard to safety aspects, the operational requirements for openings in cargo tanks in SOLAS 74, as amended, the International Bulk Chemical Code, the Bulk Chemical Code, and the ventilation procedures in the International Chamber of Shipping (ICS) *Tanker Safety Guide (Chemicals)* should be consulted.
- 3 Port authorities may also have regulations on cargo tank ventilation.
- 4 The procedures for ventilation of cargo residues from a tank are as follows:
 - .1 the pipelines shall be drained and further cleared of liquid by means of ventilation equipment;

- .2 the list and trim shall be adjusted to the minimum levels possible so that evaporation of residues in the tank is enhanced;
- .3 ventilation equipment producing an airjet which can reach the tank bottom shall be used. Figure 7-1 could be used to evaluate the adequacy of ventilation equipment used for ventilating a tank of a given depth;
- .4 ventilation equipment shall be placed in the tank opening closest to the tank sump or suction point;
- .5 ventilation equipment shall, when practicable, be positioned so that the airjet is directed at the tank sump or suction point and impingement of the airjet on tank structural members is to be avoided as much as possible; and
- .6 ventilation shall continue until no visible remains of liquid can be observed in the tank. This shall be verified by a visual examination or an equivalent method.

Schedule 1

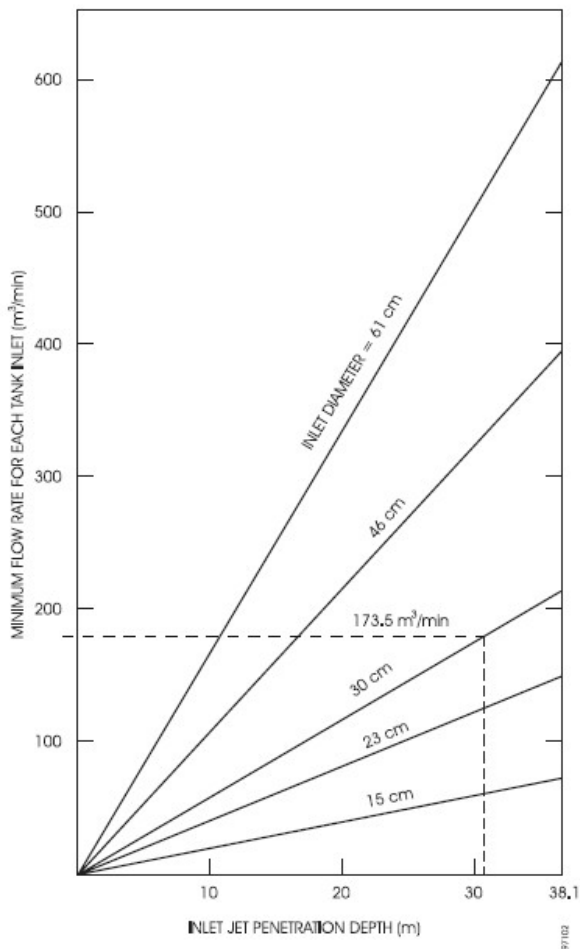


Figure 7-1 Minimum flow rate as a function of jet penetration depth.
 Jet penetration depth shall be compared against tank height.

Annex III (including amendments) **Regulations for the Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form**

Regulation 1 **Application**

- (1) Unless expressly provided otherwise, the regulations of this Annex apply to all ships carrying harmful substances in packaged form.
 - (1.1) For the purpose of this Annex, “harmful substances” are those substances which are identified as marine pollutants in the International Maritime Dangerous Goods Code (IMDG Code).⁹³
 - (1.2) Guidelines for the identification of harmful substances in packaged form are given in the appendix to this Annex.
 - (1.3) For the purposes of this Annex, “packaged form” is defined as the forms of containment specified for harmful substances in the IMDG Code.
- (2) The carriage of harmful substances is prohibited, except in accordance with the provisions of this Annex.
- (3) To supplement the provisions of this Annex, the Government of each Party to the Convention shall issue, or cause to be issued, detailed requirements on packing, marking, labelling, documentation, stowage, quantity limitations and exceptions for preventing or minimizing pollution of the marine environment by harmful substances.⁹⁴
- (4) For the purposes of this Annex, empty packagings which have been used previously for the carriage of harmful substances

93 Refer to the IMDG Code adopted by the Organization by resolution A.716(17), as it has been or may be amended by the Maritime Safety Committee; see IMO sales publications IE200E and IE210E.

94 Refer to the IMDG Code adopted by the Organization by resolution A.716(17), as it has been or may be amended by the Maritime Safety Committee; see IMO sales publications IE200E and IE210E.

shall themselves be treated as harmful substances unless adequate precautions have been taken to ensure that they contain no residue that is harmful to the marine environment.

- (5) The requirements of this Annex do not apply to ship's stores and equipment.

Regulation 2 Packing

Packages shall be adequate to minimize the hazard to the marine environment, having regard to their specific contents.

Regulation 3 Marking and labelling

- (1) Packages containing a harmful substance shall be durably marked with the correct technical name (trade names alone shall not be used) and, further, shall be durably marked or labelled to indicate that the substance is a marine pollutant. Such identification shall be supplemented where possible by any other means, for example, by use of the relevant United Nations number.
- (2) The method of marking the correct technical name and of affixing labels on packages containing a harmful substance shall be such that this information will still be identifiable on packages surviving at least three months' immersion in the sea. In considering suitable marking and labelling, account shall be taken of the durability of the materials used and of the surface of the package.
- (3) Packages containing small quantities of harmful substances may be exempted from the marking requirements.⁹⁵

95 Refer to the specific exemptions provided for in the IMDG Code; see IMO sales publications IE200E and IE210E.

Regulation 4 Documentation⁹⁶

- (1) In all documents relating to the carriage of harmful substances by sea where such substances are named, the correct technical name of each such substance shall be used (trade names alone shall not be used) and the substance further identified by the addition of the words “MARINE POLLUTANT”.
- (2) The shipping documents supplied by the shipper shall include, or be accompanied by, a signed certificate or declaration that the shipment offered for carriage is properly packaged and marked, labelled or placarded as appropriate and in proper condition for carriage to minimize the hazard to the marine environment.
- (3) Each ship carrying harmful substances shall have a special list or manifest setting forth the harmful substances on board and the location thereof. A detailed stowage plan which sets out the location of the harmful substances on board may be used in place of such special list or manifest. Copies of such documents shall also be retained on shore by the owner of the ship or his representative until the harmful substances are unloaded. A copy of one of these documents shall be made available before departure to the person or organization designated by the port State authority.

SEE INTERPRETATION 1.0

- (4) When the ship carries a special list or manifest or a detailed stowage plan, required for the carriage of dangerous goods by the International Convention for the Safety of Life at Sea, 1974, as amended, the documents required by this regulation may be combined with those for dangerous goods. Where documents are combined, a clear distinction shall be made between dangerous goods and harmful substances covered by this Annex.

⁹⁶ Reference to “documents” in this regulation does not preclude the use of electronic data processing (EDP) and electronic data interchange (EDI) transmission techniques as an aid to paper documentation.

Regulation 5 Stowage

Harmful substances shall be properly stowed and secured so as to minimize the hazards to the marine environment without impairing the safety of the ship and persons on board.

Regulation 6 Quantity limitations

Certain harmful substances may, for sound scientific and technical reasons, need to be prohibited for carriage or be limited as to the quantity which may be carried aboard any one ship. In limiting the quantity, due consideration shall be given to size, construction and equipment of the ship, as well as the packaging and the inherent nature of the substances.

Regulation 7 Exceptions

- (1) Jettisoning of harmful substances carried in packaged form shall be prohibited, except where necessary for the purpose of securing the safety of the ship or saving life at sea.
- (2) Subject to the provisions of the present Convention, appropriate measures based on the physical, chemical and biological properties of harmful substances shall be taken to regulate the washing of leakages overboard, provided that compliance with such measures would not impair the safety of the ship and persons on board.

Regulation 8 Port State control on operational requirements⁹⁷

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

97 Refer to the Procedures for port State control adopted by the Organization by resolution A.787(19) and amended by A.882(21), and as may be further amended.

- (2) In the circumstances given in paragraph (1) of this regulation, the Party shall take such steps as will ensure that the ship shall not sail until the situation has been brought to order in accordance with the requirements of this Annex.
- (3) Procedures relating to the port State control prescribed in article 5 of the present Convention shall apply to this regulation.
- (4) Nothing in this regulation shall be construed to limit the rights and obligations of a Party carrying out control over operational requirements specifically provided for in the present Convention.

Appendix to Annex III

Appendix

Guidelines for the identification of harmful substances in packaged form

For the purposes of this Annex, substances identified by any one of the following criteria are harmful substances:

- bioaccumulated to a significant extent and known to produce a hazard to aquatic life or to human health (Hazard Rating “+” in column A⁹⁸); or
- bioaccumulated with attendant risk to aquatic organisms or to human health with a short retention of the order of one week or less (Hazard Rating “Z” in column A⁹⁹); or

98 Refer to the Composite List of Hazard Profiles prepared by the IMO/FAO/UNESCO/WMO/WHO/IAEA/UN/UNEP Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP), which is circulated annually by the Organization by means of BLG circulars to all IMO Member States.

99 Refer to the Composite List of Hazard Profiles prepared by the IMO/FAO/UNESCO/WMO/WHO/IAEA/UN/UNEP Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP), which is circulated annually by the Organization by means of BLG circulars to all IMO Member States.

- highly toxic to aquatic life, defined by a $LC_{50}/96 \text{ hour}^{100}$ less than 1 ppm (Hazard Rating “4” in column B¹⁰¹).

Unified Interpretation of Annex III

- Reg. 4(3) 1.0 At any stopover, where any loading or unloading operations, even partial, are carried out, a revision of the documents listing the harmful substances taken on board, indicating their location on board or showing a detailed stowage plan, shall be made available before departure to the person or organization designated by the port State authority.

Annex IV Regulations for the Prevention of Pollution by Sewage from Ships

Chapter 1 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

100 The concentration of a substance which will, within the specified time (generally 96 hours), kill 50% of the exposed group of test organisms. Also referred to as “96 h LC_{50} ”. LC_{50} is often specified in milligrams per litre (mg/l) or parts per million (ppm).

101 Refer to the Composite List of Hazard Profiles prepared by the IMO/FAO/UNESCO/ WMO/WHO/IAEA/UN/UNEP Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP), which is circulated annually by the Organization by means of BLG circulars to all IMO Member States.

-
- .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 coast of Australia shall mean from a line drawn from a point on the coast of Australia in:

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

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

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

thence to a point latitude 09°10' S, longitude 143°52' E,

thence to a point latitude 09°00' S, longitude 144°30' E,

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

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

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

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

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

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

thence to a point on the coast of Australia in
latitude 24°42' S, longitude 153°15' E.

- 6 *International voyage* means a voyage from a country to which the present Convention applies to a port outside such country, or conversely.
- 7 *Person* means member of the crew and passengers.
- 8 *Anniversary date* means the day and the month of each year which will correspond to the date of expiry of the International Sewage Pollution Prevention Certificate.

Regulation 2 Application

- 1 The provisions of this Annex shall apply to the following ships engaged in international voyages:
 - .1 new ships of 400 gross tonnage and above; and
 - .2 new ships of less than 400 gross tonnage which are certified to carry more than 15 persons; and
 - .3 existing ships of 400 gross tonnage and above, five years after the date of entry into force of this Annex; and
 - .4 existing ships of less than 400 gross tonnage which are certified to carry more than 15 persons, five years after the date of entry into force of this Annex.
- 2 The Administration shall ensure that existing ships, according to subparagraphs 1.3 and 1.4 of this regulation, the keels of which are laid or which are of a similar stage of construction before 2 October 1983 shall be equipped, as far as practicable, to discharge sewage in accordance with the requirements of regulation 11 of the Annex.

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.

Chapter 2 Surveys and certification

Regulation 4 Surveys

- 1 Every ship which, in accordance with regulation 2, is required to comply with the provisions of this Annex shall be subject to the surveys specified below:
 - .1 An initial survey before the ship is put in service or before the Certificate required under regulation 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 materials fully comply with the applicable requirements of this Annex.
 - .2 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 materials fully comply with applicable requirements of this Annex.
 - .3 An additional survey, either general or partial, according to the circumstances, shall be made after a repair resulting from investigations prescribed in paragraph 4 of this regulation, or whenever any important repairs or renewals are made. The survey shall be such as to ensure that the necessary repairs or renewals have been effectively made, that the material and workmanship of such repairs or renewals are in all respects satisfactory and that the ship complies in all respects with the requirements of this Annex.

Schedule 1

- 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 applicable provisions of this Annex are complied with.
- 3 Surveys of ships as regards the enforcement of the provisions of this Annex shall be carried out by officers of the Administration. The Administration may, however, entrust the surveys either to surveyors nominated for the purpose or to organizations recognized by it.
- 4 An Administration nominating surveyors or recognizing organizations to conduct surveys as set forth in paragraph 3 of this regulation shall, as a minimum, empower any nominated surveyor or recognized organization to:
 - .1 require repairs to a ship; and
 - .2 carry out surveys if requested by the appropriate authorities of a Port State.

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

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

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.

- 6 In every case, the Administration concerned shall fully guarantee the completeness and efficiency of the survey and shall undertake to ensure the necessary arrangements to satisfy this obligation.
- 7 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.
- 8 After any survey of the ship under paragraph 1 of this regulation has been completed, no change shall be made in the structure, equipment, systems, fittings, arrangements or materials covered by the survey, without the sanction of the Administration, except the direct replacement of such equipment and fittings.
- 9 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

- 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 organization¹⁰² 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 force and receive the same recognition as the Certificate issued under regulation 5 of this Annex.
- 4 No International Sewage Pollution Prevention Certificate shall be issued to a ship which is entitled to fly the flag of a State which is not a Party.

102 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).

Regulation 7 Form of Certificate

The International Sewage Pollution Prevention Certificate shall be drawn up in the form corresponding to the model given in the appendix to this Annex and shall be at least in English, French or Spanish. If an official language of the issuing country is also used, this shall prevail in case of a dispute or discrepancy.

Regulation 8 Duration and validity of Certificate

- 1 An International Sewage Pollution Prevention Certificate shall be issued for a period specified by the Administration which shall not exceed five years.
- 2.1 Notwithstanding the requirements of paragraph 1 of this regulation, when the renewal survey is completed within three months before the expiry date of the existing Certificate, the new Certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of expiry of the existing Certificate.
- 2.2 When the renewal survey is completed after the expiry date of the existing Certificate, the new Certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of expiry of the existing Certificate.
- 2.3 When the renewal survey is completed more than three months before the expiry date of the existing Certificate, the new Certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of completion of the renewal survey.
- 3 If a Certificate is issued for a period of less than five years, the Administration may extend the validity of the Certificate beyond the expiry date to the maximum period specified in paragraph 1 of this regulation.
- 4 If a renewal survey has been completed and a new Certificate cannot be issued or placed on board the ship before the expiry date of the existing Certificate, the person or organization authorized by the Administration may endorse the existing Certificate and such a Certificate shall be accepted as valid for

a further period which shall not exceed five months from the expiry date.

- 5 If a ship at the time when a Certificate expires is not in a port in which it is to be surveyed, the 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 2.2, 5 or 6 of this regulation. In these special circumstances, the new Certificate shall be valid to a date not exceeding five years from the date of completion of the renewal survey.
- 8 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; or
 - .2 upon transfer of the ship to the flag of another State. A new Certificate shall only be issued when the Government issuing the new Certificate is fully satisfied

that the ship is in compliance with the requirements of regulations 4.7 and 4.8 of this Annex. In the case of a transfer between Parties, if requested within 3 months after the transfer has taken place, the Government of the Party whose flag the ship was formerly entitled to fly shall, as soon as possible, transmit to the Administration copies of the Certificate carried by the ship before the transfer and, if available, copies of the relevant survey reports.

Chapter 3 Equipment and control of discharge

Regulation 9 Sewage systems

- 1 Every ship which, in accordance with regulation 2, is required to comply with the provisions of this Annex shall be equipped with one of the following sewage systems:
 - .1 a sewage treatment plant which shall be of a type approved by the Administration, taking into account the standards and test methods developed by the Organization,¹⁰³ or
 - .2 a sewage comminuting and disinfecting system approved by the Administration. Such system shall be fitted with facilities to the satisfaction of the Administration, for the temporary storage of sewage when the ship is less than 3 nautical miles from the nearest land, or
 - .3 a holding tank of the capacity 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 be constructed to the satisfaction of the

103 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). For existing ships, national specifications are acceptable.

Administration and shall have a means to indicate visually the amount of its contents.

Regulation 10 Standard discharge connections

- 1 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

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 600 kPa.	

For ships having a moulded depth of 5 m and less, the inner diameter of the discharge connection may be 38 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 9.1.2 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
 - .2 the ship has in operation an approved sewage treatment plant which has been certified by the Administration to meet the operational requirements referred to in regulation 9.1.1 of this Annex, and
 - .2.1 the test results of the plant are laid down in the ship's International Sewage Pollution Prevention Certificate; and
 - .2.2 additionally, the effluent shall not produce visible floating solids nor cause discoloration of the surrounding water.
- 2 The provisions of paragraph 1 shall not apply to ships operating in the waters under the jurisdiction of a State and visiting ships from other States while they are in these waters and are discharging sewage in accordance with such less stringent requirements as may be imposed by such State.
- 3 When the sewage is mixed with wastes or waste water covered by other Annexes of MARPOL 73/78, the requirements of those Annexes shall be complied with in addition to the requirements of this Annex.

Chapter 4 Reception facilities

Regulation 12 Reception facilities

- 1 The Government of each Party to the Convention, which requires ships operating in waters under its jurisdiction and visiting ships while in its waters to comply with the requirements of regulation 11.1, undertakes to ensure the provision of facilities at ports and terminals for the reception of sewage, without causing 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.

Appendix to Annex IV

Appendix Form of International Sewage Pollution Prevention 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, as amended, (hereinafter referred to as “the Convention”) under the authority of the Government of:

.....

(full designation of the country)

by

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

Particulars of ship¹⁰⁴

Name of ship

Distinctive number or letters

Port of registry

Gross tonnage

Number of persons which the ship is certified to carry

IMO Number¹⁰⁵

New/existing ship¹⁰⁶

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

THIS IS TO CERTIFY:

1 That the ship is equipped with a sewage treatment plant/comminuter/holding tank¹⁰⁷ and a discharge pipeline in compliance with regulations 9 and 10 of Annex IV of the Convention as follows:

¹⁰⁸1.1 Description of the sewage treatment plant:

Type of sewage treatment plant

Name of manufacturer

The sewage treatment plant is certified by the Administration to meet the effluent standards as provided for in resolution MEPC.2(VI).

¹⁰⁹1.2 Description of comminuter:

Type of comminuter

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

105 Refer to the IMO Ship Identification Number Scheme adopted by the Organization by resolution A.600(15).

106 Delete as appropriate.

107 Delete as appropriate.

108 Delete as appropriate.

109 Delete as appropriate.

Schedule 1

Name of manufacturer

Standard of sewage after disinfection

¹¹⁰1.3 Description of holding tank:

Total capacity of the holding tank.m³

Location

1.4 A pipeline for the discharge of sewage to a reception facility,
fitted with a standard shore connection.

2 That the ship has been surveyed in accordance with regulation 4 of
Annex IV of the Convention.

3 That the survey shows that the structure, equipment, systems,
fittings, arrangements and material of the ship and the condition
thereof are in all respects satisfactory and that the ship complies
with the applicable requirements of Annex IV of the Convention.

This Certificate is valid until ¹¹¹ subject to surveys in
accordance with regulation 4 of Annex IV of the Convention.

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

Issued at
(place of issue of Certificate)

(dd/mm/yyyy)
(date of issue) *(signature of authorized official
issuing the Certificate)*

(Seal or stamp of the authority, as appropriate)

110 Delete as appropriate.

111 Insert the date of expiry as specified by the Administration in accordance with regulation 8.1 of Annex IV of the Convention. The day and the month of this date correspond to the anniversary date as defined in regulation 1.8 of Annex IV of the Convention.

Endorsement to extend the Certificate if valid for less than 5 years where regulation 8.3 applies

The ship complies with the relevant provisions of the Convention, and this Certificate shall, in accordance with regulation 8.3 of Annex IV of the Convention, be accepted as valid until (dd/mm/yyyy):

Signed:

(Signature of authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

Endorsement where the renewal survey has been completed and regulation 8.4 applies

The ship complies with the relevant provisions of the Convention, and this Certificate shall, in accordance with regulation 8.4 of Annex IV of the Convention, be accepted as valid until (dd/mm/yyyy):

Signed:

(Signature of authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

Endorsement to extend the validity of the Certificate until reaching the port of survey or for a period of grace where regulation 8.5 or 8.6 applies

This Certificate shall, in accordance with regulation 8.5 or 8.6¹¹² of Annex IV of the Convention, be accepted as valid until (dd/mm/yyyy):

112 Delete as appropriate.

Signed:

(Signature of authorized official)

Place:

Date:

(Seal or stamp of the authority, as appropriate)

Annex V **(including amendments)** **Regulations for the Prevention of** **Pollution by Garbage from Ships**

Regulation 1 **Definitions**

For the purposes of this Annex:

- (1) *Garbage* means all kinds of victual, domestic and operational waste excluding fresh fish and parts thereof, generated during the normal operation of the ship and liable to be disposed of continuously or periodically except those substances which are defined or listed in other Annexes to the present Convention.
- (2) *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 coast of Australia shall mean from a line drawn from a point on the coast of Australia in

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

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

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

thence to a point latitude 09°10' S, longitude 143°52' E,

thence to a point latitude 09°00' S, longitude 144°30' E,

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

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

thence to a point latitude 15°00' S, longitude 146°00' E,
thence to a point latitude 17°30' S, longitude 147°00' E,
thence to a point latitude 21°00' S, longitude 152°55' E,
thence to a point latitude 24°30' S, longitude 154°00' E,
thence to a point on the coast of Australia in
latitude 24°42' S, longitude 153°15' E.

- (3) *Special area* means a sea area where for recognized technical reasons in relation to its oceanographical and ecological condition and to the particular character of its traffic the adoption of special mandatory methods for the prevention of sea pollution by garbage is required. Special areas shall include those listed in regulation 5 of this Annex.

Regulation 2 Application

Unless expressly provided otherwise, the provisions of this Annex shall apply to all ships.

Regulation 3 Disposal of garbage outside special areas

- (1) Subject to the provisions of regulations 4, 5 and 6 of this Annex:
- (a) the disposal into the sea of all plastics, including but not limited to synthetic ropes, synthetic fishing nets, plastic garbage bags and incinerator ashes from plastic products which may contain toxic or heavy metal residues, is prohibited;
 - (b) the disposal into the sea of the following garbage shall be made as far as practicable from the nearest land but in any case is prohibited if the distance from the nearest land is less than:
 - (i) 25 nautical miles for dunnage, lining and packing materials which will float;
 - (ii) 12 nautical miles for food wastes and all other garbage including paper products, rags, glass, metal, bottles, crockery and similar refuse;

Schedule 1

- (c) disposal into the sea of garbage specified in subparagraph (b)(ii) of this regulation may be permitted when it has passed through a comminuter or grinder and made as far as practicable from the nearest land but in any case is prohibited if the distance from the nearest land is less than 3 nautical miles. Such comminuted or ground garbage shall be capable of passing through a screen with openings no greater than 25 mm.
- (2) When the garbage is mixed with other discharges having different disposal or discharge requirements the more stringent requirements shall apply.

Regulation 4 Special requirements for disposal of garbage

- (1) Subject to the provisions of paragraph (2) of this regulation, the disposal of any materials regulated by this Annex is prohibited from fixed or floating platforms engaged in the exploration, exploitation and associated offshore processing of sea-bed mineral resources, and from all other ships when alongside or within 500 m of such platforms.
- (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 seas therein with the

- boundary between the Mediterranean and the Black Sea constituted by the 41° N parallel and bounded to the west by the Straits 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.
- (g) The *Antarctic area* means the sea area south of latitude 60° S.
- (h) The *Wider Caribbean Region*, as defined in article 2, paragraph 1 of the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena de Indias, 1983), means the Gulf of Mexico and Caribbean Sea proper including the bays and seas therein and that portion of the Atlantic Ocean within the boundary constituted by the 30° N

parallel from Florida eastward to 77°30' W meridian, thence a rhumb line to the intersection of 20° N parallel and 59° W meridian, thence a rhumb line to the intersection of 7°20' N parallel and 50° W meridian, thence a rhumb line drawn south-westerly to the eastern boundary of French Guiana.

- 2 Subject to the provisions of regulation 6 of this Annex:
 - (a) disposal into the sea of the following is prohibited:
 - (i) all plastics, including but not limited to synthetic ropes, synthetic fishing nets, plastic garbage bags and incinerator ashes from plastic products which may contain toxic or heavy metal residues; and
 - (ii) all other garbage, including paper products, rags, glass, metal, bottles, crockery, dunnage, lining and packing materials;
 - (b) except as provided in subparagraph (c) of this paragraph, disposal into the sea of food wastes shall be made as far as practicable from land, but in any case not less than 12 nautical miles from the nearest land;
 - (c) disposal into the Wider Caribbean Region of food wastes which have been passed through a comminuter or grinder shall be made as far as practicable from land, but in any case not less than 3 nautical miles from the nearest land. Such comminuted or ground food wastes shall be capable of passing through a screen with openings no greater than 25 mm.
- (3) When the garbage is mixed with other discharges having different disposal or discharge requirements the more stringent requirements shall apply.
- (4) Reception facilities within special areas:
 - (a) The Government of each Party to the Convention, the coastline of which borders a special area, undertakes to ensure that as soon as possible in all ports within a special area adequate reception facilities are provided in accordance with regulation 7 of this Annex, taking into account the special needs of ships operating in these areas.

-
- (b) The Government of each Party concerned shall notify the Organization of the measures taken pursuant to subparagraph (a) of this regulation. Upon receipt of sufficient notifications the Organization shall establish a date from which the requirements of this regulation in respect of the area in question shall take effect. The Organization shall notify all Parties of the date so established no less than twelve months in advance of that date.
 - (c) After the date so established, ships calling also at ports in these special areas where such facilities are not yet available, shall fully comply with the requirements of this regulation.
- (5) Notwithstanding paragraph 4 of this regulation, the following rules apply to the Antarctic area:
- (a) The Government of each Party to the Convention at whose ports ships depart *en route* to or arrive from the Antarctic area undertakes to ensure that as soon as practicable adequate facilities are provided for the reception of all garbage from all ships, without causing undue delay, and according to the needs of the ships using them.
 - (b) The Government of each Party to the Convention shall ensure that all ships entitled to fly its flag, before entering the Antarctic area, have sufficient capacity on board for the retention of all garbage while operating in the area and have concluded arrangements to discharge such garbage at a reception facility after leaving the area.

Regulation 6 Exceptions

Regulations 3, 4 and 5 of this Annex shall not apply to:

- (a) the disposal of garbage from a ship necessary for the purpose of securing the safety of a ship and those on board or saving life at sea; or
- (b) the escape of garbage resulting from damage to a ship or its equipment provided all reasonable precautions have

been taken before and after the occurrence of the damage, for the purpose of preventing or minimizing the escape; or

- (c) the accidental loss of synthetic fishing nets, provided that all reasonable precautions have been taken to prevent such loss.

Regulation 7 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 garbage, without causing undue delay to ships, and according to the needs of the ships using them.
- (2) The Government of each Party shall notify the Organization for transmission to the Parties concerned of all cases where the facilities provided under this regulation are alleged to be inadequate.

Regulation 8 Port State control on operational requirements¹¹³

- (1) A ship when in a port of another Party is subject to inspection by officers duly authorized by such Party concerning operational requirements under this Annex, where there are clear grounds for believing that the master or crew are not familiar with essential shipboard procedures relating to the prevention of pollution by garbage.
- (2) In the circumstances given in paragraph (1) of this regulation, the Party shall take such steps as will ensure that the ship shall not sail until the situation has been brought to order in accordance with the requirements of this Annex.
- (3) Procedures relating to the port State control prescribed in article 5 of the present Convention shall apply to this regulation.

113 Refer to the Procedures for port State control adopted by the Organization by resolution A.787(19) and amended by A.882(21); see IMO sales publication IA650E.

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

Regulation 9 Placards, garbage management plans and garbage record-keeping

- 1(a) Every ship of 12 m or more in length overall shall display placards which notify the crew and passengers of the disposal requirements of regulations 3 and 5 of this Annex, as applicable.
- (b) The placards shall be written in the working language of the ship's personnel and, for ships engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to the Convention, shall also be in English, French or Spanish.
- (2) Every ship of 400 gross tonnage and above, and every ship which is certified to carry 15 persons or more, shall carry a garbage management plan which the crew shall follow. This plan shall provide written procedures for collecting, storing, processing and disposing of garbage, including the use of the equipment on board. It shall also designate the person in charge of carrying out the plan. Such a plan shall be in accordance with the guidelines developed by the Organization¹¹⁴ and written in the working language of the crew.
- (3) Every ship of 400 gross tonnage and above and every ship which is certified to carry 15 persons or more engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to the Convention and every fixed and floating platform engaged in exploration and exploitation of the sea-bed shall be provided with a Garbage Record Book. The Garbage Record Book, whether as a part of the ship's official

114 Refer to the Guidelines for the development of garbage management plans adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.71(38); see MEPC/Circ.317 and IMO sales publication IA656E.

log-book or otherwise, shall be in the form specified in the appendix to this Annex;

- (a) each discharge operation, or completed incineration, shall be recorded in the Garbage Record Book and signed for on the date of the incineration or discharge by the officer in charge. Each completed page of the Garbage Record Book shall be signed by the master of the ship. The entries in the Garbage Record Book shall be at least in English, French or Spanish. Where the entries are also made in an official language of the State whose flag the ship is entitled to fly, these entries shall prevail in case of a dispute or discrepancy;
 - (b) the entry for each incineration or discharge shall include date and time, position of the ship, description of the garbage and the estimated amount incinerated or discharged;
 - (c) the Garbage Record Book shall be kept on board the ship and in such a place as to be available for inspection in a reasonable time. This document shall be preserved for a period of two years after the last entry is made on the record;
 - (d) in the event of discharge, escape or accidental loss referred to in regulation 6 of this Annex an entry shall be made in the Garbage Record Book of the circumstances of, and the reasons for, the loss.
- (4) The Administration may waive the requirements for Garbage Record Books for:
- (a) any ship engaged on voyages of 1 hour or less in duration which is certified to carry 15 persons or more; or
 - (b) fixed or floating platforms while engaged in exploration and exploitation of the sea-bed.
- (5) The competent authority of the Government of a Party to the Convention may inspect the Garbage Record Book on board any ship to which this regulation applies while the ship is in its ports or offshore terminals and may make a copy of any entry in that book, and may require the master of the ship to

certify that the copy is a true copy of such an entry. Any copy so made, which has been certified by the master of the ship as a true copy of an entry in the ship's Garbage Record Book, shall be admissible in any judicial proceedings as evidence of the facts stated in the entry. The inspection of a Garbage Record Book and the taking of a certified copy by the competent authority under this paragraph shall be performed as expeditiously as possible without causing the ship to be unduly delayed.

- (6) In the case of ships built before 1 July 1997, this regulation shall apply as from 1 July 1998.

Appendix to Annex V

Appendix Form of Garbage Record Book

Name of ship:

Distinctive number or letters:

IMO No.:

Period: From: To:

1 Introduction

In accordance with regulation 9 of Annex V of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 (MARPOL 73/78), a record is to be kept of each discharge operation or completed incineration. This includes discharges at sea, to reception facilities, or to other ships.

2 Garbage and garbage management

Garbage includes all kinds of food, domestic and operational waste excluding fresh fish and parts thereof, generated during the normal operation of the vessel and liable to be disposed of continuously or periodically except those substances which

are defined or listed in other annexes to MARPOL 73/78 (such as oil, sewage or noxious liquid substances).

The Guidelines for the Implementation of Annex V of MARPOL 73/78¹¹⁵ should also be referred to for relevant information.

3 Description of the garbage

The garbage is to be grouped into categories for the purposes of this record book as follows:

- 1 Plastics
- 2 Floating dunnage, lining, or packing material
- 3 Ground-down paper products, rags, glass, metal, bottles, crockery, etc.
- 4 Cargo residues, paper products, rags, glass, metal, bottles, crockery, etc.
- 5 Food waste
- 6 Incinerator ash.

4 Entries in the Garbage Record Book

4.1 Entries in the Garbage Record Book shall be made on each of the following occasions:

- (a) When garbage is discharged into the sea:
 - (i) Date and time of discharge
 - (ii) Position of the ship (latitude and longitude). Note: for cargo residue discharges, include discharge start and stop positions.
 - (iii) Category of garbage discharged
 - (iv) Estimated amount discharged for each category in cubic metres

115 Refer to the Guidelines for the Implementation of Annex V of MARPOL 73/78, as amended by resolutions MEPC.59(33) and MEPC.92(45).

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- (v) Signature of the officer in charge of the operation.
 - (b) When garbage is discharged to reception facilities ashore or to other ships:
 - (i) Date and time of discharge
 - (ii) Port or facility, or name of ship
 - (iii) Category of garbage discharged
 - (iv) Estimated amount discharged for each category in cubic metres
 - (v) Signature of officer in charge of the operation.
 - (c) When garbage is incinerated:
 - (i) Date and time of start and stop of incineration
 - (ii) Position of the ship (latitude and longitude)
 - (iii) Estimated amount incinerated in cubic metres
 - (iv) Signature of the officer in charge of the operation.
 - (d) Accidental or other exceptional discharges of garbage
 - (i) Time of occurrence
 - (ii) Port or position of the ship at time of occurrence
 - (iii) Estimated amount and category of garbage
 - (iv) Circumstances of disposal, escape or loss, the reason therefor and general remarks.

4.2 Receipts

The master should obtain from the operator of port reception facilities, or from the master of the ship receiving the garbage, a receipt or certificate specifying the estimated amount of garbage transferred. The receipts or certificates must be kept on board the ship with the Garbage Record Book for two years.

4.3 Amount of garbage

The amount of garbage on board should be estimated in cubic metres, if possible separately according to category. The Garbage Record Book contains many references to estimated

Schedule 1

amount of garbage. It is recognized that the accuracy of estimating amounts of garbage is left to interpretation. Volume estimates will differ before and after processing. Some processing procedures may not allow for a usable estimate of volume, e.g. the continuous processing of food waste. Such factors should be taken into consideration when making and interpreting entries made in a record.

RECORD OF GARBAGE DISCHARGES

Ship's name:

Distinctive No., or letters:

IMO No.:

Garbage categories:

- 1: Plastic.
- 2: Floating dunnage, lining, or packing materials.
- 3: Ground paper products, rags, glass, metal, bottles, crockery, etc.
- 4: Cargo residues, paper products, rags, glass, metal, bottles, crockery, etc.
- 5: Food waste.
- 6: Incinerator ash except from plastic products which may contain toxic or heavy metal residues.

NOTE: THE DISCHARGE OF ANY GARBAGE OTHER THAN FOOD WASTE IS PROHIBITED IN SPECIAL AREAS. ONLY GARBAGE DISCHARGED INTO THE SEA MUST BE CATEGORIZED. GARBAGE OTHER THAN CATEGORY 1 DISCHARGED TO RECEPTION FACILITIES NEED ONLY BE LISTED AS A TOTAL ESTIMATED AMOUNT. DISCHARGES OF CARGO RESIDUES REQUIRE START AND STOP POSITIONS TO BE RECORDED.

Date/time	Position of the ship	Estimated amount discharged into sea (m ³)					Estimated amount discharged to reception facilities or to other ship (m ³)		Estimated amount incinerated (m ³)	Certification/Signature
		Cat. 2	Cat. 3	Cat. 4	Cat. 5	Cat.6	Cat. 1	Other		

Master's signature: Date:.....

**Annex VI (including amendments)
Regulations for the Prevention of
Air Pollution from Ships**

Chapter 1 General

Regulation 1 Application

The provisions of this Annex shall apply to all ships, except where expressly provided otherwise in regulations 3, 5, 6, 13, 15, 18 and 19 of this Annex.

SEE INTERPRETATION 1.1

Regulation 2 **Definitions**

For the purpose of this Annex:

- (1) *A 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 tonnes or one per cent of the estimated mass of all structural material, whichever is less.
- (2) *Continuous feeding* is defined as the process whereby waste is fed into a combustion chamber without human assistance while the incinerator is in normal operating conditions with the combustion chamber operative temperature between 850°C and 1200°C.
- (3) *Emission* means any release of substances subject to control by this Annex from ships into the atmosphere or sea.
- (4) *New installations*, in relation to regulation 12 of this Annex, means the installation of systems, equipment, including new portable fire-extinguishing units, insulation, or other material on a ship after the date on which this Annex enters into force, but excludes repair or recharge of previously installed systems, equipment, insulation, or other material, or recharge of portable fire-extinguishing units.

SEE INTERPRETATION 2.1

- (5) *NO_x Technical Code* means the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines adopted by Conference resolution 2, as may be amended by the Organization, provided that such amendments are adopted and brought into force in accordance with the provisions of article 16 of the present Convention concerning amendment procedures applicable to an appendix to an Annex.
- (6) *Ozone-depleting substances* means controlled substances defined in paragraph 4 of article 1 of the Montreal Protocol on Substances that Deplete the Ozone Layer, 1987, listed in Annexes A, B, C or E to the said Protocol in force at the time of application or interpretation of this Annex.

Ozone-depleting substances that may be found on board ship include, but are not limited to:

Halon 1211	Bromochlorodifluoromethane
Halon 1301	Bromotrifluoromethane
Halon 2402	1,2-Dibromo-1,1,2,2-tetrafluoroethane (also known as Halon 114B2)
CFC-11	Trichlorofluoromethane
CFC-12	Dichlorodifluoromethane
CFC-113	1,1,2-Trichloro-1,2,2-trifluoroethane
CFC-114	1,2-Dichloro-1,1,2,2-tetrafluoroethane
CFC-115	Chloropentafluoroethane

- (7) *Sludge oil* means sludge from the fuel or lubricating oil separators, waste lubricating oil from main or auxiliary machinery, or waste oil from bilge water separators, oil filtering equipment or drip trays.
- (8) *Shipboard incineration* means the incineration of wastes or other matter on board a ship, if such wastes or other matter were generated during the normal operation of that ship.
- (9) *Shipboard incinerator* means a shipboard facility designed for the primary purpose of incineration.
- (10) *Ships constructed* means ships the keels of which are laid or which are at a similar stage of construction.
- (11) *SO_x emission control area* means an area where the adoption of special mandatory measures for SO_x emissions from ships is required to prevent, reduce and control air pollution from SO_x and its attendant adverse impacts on land and sea areas. SO_x emission control areas shall include those listed in regulation 14 of this Annex.
- (12) *Tanker* means an oil tanker as defined in regulation 1(4) of Annex I or a chemical tanker as defined in regulation 1(1) of Annex II of the present Convention.
- (13) *The Protocol of 1997* means the Protocol of 1997 to amend the International Convention for the Prevention of Pollution

from Ships, 1973, as amended by the Protocol of 1978 relating thereto.

- (14) *Anniversary date* means the day and the month of each year which will correspond to the date of expiry of the International Air Pollution Prevention Certificate.

Regulation 3 General exceptions

Regulations of this Annex shall not apply to:

- (a) any emission necessary for the purpose of securing the safety of a ship or saving life at sea; or
- (b) any emission resulting from damage to a ship or its equipment:
 - (i) provided that all reasonable precautions have been taken after the occurrence of the damage or discovery of the emission for the purpose of preventing or minimizing the emission; and
 - (ii) except if the owner or the master acted either with intent to cause damage, or recklessly and with knowledge that damage would probably result.

Regulation 4 Equivalents

- (1) The Administration may allow any fitting, material, appliance or apparatus to be fitted in a ship as an alternative to that required by this Annex if such fitting, material, appliance or apparatus is at least as effective as that required by this Annex.
- (2) The Administration which allows a fitting, material, appliance or apparatus as an alternative to that required by this Annex shall communicate to the Organization for circulation to the Parties to the present Convention particulars thereof, for their information and appropriate action, if any.

Chapter 2 Survey, certification and means of control

Regulation 5 Surveys

- (1) Every ship of 400 gross tonnage and above and every fixed and floating drilling rig and other platforms shall be subject to the surveys specified below:
 - (a) An initial survey before the ship is put into service or before the certificate required under regulation 6 of this Annex is issued for the first time. This survey shall be such as to ensure that the equipment, systems, fittings, arrangements and material fully comply with the applicable requirements of this Annex;
 - (b) A renewal survey at intervals specified by the Administration, but not exceeding five years, except where regulation 9(2), 9(5), 9(6) or 9(7) of this Annex is applicable. The renewal survey shall be such as to ensure that the equipment, systems, fittings, arrangements and material fully comply with applicable requirements of 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 arrangements 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 6 or 7 of this Annex;
 - (d) An annual survey within three months before or after each anniversary date of the certificate, including a general inspection of the equipment, systems, fittings, arrangements and material referred to in paragraph (1)(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 6 or 7 of this Annex; and

- (e) An additional survey either general or partial, according to the circumstances, shall be made after a repair resulting from investigations prescribed in paragraph (4) of this regulation, or whenever any important repairs or renewals are made. The survey shall be such as to ensure that the necessary repairs or renewals have been effectively made, that the material and workmanship of such repairs or renewals are in all respects satisfactory and that the ship complies in all respects with the requirements of this Annex.
- (2) In the case of ships of less than 400 gross tonnage, the Administration may establish appropriate measures in order to ensure that the applicable provisions of this Annex are complied with.
 - (3)
 - (a) Surveys of ships as regards the enforcement of the provisions of this Annex shall be carried out by officers of the Administration. The Administration may, however, entrust the surveys either to surveyors nominated for the purpose or to organizations recognized by it. Such organizations shall comply with the guidelines adopted by the Organization.¹¹⁶
 - (b) The survey of engines and equipment for compliance with regulation 13 of this Annex shall be conducted in accordance with the NO_x Technical Code.
 - (c) 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

¹¹⁶ 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).

taken and shall in due course notify the Administration. If such corrective action is not taken, the certificate should be withdrawn by the Administration. If the ship is in a port of another Party, the appropriate authorities of the port State shall also be notified immediately. When an officer of the Administration, a nominated surveyor or recognized organization has notified the appropriate authorities of the port State, the Government of the port State concerned shall give such officer, surveyor or organization any necessary assistance to carry out their obligations under this regulation.

- (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 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.
- (b) 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 or endorsement of Certificate

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

- (b) platforms and drilling rigs engaged in voyages to waters under the sovereignty or jurisdiction of other Parties to the Protocol of 1997.
- (2) Ships constructed before the date of entry into force of the Protocol of 1997 shall be issued with an International Air Pollution Prevention Certificate in accordance with paragraph (1) of this regulation no later than the first scheduled drydocking after entry into force of the Protocol of 1997, but in no case later than three years after entry into force of the Protocol of 1997.
- (3) Such certificate shall be issued or endorsed either by the Administration or by any person or organization duly authorized by it. In every case, the Administration assumes full responsibility for the certificate.

Regulation 7 Issue or endorsement of a Certificate by another Government

- (1) The Government of a Party to the Protocol of 1997 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 issuance of an International Air 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 requesting Administration.
- (3) A certificate so issued shall contain a statement to the effect that it has been issued at the request of the Administration and it shall have the same force and receive the same recognition as a certificate issued under regulation 6 of this Annex.
- (4) No International Air Pollution Prevention Certificate shall be issued to a ship which is entitled to fly the flag of a State which is not a Party to the Protocol of 1997.

Regulation 8 Form of Certificate

The International Air Pollution Prevention Certificate shall be drawn up in a form corresponding to the model given in appendix I to this Annex and shall be at least in English, French or Spanish. If an official language of the issuing country is also used, this shall prevail in case of a dispute or discrepancy.

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.
- (2)
 - (a) Notwithstanding the requirements of paragraph (1) of this regulation, when the renewal survey is completed within three months before the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of expiry of the existing certificate.
 - (b) When the renewal survey is completed after the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of expiry of the existing certificate.
 - (c) When the renewal survey is completed more than three months before the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of completion of the renewal survey.
- (3) If a certificate is issued for a period of less than five years, the Administration may extend the validity of the certificate beyond the expiry date to the maximum period specified in paragraph (1) of this regulation, provided that the surveys referred to in regulations 5(1)(c) and 5(1)(d) of this Annex applicable when a certificate is issued for a period of five years are carried out as appropriate.

Schedule 1

- (4) If a renewal survey has been completed and a new certificate cannot be issued or placed on board the ship before the expiry date of the existing certificate, the person or organization authorized by the Administration may endorse the existing certificate and such a certificate shall be accepted as valid for a further period which shall not exceed five months from the expiry date.
- (5) If a ship, at the time when a certificate expires, is not in a port in which it is to be surveyed, the 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)(b), (5) or (6) of this regulation. In these special circumstances, the new certificate shall be valid to a date not exceeding five years from the date of completion of the renewal survey.
- (8) If an annual or intermediate survey is completed before the period specified in regulation 5 of this Annex, then:

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- (a) the anniversary date shown on the certificate shall be amended by endorsement to a date which shall not be more than three months later than the date on which the survey was completed;
 - (b) the subsequent annual or intermediate survey required by regulation 5 of this Annex shall be completed at the intervals prescribed by that regulation using the new anniversary date;
 - (c) the expiry date may remain unchanged provided one or more annual or intermediate surveys, as appropriate, are carried out so that the maximum intervals between the surveys prescribed by regulation 5 of this Annex are not exceeded.
- (9) A certificate issued under regulation 6 or 7 of this Annex shall cease to be valid in any of the following cases:
- (a) if the relevant surveys are not completed within the periods specified under regulation 5(1) of this Annex;
 - (b) if the certificate is not endorsed in accordance with regulation 5(1)(c) or 5(1)(d) of this Annex;
 - (c) upon transfer of the ship to the flag of another State. A new certificate shall only be issued when the Government issuing the new certificate is fully satisfied that the ship is in compliance with the requirements of regulation 5(4)(a) of this Annex. In the case of a transfer between Parties, if requested within three months after the transfer has taken place, the Government of the Party whose flag the ship was formerly entitled to fly shall, as soon as possible, transmit to the Administration copies of the certificate carried by the ship before the transfer and, if available, copies of the relevant survey reports.

Regulation 10**Port State control on operational requirements**

- (1) A ship, when in a port or an offshore terminal under the jurisdiction of another Party to the Protocol of 1997, is subject to inspection by officers duly authorized by such Party concerning operational requirements under this Annex, where

there are clear grounds for believing that the master or crew are not familiar with essential shipboard procedures relating to the prevention of air pollution from ships.

- (2) In the circumstances given in paragraph (1) of this regulation, the Party shall take such steps as will ensure that the ship shall not sail until the situation has been brought to order in accordance with the requirements of this Annex.
- (3) Procedures relating to the port State control prescribed in article 5 of the present Convention shall apply to this regulation.
- (4) Nothing in this regulation shall be construed to limit the rights and obligations of a Party carrying out control over operational requirements specifically provided for in the present Convention.

Regulation 11 Detection of violations and enforcement

- (1) Parties to this Annex shall co-operate in the detection of violations and the enforcement of the provisions of this Annex, using all appropriate and practicable measures of detection and environmental monitoring, adequate procedures for reporting and accumulation of evidence.
- (2) A ship to which the present Annex applies may, in any port or offshore terminal of a Party, be subject to inspection by officers appointed or authorized by that Party for the purpose of verifying whether the ship has emitted any of the substances covered by this Annex in violation of the provision of this Annex. If an inspection indicates a violation of this Annex, a report shall be forwarded to the Administration for any appropriate action.
- (3) Any Party shall furnish to the Administration evidence, if any, that the ship has emitted any of the substances covered by this Annex in violation of the provisions of this Annex. If it is practicable to do so, the competent authority of the former Party shall notify the master of the ship of the alleged violation.
- (4) Upon receiving such evidence, the Administration so informed shall investigate the matter, and may request the

other Party to furnish further or better evidence of the alleged contravention. If the Administration is satisfied that sufficient evidence is available to enable proceedings to be brought in respect of the alleged violation, it shall cause such proceedings to be taken in accordance with its law as soon as possible. The Administration shall promptly inform the Party which has reported the alleged violation, as well as the Organization, of the action taken.

- (5) A Party may also inspect a ship to which this Annex applies when it enters the ports or offshore terminals under its jurisdiction, if a request for an investigation is received from any Party together with sufficient evidence that the ship has emitted any of the substances covered by the Annex in any place in violation of this Annex. The report of such investigation shall be sent to the Party requesting it and to the Administration so that the appropriate action may be taken under the present Convention.
- (6) The international law concerning the prevention, reduction, and control of pollution of the marine environment from ships, including that law relating to enforcement and safeguards, in force at the time of application or interpretation of this Annex, applies, *mutatis mutandis*, to the rules and standards set forth in this Annex.

Chapter 3 Requirements for control of emissions from ships

Regulation 12 Ozone-depleting substances

- (1) Subject to the provisions of regulation 3, any deliberate emissions of ozone-depleting substances shall be prohibited. Deliberate emissions include emissions occurring in the course of maintaining, servicing, repairing or disposing of systems or equipment, except that deliberate emissions do not include minimal releases associated with the recapture or recycling of an ozone-depleting substance. Emissions arising from leaks of an ozone-depleting substance, whether or not

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the leaks are deliberate, may be regulated by Parties to the Protocol of 1997.

- (2) New installations which contain ozone-depleting substances shall be prohibited on all ships, except that new installations containing hydrochlorofluorocarbons (HCFCs) are permitted until 1 January 2020.
- (3) The substances referred to in this regulation, and equipment containing such substances, shall be delivered to appropriate reception facilities when removed from ships.

Regulation 13 Nitrogen oxides (NO_x)

- (1) (a) This regulation shall apply to:
 - (i) each diesel engine with a power output of more than 130 kW which is installed on a ship constructed on or after 1 January 2000; and
 - (ii) each diesel engine with a power output of more than 130 kW which undergoes a major conversion on or after 1 January 2000.
- (b) This regulation does not apply to:
 - (i) emergency diesel engines, engines installed in lifeboats and any device or equipment intended to be used solely in case of emergency; and

SEE INTERPRETATION 13.1

- (ii) engines installed on ships solely engaged in voyages within waters subject to the sovereignty or jurisdiction of the State the flag of which the ship is entitled to fly, provided that such engines are subject to an alternative NO_x control measure established by the Administration.
 - (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.

SEE INTERPRETATION 13.2

- (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%.
-

SEE INTERPRETATION 13.3

- (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
 - (ii) any other equivalent method, approved by the Administration taking into account relevant guidelines to be developed by the Organization, is applied to reduce onboard NO_x emissions at least to the limit specified in sub-paragraph (a) of this paragraph.

Regulation 14 Sulphur oxides (SO_x)

General requirements

- (1) The sulphur content of any fuel oil used on board ships shall not exceed 4.5% m/m.
- (2) The world-wide average sulphur content of residual fuel oil supplied for use on board ships shall be monitored taking into account guidelines to be developed by the Organization.¹¹⁷

Requirements within SO_x emission control areas

- (3) For the purpose of this regulation, SO_x emission control areas shall include:

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

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- (a) the Baltic Sea area as defined in regulation 10(1)(b) of Annex I, the North Sea area as defined in regulation 5(1)(f) of Annex V; and
 - (b) any other sea area, including port areas, designated by the Organization in accordance with criteria and procedures for designation of SO_x emission control areas with respect to the prevention of air pollution from ships contained in appendix III to this Annex.
- (4) While ships are within SO_x emission control areas, at least one of the following conditions shall be fulfilled:
- (a) the sulphur content of fuel oil used on board ships in a SO_x emission control area does not exceed 1.5% m/m;
 - (b) an exhaust gas cleaning system, approved by the Administration taking into account guidelines to be developed by the Organization,¹¹⁸ is applied to reduce the total emission of sulphur oxides from ships, including both auxiliary and main propulsion engines, to 6.0 g SO_x/kW·h or less calculated as the total weight of sulphur dioxide emission. Waste streams from the use of such equipment shall not be discharged into enclosed ports, harbours and estuaries unless it can be thoroughly documented by the ship that such waste streams have no adverse impact on the ecosystems of such enclosed ports, harbours and estuaries, based upon criteria communicated by the authorities of the port State to the Organization. The Organization shall circulate the criteria to all Parties to the Convention; or
 - (c) any other technological method that is verifiable and enforceable to limit SO_x emissions to a level equivalent to that described in sub-paragraph (b) is applied. These methods shall be approved by the Administration taking into account guidelines to be developed by the Organization.

118 Refer to resolution MEPC.130(53), Guidelines for on-board exhaust gas-SO_x cleaning systems.

Schedule 1

- (5) The sulphur content of fuel oil referred to in paragraph (1) and paragraph (4)(a) of this regulation shall be documented by the supplier as required by regulation 18 of this Annex.
- (6) Those ships using separate fuel oils to comply with paragraph (4)(a) of this regulation shall allow sufficient time for the fuel oil service system to be fully flushed of all fuels exceeding 1.5% m/m sulphur content prior to entry into a SO_x emission control area. The volume of low-sulphur fuel oils (less than or equal to 1.5% sulphur content) in each tank as well as the date, time, and position of the ship when any fuel-changeover operation is completed, shall be recorded in such log-book as prescribed by the Administration.
- (7) During the first 12 months immediately following entry into force of the present Protocol, or of an amendment to the present Protocol designating a specific SO_x emission control area under paragraph (3)(b) of this regulation, ships entering a SO_x emission control area referred to in paragraph (3)(a) of this regulation or designated under paragraph (3)(b) of this regulation are exempted from the requirements in paragraphs (4) and (6) of this regulation and from the requirements of paragraph (5) of this regulation insofar as they relate to paragraph (4)(a) of this regulation.

Regulation 15 Volatile organic compounds

- (1) If the emissions of volatile organic compounds (VOCs) from tankers are to be regulated in ports or terminals under the jurisdiction of a Party to the Protocol of 1997, they shall be regulated in accordance with the provisions of this regulation.
- (2) A Party to the Protocol of 1997 which designates ports or terminals under its jurisdiction in which VOCs emissions are to be regulated shall submit a notification to the Organization. This notification shall include information on the size of tankers to be controlled, on cargoes requiring vapour emission control systems, and the effective date of such control. The notification shall be submitted at least six months before the effective date.

- (3) The Government of each Party to the Protocol of 1997 which designates ports or terminals at which VOCs emissions from tankers are to be regulated shall ensure that vapour emission control systems, approved by that Government taking into account the safety standards developed by the Organization,¹¹⁹ are provided in ports and terminals designated, and are operated safely and in a manner so as to avoid undue delay to the ship.
- (4) The Organization shall circulate a list of the ports and terminals designated by the Parties to the Protocol of 1997 to other Parties to the Protocol of 1997 and Member States of the Organization for their information.
- (5) All tankers which are subject to vapour emission control in accordance with the provisions of paragraph (2) of this regulation shall be provided with a vapour collection system approved by the Administration taking into account the safety standards developed by the Organization, and shall use such system during the loading of such cargoes. Terminals which have installed vapour emission control systems in accordance with this regulation may accept existing tankers which are not fitted with vapour collection systems for a period of three years after the effective date identified in paragraph (2).
- (6) This regulation shall only apply to gas carriers when the type of loading and containment systems allow safe retention of non-methane VOCs on board, or their safe return ashore.

Regulation 16 Shipboard incineration

- (1) Except as provided in paragraph (5), shipboard incineration shall be allowed only in a shipboard incinerator.
- (2) (a) Except as provided in sub-paragraph (b) of this paragraph, each incinerator installed on board a ship on or after 1 January 2000 shall meet the requirements contained in appendix IV to this Annex. Each incinerator shall be approved by the Administration

119 Refer to MSC/Circ.585, Standards for vapour emission control systems.

taking into account the standard specifications for shipboard incinerators developed by the Organization.¹²⁰

SEE INTERPRETATION 16.1

- (b) The Administration may allow exclusion from the application of sub-paragraph (a) of this paragraph to any incinerator which is installed on board a ship before the date of entry into force of the Protocol of 1997, provided that the ship is solely engaged in voyages within waters subject to the sovereignty or jurisdiction of the State the flag of which the ship is entitled to fly.
- (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.

120 Refer to resolution MEPC.76(40), Standard specification for shipboard incinerators, and resolution MEPC.93(45), Amendments to the standard specification for shipboard incinerators.

-
- (6) Shipboard incineration of polyvinyl chlorides (PVCs) shall be prohibited, except in shipboard incinerators for which IMO Type Approval Certificates have been issued.
-

SEE INTERPRETATION 16.2

- (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.
-

SEE INTERPRETATION 16.3

- (8) Personnel responsible for operation of any incinerator shall be trained and capable of implementing the guidance provided in the manufacturer's operating manual.
-

SEE INTERPRETATION 16.4

- (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.
-

SEE INTERPRETATION 16.5

- (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:
 - (a) needs of ships using its repair ports for the reception of ozone-depleting substances and equipment containing such substances when removed from ships;
 - (b) needs of ships using its ports, terminals or repair ports for the reception of exhaust gas cleaning residues from an approved exhaust gas cleaning system when discharge into the marine environment of these residues is not permitted under regulation 14 of this Annex;
without causing undue delay to ships, and
 - (c) needs in ship breaking facilities for the reception of ozone depleting substances and equipment containing such substances when removed from ships.
- (2) Each Party to the Protocol of 1997 shall notify the Organization for transmission to the Members of the Organization of all cases where the facilities provided under this regulation are unavailable or alleged to be inadequate.

Regulation 18 Fuel oil quality

- (1) Fuel oil for combustion purposes delivered to and used on board ships to which this Annex applies shall meet the following requirements:

SEE INTERPRETATION 18.1

- (a) except as provided in sub-paragraph (b):
 - (i) the fuel oil shall be blends of hydrocarbons derived from petroleum refining. This shall not preclude the incorporation of small amounts of additives intended to improve some aspects of performance;
 - (ii) the fuel oil shall be free from inorganic acid;

-
- (iii) the fuel oil shall not include any added substance or chemical waste which either:
 - (1) jeopardizes the safety of ships or adversely affects the performance of the machinery, or
 - (2) is harmful to personnel, or
 - (3) contributes overall to additional air pollution; and
 - (b) fuel oil for combustion purposes derived by methods other than petroleum refining shall not:
 - (i) exceed the sulphur content set forth in regulation 14 of this Annex;
 - (ii) cause an engine to exceed the NO_x emission limits set forth in regulation 13(3)(a) of this Annex;
 - (iii) contain inorganic acid; and
 - (iv)
 - (1) jeopardize the safety of ships or adversely affect the performance of the machinery, or
 - (2) be harmful to personnel, or
 - (3) contribute overall to additional air pollution.
 - (2) This regulation does not apply to coal in its solid form or nuclear fuels.
 - (3) For each ship subject to regulations 5 and 6 of this Annex, details of fuel oil for combustion purposes delivered to and used on board shall be recorded by means of a bunker delivery note which shall contain at least the information specified in appendix V to this Annex.
 - (4) The bunker delivery note shall be kept on board the ship in such a place as to be readily available for inspection at all reasonable times. It shall be retained for a period of three years after the fuel oil has been delivered on board.
 - (5) (a) The competent authority¹²¹ of the Government of a Party to the Protocol of 1997 may inspect the bunker delivery

121 Refer to resolution A.787(19), Procedures for port State control, as amended by A.882(21); see IMO sales publication IA650E.

notes on board any ship to which this Annex applies while the ship is in its port or offshore terminal, may make a copy of each delivery note, and may require the master or person in charge of the ship to certify that each copy is a true copy of such bunker delivery note. The competent authority may also verify the contents of each note through consultations with the port where the note was issued.

- (b) The inspection of the bunker delivery notes and the taking of certified copies by the competent authority under this paragraph shall be performed as expeditiously as possible without causing the ship to be unduly delayed.
- (6) The bunker delivery note shall be accompanied by a representative sample of the fuel oil delivered, taking into account guidelines to be developed by the Organization. The sample is to be sealed and signed by the supplier's representative and the master or officer in charge of the bunker operation on completion of bunkering operations and retained under the ship's control until the fuel oil is substantially consumed, but in any case for a period of not less than 12 months from the time of delivery.
- (7) Parties to the Protocol of 1997 undertake to ensure that appropriate authorities designated by them:
- (a) maintain a register of local suppliers of fuel oil;
 - (b) require local suppliers to provide the bunker delivery note and sample as required by this regulation, certified by the fuel oil supplier that the fuel oil meets the requirements of regulations 14 and 18 of this Annex;
 - (c) require local suppliers to retain a copy of the bunker delivery note for at least three years for inspection and verification by the port State as necessary;
 - (d) take action as appropriate against fuel oil suppliers that have been found to deliver fuel oil that does not comply with that stated on the bunker delivery note;

-
- (e) inform the Administration of any ship receiving fuel oil found to be non-compliant with the requirements of regulations 14 or 18 of this Annex; and
 - (f) inform the Organization for transmission to Parties to the Protocol of 1997 of all cases where fuel oil suppliers have failed to meet the requirements specified in regulations 14 or 18 of this Annex.
- (8) In connection with port State inspections carried out by Parties to the Protocol of 1997, the Parties further undertake to:
- (a) inform the Party or non-Party under whose jurisdiction a bunker delivery note was issued of cases of delivery of non-compliant fuel oil, giving all relevant information; and
 - (b) ensure that remedial action as appropriate is taken to bring non-compliant fuel oil discovered into compliance.

Regulation 19 Requirements for platforms and drilling rigs

- (1) Subject to the provisions of paragraphs (2) and (3) of this regulation, fixed and floating platforms and drilling rigs shall comply with the requirements of this Annex.
- (2) Emissions directly arising from the exploration, exploitation and associated offshore processing of sea-bed mineral resources are, consistent with article 2(3)(b)(ii) of the present Convention, exempt from the provisions of this Annex. Such emissions include the following:
 - (a) emissions resulting from the incineration of substances that are solely and directly the result of exploration, exploitation and associated offshore processing of sea-bed mineral resources, including but not limited to the flaring of hydrocarbons and the burning of cuttings, muds, and/or stimulation fluids during well completion and testing operations, and flaring arising from upset conditions;

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- (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.

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 by the Protocol of 1978 relating thereto, and as amended by resolution MEPC.132(53), (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 ship¹²²

Name of ship

Distinctive number or letters

Port of registry

Gross tonnage

IMO Number¹²³

Type of ship:

tanker

ship other than a tanker

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 material fully comply with the applicable requirements of Annex VI of the Convention.

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

This Certificate is valid until¹²⁴ subject to surveys in accordance with regulation 5 of Annex VI of the Convention.

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

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

124 Insert the date of expiry as specified by the Administration in accordance with regulation 9(1) of Annex VI of the Convention. The day and the month of this date correspond to the anniversary date as defined in regulation 2(14) of Annex VI of the Convention, unless amended in accordance with regulation 9(8) of Annex VI of the Convention.

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Issued at

(Place of issue of certificate)

(dd/mm/yyyy)

(date of issue)

*(signature of authorized official
issuing the certificate)*

(Seal or stamp of the authority, as appropriate)

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 authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

Annual/Intermediate¹²⁵ survey: Signed:

(Signature of authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

Annual/Intermediate¹²⁶ survey: Signed:

(Signature of authorized official)

125 Delete as appropriate.

126 Delete as appropriate.

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

Annual survey:

Signed:

(Signature of authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

**Annual/intermediate survey in accordance
with regulation 9(8)(c)**

THIS IS TO CERTIFY that, at an annual/intermediate¹²⁷ survey in accordance with regulation 9(8)(c) of Annex VI of the Convention, the ship was found to comply with the relevant provisions of the Convention:

Signed:

(Signature of authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

**Endorsement to extend the certificate if valid for less than 5 years
where regulation 9(3) applies**

The ship complies with the relevant provisions of the Convention, and this certificate shall, in accordance with regulation 9(3) of Annex VI of the Convention, be accepted as valid until (dd/mm/yyyy):

Signed:

(Signature of authorized official)

127 Delete as appropriate.

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

Endorsement where the renewal survey has been completed and regulation 9(4) applies

The ship complies with the relevant provisions of the Convention, and this certificate shall, in accordance with regulation 9(4) of Annex VI of the Convention, be accepted as valid until (dd/mm/yyyy):

Signed:

(Signature of authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

Endorsement to extend the validity of the certificate until reaching the port of survey or for a period of grace where regulation 9(5) or 9(6) applies

This certificate shall, in accordance with regulation 9(5) or 9(6)¹²⁸ of Annex VI of the Convention, be accepted as valid until (dd/mm/yyyy):

Signed:

(Signature of authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

128 Delete as appropriate.

Endorsement for advancement of anniversary date where regulation 9(8) applies

In accordance with regulation 9(8) of Annex VI of the Convention, the new anniversary date is (dd/mm/yyyy):

Signed:

(Signature of authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

In accordance with regulation 9(8) of Annex VI of the Convention, the new anniversary date is (dd/mm/yyyy):

Signed:

(Signature of authorized official)

Place:

Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

**SUPPLEMENT TO
INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE
(IAPP CERTIFICATE)**

RECORD OF CONSTRUCTION AND EQUIPMENT

In respect of the provisions of Annex VI of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as “the Convention”).

Notes:

- 1 This Record shall be permanently attached to the IAPP Certificate. The IAPP Certificate shall be available on board the ship at all times.

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- 2 The Record shall be at least in English, French or Spanish. If an official language of the issuing country is also used, this shall prevail in case of a dispute or discrepancy.
- 3 Entries in boxes shall be made by inserting either a cross (x) for the answer “yes” and “applicable” or a (–) for the answers “no” and “not applicable” as appropriate.
- 4 Unless otherwise stated, regulations mentioned in this Record refer to regulations of Annex VI of the Convention and resolutions or circulars refer to those adopted by the International Maritime Organization.

1 Particulars of ship

- 1.1 Name of ship.
- 1.2 Distinctive number or letters.
- 1.3 IMO number.
- 1.4 Port of registry.
- 1.5 Gross tonnage.
- 1.6 Date on which keel was laid or ship was at a similar stage of construction.
- 1.7 Date of commencement of major engine conversion (if applicable) (regulation 13):.

2 Control of emissions from ships

2.1 *Ozone-depleting substances (regulation 12)*

2.1.1 The following fire-extinguishing systems and equipment containing halons may continue in service:.....

System equipment	Location on board

2.1.2 The following systems and equipment containing CFCs may continue in service:

System equipment	Location on board

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

System equipment	Location on board

2.2 Nitrogen oxides (NO_x) (regulation 13)

2.2.1 The following diesel engines with power output greater than 130 kW, and installed on a ship constructed 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)

2.2.2 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)

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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
- .2 an approved exhaust gas cleaning system to reduce SO_x emissions below 6.0 g SO_x/kW·h; or
- .3 other approved technology to reduce SO_x emissions below 6.0 g SO_x/kW·h

2.4 *Volatile organic compounds (VOCs) (regulation 15)*

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

2.5 The ship has an incinerator:

- .1 which complies with resolution MEPC.76(40) as amended
- .2 installed before 1 January 2000 which does not comply with resolution MEPC.76(40) as amended

THIS IS TO CERTIFY that this Record is correct in all respects.

Issued at

(Place of issue of the Record)

(dd/mm/yyyy)

Date of issue

(Signature of duly authorized official issuing the Record)

(Seal or stamp of the authority, as appropriate)

Appendix II Test cycles and weighting factors (Regulation 13)

The following test cycles and weighting factors should be applied for verification of compliance of marine diesel engines with the NO_x limits in accordance with regulation 13 of this Annex using the test procedure and calculation method as specified in the NO_x Technical Code.

- .1 For constant-speed marine engines for ship main propulsion, including diesel-electric drive, test cycle E2 should be applied.
- .2 For variable-pitch propeller sets test cycle E2 should be applied.

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- .3 For propeller-law-operated main and propeller-law-operated auxiliary engines the test cycle E3 should be applied.
- .4 For constant-speed auxiliary engines test cycle D2 should be applied.
- .5 For variable-speed, variable-load auxiliary engines, not included above, test cycle C1 should be applied.

Test cycle for *constant-speed main propulsion* application (including diesel-electric drive or variable-pitch propeller installations)

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

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

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

Test cycle for *constant-speed auxiliary engine* application

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

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

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

Appendix III **Criteria and procedures for designation of SO_x emission control areas (Regulation 14)****1 Objectives**

- 1.1 The purpose of this appendix is to provide the criteria and procedures for the designation of SO_x emission control areas. The objective of SO_x emission control areas is to prevent, reduce, and control air pollution from SO_x emissions from ships and their attendant adverse impacts on land and sea areas.
- 1.2 A SO_x emission control area should be considered for adoption by the Organization if supported by a demonstrated need to prevent, reduce, and control air pollution from SO_x emissions from ships.

2 Proposal criteria for designation of a SO_x emission control area

- 2.1 A proposal to the Organization for designation of a SO_x emission control area may be submitted only by Contracting States to the Protocol of 1997. Where two or more Contracting States have a common interest in a particular area, they should formulate a co-ordinated proposal.
- 2.2 The proposal shall include:
 - .1 a clear delineation of the proposed area of application of controls on SO_x emissions from ships, along with a reference chart on which the area is marked;
 - .2 a description of the land and sea areas at risk from the impacts of ship SO_x emissions;
 - .3 an assessment that SO_x emissions from ships operating in the proposed area of application of the SO_x emission controls are contributing to air pollution from SO_x, including SO_x deposition, and their attendant adverse impacts on the land and sea areas under consideration. Such assessment shall include a description of the impacts of SO_x emissions on terrestrial and aquatic ecosystems, areas of natural

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productivity, critical habitats, water quality, human health, and areas of cultural and scientific significance, if applicable. The sources of relevant data, including methodologies used, shall be identified;

- .4 relevant information pertaining to the meteorological conditions in the proposed area of application of the SO_x emission controls and the land and sea areas at risk, in particular prevailing wind patterns, or to topographical, geological, oceanographic, morphological, or other conditions that may lead to an increased probability of higher localized air pollution or levels of acidification;
 - .5 the nature of the ship traffic in the proposed SO_x emission control area, including the patterns and density of such traffic; and
 - .6 a description of the control measures taken by the proposing Contracting State or Contracting States addressing land-based sources of SO_x emissions affecting the area at risk that are in place and operating concurrent with the consideration of measures to be adopted in relation to provisions of regulation 14 of Annex VI of the present Convention.
- 2.3 The geographical limits of an SO_x emission control area will be based on the relevant criteria outlined above, including SO_x emission and deposition from ships navigating in the proposed area, traffic patterns and density, and wind conditions.
- 2.4 A proposal to designate a given area as an SO_x emission control area should be submitted to the Organization in accordance with the rules and procedures established by the Organization.

3 Procedures for the assessment and adoption of SO_x emission control areas by the Organization

- 3.1 The Organization shall consider each proposal submitted to it by a Contracting State or Contracting States.
- 3.2 A SO_x emission control area shall be designated by means of an amendment to this Annex, considered, adopted and brought into force in accordance with article 16 of the present Convention.

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:

O ₂ in combustion chamber:	6–12%
CO in flue gas maximum average:	200 mg/MJ
Soot number maximum average:	Bacharach 3 or Ringelman 1 (20% opacity) (A higher soot number is acceptable only during very short periods such as starting up)
Unburned components in ash residues:	maximum 10% by weight
Combustion chamber flue gas outlet temperature range:	850–1200°C

Appendix V Information to be included in the bunker delivery note (Regulation 18(3))

Name and IMO number of receiving ship

Port

Date of commencement of delivery

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

Product name(s)

Quantity (metric tons)

Density at 15°C (kg/m³)¹²⁹

129 Fuel oil should be tested in accordance with ISO 3675.

Sulphur content (% m/m)¹³⁰

A declaration signed and certified by the fuel oil supplier's representative that the fuel oil supplied is in conformity with regulation 14(1) or (4)(a) and regulation 18(1) of this Annex.

Unified Interpretations of Annex VI

Reg. 1 1.1 For application of this regulation the term "all ships" should be interpreted as applicable to all ships (as defined by MARPOL 73, Article 2(4)).

Reg. 2.4 2.1 For application of this regulation the term "new installations" should be interpreted as follows:

(a) For new ships, installations on board ships the keels of which are laid or which are at a similar stage of construction on or after 19 May 2005.

(b) For existing ships, new installations with a contractual delivery date to the ship on or after 19 May 2005 or, in the absence of a contractual delivery date, the actual delivery of the equipment to the ship on or after 19 May 2005.

The same interpretation should apply with regard to new HCFC installations but with the substitution of '1 January 2020' in place of 19 May 2005.

Reg. 13(1)(b)(i) 13.1 Regulation 13 does not apply to an engine which is used solely in response to emergencies on the ship on which the engine is installed.

Reg. 13(1)(c) 13.2 For application of this regulation the term "on a ship which undergoes a major conversion," should be interpreted as an error inserting the concept of 'ship' in place of 'engine'; ship conversion is not given elsewhere within the Annex. In order to be consistent with

¹³⁰ Fuel oil should be tested in accordance with ISO 8754.

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regulation 13(1)(a)(i) & (ii) this should be read as “or engine which undergoes a major conversion”.

Reg. 13(2) 13.3 For application of this regulation in the case of ships
(a)(iii) built before 1 January 2000 the term “by more than 10%” should be interpreted as applicable to the pre 1 January 2000 maximum continuous rating.

Reg. 16(2)(a) 16.1 For application of this regulation the term “installed on board a ship on or after 1 January 2000” should be interpreted as follows:

(a) For new ships, installations on board ships the keels of which are laid or which are at a similar stage of construction on or after 1 January 2000.

(b) For existing ships, new installations with a contractual delivery date to the ship on or after 1 January 2000 or, in the absence of a contractual delivery date, the actual delivery of the equipment to the ship on or after 1 January 2000.

Reg. 16(6) 16.2 For application of this regulation it should be interpreted as applicable to incinerators meeting either resolution MEPC.59(33) or resolution MEPC.76(40) specifications.

Reg. 16(7) 16.3 For application of this regulation it should be interpreted that possession of an operating manual is applicable only to resolution MEPC.76(40) incinerators installed on or after 1 January 2000.

Reg. 16(8) 16.4 For application of this regulation it should be interpreted that “any incinerator” refers to those specified in regulation 16(2).

Reg. 16(9) 16.5 For application of the regulation it should be interpreted that the temperature restrictions as given are only applicable to resolution MEPC.76(40) incinerators installed on or after 1 January 2000.

Reg. 18(1) 18.1 “Fuel oil” means any oil used in connection with the propulsion and operation of the ship.

Additional Information

- 1 List of unified interpretations of MARPOL Annexes I, III and VI**
- 1 List of unified interpretations of Annex I
- | | |
|----------------------|---|
| MEPC 52/24, annex 3 | Unified interpretations of the revised MARPOL Annex I |
| MEPC 53/24, annex 18 | Unified interpretation of regulation 19 |
| MEPC 53/24, annex 31 | Unified interpretation of regulation 21.2 |
| MEPC 54/21, annex 7 | Unified interpretation of regulation 12A ¹³¹ |
| MEPC 54/21, annex 8 | Unified interpretation of regulation 22.5 |
| MEPC 54/21, annex 18 | Unified interpretation of regulation 27 |
- 2 List of unified interpretations of Annex III
- | | |
|--|--|
| MEPC 36/22, paragraph 9.42 and annex 7 | Unified interpretation of regulation 4(3) of Annex III |
|--|--|
- 3 List of unified interpretations of Annex VI
- | | |
|----------------------|---|
| MEPC 53/24, annex 13 | Unified interpretations of MARPOL Annex VI and the NO _x Technical Code |
|----------------------|---|

¹³¹ Regulation 12A is expected to enter into force on 1 August 2007.

2 List of related documents

1 The following is a list of related documents which have been incorporated into this book.

Reference	Document
International Convention for the Prevention of Pollution from Ships, 1973	
Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973	
Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto	
Protocol I: Provisions concerning reports on incidents involving harmful substances	
• 1985 amendments to Protocol	MEPC 22/21, annex 10
• 1996 amendment to article II(1)	MEPC 38/20, annex 2
Protocol II: Arbitration	
Annex I	
• Annex I of MARPOL 73/78	MEPC 52/24, annex 2
• 2006 Amendments	MEPC 54/21, annex 2
Annex II	
• Annex II of fMARPOL 73/78	MEPC 52/24, annex 6
Annex III	
• Annex III of MARPOL 73/78	MEPC 26/25, annex 6
• 1992 Amendments	MEPC 33/20, annex 9
• 1994 Amendments	MP/CONF.2/8

Reference	Document
<ul style="list-style-type: none">• 2000 Amendments	MEPC 44/20, annex 3
Annex IV	
<ul style="list-style-type: none">• Annex IV of MARPOL 73/78	MEPC 51/22, annex 5
<ul style="list-style-type: none">• 2006 Amendments	MEPC 54/21, annex 4
Annex V	
<ul style="list-style-type: none">• 1989 Amendments	MEPC 28/4, annex 2
<ul style="list-style-type: none">• 1994 Amendments	MP/CONF.2/8
<ul style="list-style-type: none">• 1995 Amendments	MEPC 37/22/Add.1, annex 13
<ul style="list-style-type: none">• 2000 Amendments	MEPC 45/20, annex 3
<ul style="list-style-type: none">• 2004 Amendments	MEPC 51/22, annex 6
Annex VI	
<ul style="list-style-type: none">• 2005 Amendments	MEPC 53/24, annex 16

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2 The following is a list of related documents which have not been included in this book.

Reference	Document or IMO publication sales number
Protocol I	
<ul style="list-style-type: none"> • Resolution A.851(20): General principles for ship reporting systems and ship reporting requirements, including guidelines for reporting incidents involving dangerous goods, harmful substances and/or marine pollutants 	IA516E
<ul style="list-style-type: none"> • Provisions concerning the reporting of incidents involving harmful substances under MARPOL 73/78 (1999 edition) 	IA516E
Annex I	
<ul style="list-style-type: none"> • Guidelines for surveys under Annex I of MARPOL 73/78 	
<ul style="list-style-type: none"> • Guidelines for the development of shipboard marine pollution emergency plans (2001 edition) 	IA586E
<ul style="list-style-type: none"> • Crude oil washing systems (2000 edition) 	IA617E
<ul style="list-style-type: none"> • Dedicated clean ballast tanks (1982 edition) 	I619E
<ul style="list-style-type: none"> • Inert gas systems (1990 edition) 	I860E
<ul style="list-style-type: none"> • Guidelines on enhanced programme of inspections during surveys of bulk carriers and oil tankers (2001 edition) 	I265E
<ul style="list-style-type: none"> • CAS (Condition Assessment Scheme) 	I530E

Reference	Document or IMO publication sales number
Annex II	
<ul style="list-style-type: none">• Guidelines for the provisional assessment of liquids transported in bulk<ul style="list-style-type: none">• Annex 1—Flow chart for provisional assessment of liquids transported in bulk• <i>Annex 2 is included within this publication</i>• Annex 3—Example of an amendment sheet to the ship's Certificate of Fitness and Procedures and Arrangements Manual• Annex 4—Interpretation of the Guidelines for the categorization of noxious liquid substances• Annex 5—Abbreviated legend to the hazard profiles• Annex 6—Criteria for establishing ship type requirements from the marine pollution point of view• Annex 7—Telex/Telefax format for proposing tripartite agreement for provisional assessment of liquid substances• Annex 8—Format for assessment of liquid chemicals	I653E

Reference	Document or IMO publication sales number
<ul style="list-style-type: none"> • Annex 9—Examples of the calculation method • Annex 10—Interpretation for assigning the minimum carriage requirements for mixtures involving products included in the IBC/BCH Codes for safety reasons 	
<ul style="list-style-type: none"> • International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) (1998 edition) 	IB100E
<ul style="list-style-type: none"> • Guidelines for surveys under Annex II of MARPOL 73/78 (1987 edition) 	I508E
<ul style="list-style-type: none"> • Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH Code) (2005 edition) 	IB772E
<ul style="list-style-type: none"> • Guidelines for the development of shipboard marine pollution emergency plans (2001 edition) 	IA586E
Annex III	
<ul style="list-style-type: none"> • International Maritime Dangerous Goods Code (IMDG Code) (2004 edition) 	IE200E
Annex V	
<ul style="list-style-type: none"> • Guidelines for the implementation of Annex V <ul style="list-style-type: none"> • Appendix 1—Form for reporting alleged inadequacy of port reception facilities for garbage 	IA656E

Reference	Document or IMO publication sales number
<ul style="list-style-type: none"> • Appendix 2—Standard specification for shipboard incinerators (MEPC.59(33)) 	
General	
<ul style="list-style-type: none"> • Procedures for port State control (2000 edition) 	IA650E
<ul style="list-style-type: none"> • Comprehensive manual on port reception facilities (1999 edition) 	IA597E
<ul style="list-style-type: none"> • Pollution prevention equipment required under MARPOL 73/78 (2006 edition) 	IA646E
<ul style="list-style-type: none"> • MARPOL—How to do it 	IA636E

3**List of MEPC resolutions**

		IMO publication sales number
MEPC.1(II) ^a	Resolution on establishment of the list of substances to be annexed to the Protocol relating to Intervention on the High Seas in Cases of Marine Pollution by Substances other than Oil	—
MEPC.2(VI)	Recommendation on international effluent standards and guidelines for performance tests for sewage treatment plants	I592E
MEPC.3(XII)	Recommendation on the standard format for the crude oil washing operations and equipment manual	IA617E
MEPC.4(XIII)	Recommendation regarding acceptance of oil content meters in oil tankers	—
MEPC.5(XIII)	Specification for oil/water interface detectors	—
MEPC.6(XIV)	Application of the provisions of Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto on the discharge of oil in the Baltic Sea area	—
MEPC.7(XV)	Entries in oil record books on methods of disposal of residue	—
MEPC.8(XVI)	Discharge of oils not specified by the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended in 1962 and 1969	—
MEPC.9(17)	Application of the provisions of Annex V of MARPOL 73/78 on the discharge of garbage in the Baltic Sea area	—
MEPC.10(18)	Application scheme for oil discharge monitoring and control systems	—

		IMO publication sales number
MEPC.11(18)	Guidelines for surveys under Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto	—
MEPC.12(18)	Regional arrangements for combating major incidents of marine pollution	—
MEPC.13(19)	Guidelines for plan approval and installation survey of oil discharge monitoring and control systems for oil tankers and environmental testing of control sections thereof	—
MEPC.14(20)	Adoption of amendments to Annex I of MARPOL 73/78	—
MEPC.15(21)	Installation of oil discharge monitoring and control systems in existing oil tankers	—
MEPC.16(22)	Adoption of amendments to Annex II of MARPOL 73/78	—
MEPC.17(22)	Implementation of Annex II of MARPOL 73/78	—
MEPC.18(22)	Adoption of the standards for procedures and arrangements for the discharge of noxious liquid substances	—
MEPC.19(22)	Adoption of the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)	IB100E
MEPC.20(22)	Adoption of the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH Code)	IB772E
MEPC.21(22)	Adoption of amendments to Protocol I to MARPOL 73/78 and the text of the Protocol, as amended, annexed thereto	—

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		IMO publication sales number
MEPC.22(22)	Adoption of guidelines for reporting incidents involving harmful substances and the text of guidelines annexed thereto	—
MEPC.23(22)	The application of Annex II of MARPOL 73/78 on the discharge of noxious liquid substances in the Baltic Sea area	—
MEPC.24(22)	Adoption of amendments to the Revised guidelines and specifications for oil discharge monitoring and control systems for oil tankers as adopted by the Organization by resolution A.586(14) and to the Recommendation on international performance and test specifications for oily water separating equipment and oil content meters adopted by the Organization by resolution A.393(X)	—
MEPC.25(23)	Guidelines for surveys under Annex II of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78)	I508E
MEPC.26(23)	Procedures for the control of ships and discharges under Annex II of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78)	—
MEPC.27(23)	Categorization of liquid substances	—
MEPC.28(24)	Compliance with Annex II of MARPOL 73/78	—

		IMO publication sales number
MEPC.29(25)	Adoption of amendments to the Annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (designation of the Gulf of Aden as a special area)	—
MEPC.30(25)	Guidelines for reporting incidents involving harmful substances	—
MEPC.31(26)	Establishment of the date of application of the provisions of regulation 5 of Annex V of the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 relating thereto on the discharge of garbage in the Baltic Sea area	—
MEPC.32(27)	Adoption of amendments to the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)	IB100E
MEPC.33(27)	Adoption of amendments to the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH Code)	IB772E
MEPC.34(27)	Adoption of amendments to the Annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (Appendices II and III of Annex II of MARPOL 73/78)	—
MEPC.35(27)	Implementation of Annex III of MARPOL 73/78	—

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		IMO publication sales number
MEPC.36(28)	Adoption of amendments to the Annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (Amendments to Annex V of MARPOL 73/78)	—
MEPC.37(28)	Establishment of the date of application of the provisions of regulation 5 of Annex V of the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 relating thereto on the discharge of garbage in the North Sea area	—
MEPC.38(29)	Application of the provisions of Annex IV of the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 relating thereto on the discharge of sewage in the Baltic Sea area	—
MEPC.39(29)	Adoption of amendments to the Annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (Introduction of the Harmonized System of Survey and Certification to Annexes I and II of MARPOL 73/78)	—
MEPC.40(29)	Adoption of amendments to the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) (Harmonized System of Survey and Certification)	—

		IMO publication sales number
MEPC.41(29)	Adoption of amendments to the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH Code) (Harmonized System of Survey and Certification)	—
MEPC.42(30)	Adoption of amendments to the Annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (Designation of Antarctic area as a special area under Annexes I and V of MARPOL 73/78)	—
MEPC.43(30)	Prevention of pollution by garbage in the Mediterranean	—
MEPC.44(30)	Identification of the Great Barrier Reef region as a particularly sensitive area	—
MEPC.45(30)	Protection of the Great Barrier Reef region	—
MEPC.46(30)	Measures to control potential adverse impacts associated with use of tributyl tin compounds in anti-fouling paints	—
MEPC.47(31)	Adoption of amendments to the Annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (new regulation 26 and other amendments to Annex I of MARPOL 73/78)	—
MEPC.48(31)	Adoption of amendments to the Annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (designation of the Wider Caribbean area as a special area under Annex V of MARPOL 73/78)	—

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		IMO publication sales number
MEPC.49(31)	Revision of the list of substances to be annexed to the Protocol relating to Intervention on the High Seas in Cases of Marine Pollution by Substances Other Than Oil, 1973	—
MEPC.50(31)	Guidelines for preventing the introduction of unwanted aquatic organisms and pathogens from ships' ballast water and sediment discharges	—
MEPC.51(32)	Adoption of amendments to the annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (Discharge criteria of Annex I of MARPOL 73/78)	—
MEPC.52(32)	Adoption of amendments to the annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (New regulations 13F and 13G and related amendments to Annex I of MARPOL 73/78)	—
MEPC.53(32)	Development of the capacity of ship scrapping for the smooth implementation of the amendments to Annex I of MARPOL 73/78	—
MEPC.54(32)	Guidelines for the development of shipboard oil pollution emergency plans	IA586E
MEPC.55(33)	Adoption of amendments to the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)	—

		IMO publication sales number
MEPC.56(33)	Adoption of amendments to the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH Code)	—
MEPC.57(33)	Adoption of amendments to the annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (Designation of the Antarctic area as a special area and lists of liquid substances in Annex II)	—
MEPC.58(33)	Adoption of amendments to the annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (Revised Annex III)	—
MEPC.59(33)	Revised guidelines for the implementation of Annex V of MARPOL 73/78	—
MEPC.60(33)	Guidelines and specifications for pollution prevention equipment for machinery space bilges of ships	I646E
MEPC.61(34)	Visibility limits of oil discharges of Annex I of MARPOL 73/78	—
MEPC.62(35)	Amendments to the standards for procedures and arrangements for the discharge of noxious liquid substances	—
MEPC.63(36)	Oil tanker stability, operational safety and protection of the marine environment	—
MEPC.64(36)	Guidelines for approval of alternative structural or operational arrangements as called for in regulation 13G(7) of Annex I of MARPOL 73/78	—

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		IMO publication sales number
MEPC.65(37)	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 2 and new regulation 9 of Annex V)	—
MEPC.66(37)	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	—
MEPC.67(37)	Guidelines on application of the precautionary approach	—
MEPC.68(38)	Amendments to the annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (Amendments to Protocol I)	—
MEPC.69(38)	Amendments to the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)	—
MEPC.70(38)	Amendments to the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH Code)	—
MEPC.71(38)	Guidelines for the development of garbage management plans	IA656E
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	—

		IMO publication sales number
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 the annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973	—
MEPC.76(40)	Standard specification for shipboard incinerators	IA656E
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))	IA617E

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		IMO publication sales number
MEPC.82(43)	Guidelines for monitoring the world-wide average sulphur content of residual fuel oils supplied for use on board ships	—
MEPC.83(44)	Guidelines for ensuring the adequacy of port waste reception facilities	—
MEPC.84(44)	Amendments to the annex of the Protocol of 1978 relating to the International Convention for the Prevention of Marine Pollution from Ships, 1973	—
MEPC.85(44)	Guidelines for the development of shipboard marine pollution emergency plans for oil and/or noxious liquid substances	IA586E
MEPC.86(44)	Amendments to the Guidelines for the development of shipboard oil pollution emergency plans	IA586E
MEPC.87(44)	Use of Spanish under IMO conventions relating to pollution prevention	—
MEPC.88(44)	Implementation of annex IV of MARPOL 73/78	—
MEPC.89(45)	Amendments to the Annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973	—
MEPC.90(45)	Amendments to the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)	—
MEPC.91(45)	Amendments to the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH Code)	—

		IMO publication sales number
MEPC.92(45)	Amendments to the Revised Guidelines for the implementation of Annex V of MARPOL 73/78 (resolution MEPC.59(33))	IA656E
MEPC.93(45)	Amendments to the Standard Specification for Shipboard Incinerators	IA656E
MEPC.94(46)	Condition Assessment Scheme	—
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	—
MEPC.96(47)	Guidelines for the sampling of fuel oil for determination of compliance with Annex VI of MARPOL 73/78	—
MEPC.97(47)	Identification of the sea area around Malpelo Island as a Particularly Sensitive Sea Area	—
MEPC.98(47)	Identification of the sea area around the Florida Keys as a Particularly Sensitive Sea Area	—
MEPC.99(48)	Amendments to the Condition Assessment Scheme	—
MEPC.100(48)	Revision of the list of substances annexed to the Protocol relating to Intervention on the High Seas in Cases of Pollution by Substances other than Oil, 1973	—
MEPC.101(48)	Identification of the Wadden Sea as a Particularly Sensitive Sea Area	—
MEPC.102(48)	Guidelines for survey and certification of anti-fouling systems on ships	—
MEPC.103(49)	Guidelines for on-board NO _x verification procedure - direct measurement and monitoring method	—

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	IMO publication sales number
MEPC.104(49) Guidelines for brief sampling of anti-fouling systems on ships	—
MEPC.105(49) Guidelines for inspection of anti-fouling systems in ships	—
MEPC.106(49) Designation of the Paracas National Reserve as a Particularly Sensitive Sea Area	—
MEPC.107(49) Revised guidelines and specifications for pollution prevention equipment for machinery space bilges of ships	—
MEPC.108(49) Revised guidelines and specifications for oil discharge monitoring and control systems for oil tankers	—
MEPC.109(49) Tripartite agreements	—
MEPC.110(49) Revised 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	—
MEPC.111(50) 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, addition of new regulation 13H and consequential amendments to the IOPP Certificate of Annex I of MARPOL 73/78)	—
MEPC.112(50) MEPC.112(50) Amendments to the Condition Assessment Scheme	—
MEPC.113(50) Ship recycling for the smooth implementation of the amendments to Annex I of MARPOL 73/78	—

	IMO publication sales number
MEPC.114(50) Early and effective application of the amendments to Annex I of MARPOL 73/78 (Revised regulation 13G and new regulation 13H)	—
MEPC.115(51) Amendments to the annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (Revised Annex IV of MARPOL 73/78)	—
MEPC.116(51) Amendments to the annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (Amendments to the appendix to Annex V of MARPOL 73/78)	IA656E
MEPC.117(52) Amendments to the annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (Revised Annex I of MARPOL 73/78)	—
MEPC.118(52) Amendments to the annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (Revised Annex II of MARPOL 73/78)	—
MEPC.119(52) 2004 Amendments to the International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (IBC Code)	—
MEPC.120(52) Guidelines for the transport of vegetable oils in deep tanks or in independent tanks specially designed for the carriage of such vegetable oils in general dry cargo ships	—
MEPC.121(52) Designation of the Western European Waters as a Particularly Sensitive Sea Area	—

	IMO publication sales number
MEPC.122(52) Explanatory notes on matters related to the accidental oil outflow performance under regulation 23 of the revised MARPOL Annex I	—
MEPC.123(53) Guidelines for ballast water management equivalent compliance (G3)	—
MEPC.124(53) Guidelines for ballast water exchange (G6)	—
MEPC.125(53) Guidelines for approval of ballast water management systems (G8)	—
MEPC.126(53) Procedure for approval of ballast water management systems that make use of active substances (G9)	—
MEPC.127(53) Guidelines for ballast water management and development of ballast water management plans (G4)	—
MEPC.128(53) Amendments to the revised survey guidelines under the harmonized system of survey and certification (resolution A.948(23)) for the purpose of MARPOL Annex VI	—
MEPC.129(53) Guidelines for port State control under MARPOL Annex VI	—
MEPC.130(53) Guidelines for on-board exhaust gas-SO _x cleaning systems	—
MEPC.131(53) Amendments to the Condition Assessment Scheme (CAS)	—
MEPC.132(53) Amendments to the annex of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (Amendments to MARPOL Annex VI and the NO _x Technical Code)	—

	IMO publication sales number
MEPC.133(53) Designation of the Torres Strait as an extension of the Great Barrier Reef Particularly Sensitive Sea Area	—
MEPC.134(53) Designation of the Canary Islands as a Particularly Sensitive Sea Area	—
MEPC.135(53) Designation of the Galapagos Archipelago as a Particularly Sensitive Sea Area	—
MEPC.136(53) Designation of the Baltic Sea area as a Particularly Sensitive Sea Area	—
MEPC.137(53) Amendments to the Guidelines for the development of shipboard marine pollution emergency plans for oil and/or noxious liquid substances (resolution MEPC.85(44))	—
MEPC.138(53) Amendments to the General principles for ship reporting systems and ship reporting requirements, including guidelines for reporting incidents involving dangerous goods, harmful substances and/or marine pollutants (resolution A.851(20))	—
MEPC.139(53) Guidelines for the application of the revised MARPOL Annex I requirements to floating production, storage and offloading facilities (FPSOs) and floating storage units (FSUs)	
MEPC.140(54) Guidelines for approval and oversight of prototype ballast water treatment technology programmes (G10)	

	IMO publication sales number
MEPC.141(54) 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 1, addition to regulation 12A, consequential amendments to the IOPP Certificate and amendments to regulation 21 of the revised Annex I of MARPOL 73/78)	—
MEPC.142(54) Amendments to the Guidelines for the application of the revised MARPOL Annex I requirements to floating production, storage and offloading facilities (FPSOs) and floating storage units (FSUs) (resolution MEPC.139(53))	—
MEPC.143(54) Amendments to the annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (addition of regulation 13 to Annex IV of MARPOL 73/78)	—
MEPC.144(54) Amendments to the Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (BCH Code)	—
MEPC.145(54) Early and effective application of the 2006 amendments to the Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (BCH Code)	—
MEPC.146(54) Amendments to the explanatory notes on matters related to the accidental oil outflow performance under regulation 23 of the revised MARPOL Annex I	—

	IMO publication sales number
MEPC.147(54) Guidelines on the assessment of residual fillet weld between deck plating and longitudinals	—
MEPC.148(54) Revised guidelines for the transport of vegetable oils in deep tanks or in independent tanks specially designed for the carriage of such vegetable oils in general dry cargo ships	—

- a Roman or Arabic figures in brackets show the session number, and the texts of these resolutions are annexed to the MEPC report of that session.

4 Status of MARPOL 73/78, amendments and related instruments

This list show the dates of entry into force of MARPOL 73/78, its protocols, annexes and amendments as at 1 July 2006

Details of the amendments may be found in the list of MEPC resolutions

International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL (amended) 73/78).

Entry into force:	2 October 1983
Annex I	2 October 1983 ^a
Annex II	6 April 1987 ^a
Annex III	1 July 1992
Annex IV	27 September 2003
Annex V	31 December 1988
Annex VI	19 May 2005
1985 (Protocol I) amendments (MEPC.21(22)) (Reporting Protocol)	6 April 1987

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1989 (BCH Code) amendments (MEPC.33(27)) (list of chemicals)	13 October 1990
1989 (Annex V) amendments (MEPC.36(28)) (designation of the North Sea as a special area)	18 February 1991
1990 (BCH Code) amendments (MEPC.41(29)) (harmonized system of survey and certification)	3 February 2000
1990 (Annexes I ^b and V) amendments (MEPC.42(30)) (designation of the Antarctic area as a special area)	17 March 1992
1991 (Annex V) amendments (MEPC.48(31)) (designation of the Wider Caribbean area as a special area)	4 April 1993
1992 (BCH Code) amendments (MEPC.56(33)) (lists of chemicals and other amendments)	1 July 1994
1992 (Annex III) amendments (MEPC.58(33)) (total revision of Annex III with the IMDG Code as a vehicle for its implementation)	28 February 1994
1994 (Annexes I ^c , II ^c , III and V) amendments (Conference resolutions 1-3) (Port State control on operational requirements)	3 March 1996
1995 (Annex V) amendments (MEPC.65(37)) (Application, placards, management plans and record keeping)	1 July 1997
1996 (Protocol I) amendments (MEPC.68(38)) (article II - when to make reports)	1 January 1998
1996 (BCH Code) amendments (MEPC.70(38)) (lists of chemicals)	1 July 1998
1999 (BCH Code) amendments (MEPC.80(43)) (cargo containment)	1 July 2002
2000 (Annex III) amendments (MEPC.84(44)) (amendments to appendix)	1 January 2002
2000 (Annex V) amendments (MEPC.89(45)) (amendments to regulations 1, 3, 5 and 9 and Record of Garbage Discharges)	1 March 2002
2000 (BCH Code) amendments (MEPC.91(45)) (amendments to chapters II, III, IV, V)	1 July 2002

2004 amendments (MEPC.115(51)) (revised Annex IV)	1 August 2005
2004 (Annex V) amendments (MEPC.116(51)) (amendments to the appendix)	1 August 2005
2004 amendments (MEPC.117(52)) (revised Annex I)	1 January 2007
2004 amendments (MEPC.118(52)) (revised Annex II)	1 January 2007
2004 (IBC Code) amendments (MEPC.119(52))	1 January 2007
2005 (Annex VI) amendments MEPC.132(53) (amendments to Annex VI and to the NO _x Technical Code)	22 November 2006
2006 (Annex I) amendments (MEPC.141(54)) (amendment to regulation 1, new regulation 12A, consequential amendments to the IOPP Certificate and amendments to regulation 21)	[1 August 2007 ^d]
2006 (Annex IV) amendments (MEPC.143(54)) (new regulation 13)	[1 August 2007 ^d]
2006 (BCH Code) amendments (MEPC.144(54))	[1 August 2007 ^d]

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- a Annexes I and II were amended on 15 October 2004. The acceptance date for these amendments is 1 July 2006 and their date for entry into force is 1 January 2007.
- b These amendments were to the text of Annex I before it was amended in October 2004.
- c These amendments were to the texts of Annexes I and II before they were amended in October 2004.
- d Conditional upon acceptance on 1 February 2007.

5 **Cross-reference tables between “old” and “new” regulations of Annex I**

MEPC/Circ.421

- 1 MEPC 51 (29 March to 2 April 2004) agreed that the current resolutions, guidelines and circulars associated with the existing MARPOL Annex I should not be revised with the sole purpose of

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bringing cross-references in line with the new regulation numbering system under the revised Annex I. In addition, MEPC 51 decided that they should only be revised if they contained outdated provisions which need to be updated as a result of amendments to Annex I, or which need adaptation to technical progress (MEPC 51/22, paragraphs 12.9, 12.9.1 and 12.9.2).

- 2 MEPC 51 further agreed to instruct the Secretariat to prepare a draft MEPC circular, providing suitable tables with the cross-references between the “old” and “new” regulations of MARPOL Annex I, and vice versa (MEPC 51/22, paragraph 12.9.3) for ease of reference by all users of MARPOL Annex I.
- 3 MEPC 52 (11 to 15 October 2004) considered and approved the MEPC circular, attached at annex, which contains the cross-reference tables. Table “A” provides the correlation between the numbers of regulations in the existing Annex I and their corresponding numbers under the revised Annex I. Table “B”, on the other hand, provides the same correlation but from the revised Annex I to the existing Annex I.
- 4 Member Governments are invited to disseminate the MEPC circular to their maritime Administration officials, industry and interested organizations with the aim of facilitating the smooth implementation of the revised MARPOL Annex I.

Table A - “Old” versus “new” regulations

Old Reg. Number of regulation in original^a Annex I	New Reg. Number of regulation in the revised Annex I
1(1)	1.1
1(2)	1.3
1(3)	1.4
1(4)	1.5
1(5)	1.8
1(6)	1.28.2
1(7)	1.28.1
1(8)(a)	1.9.1
1(8)(b)	1.9.2.1
1(8)(c)	1.9.2.2

Old Reg. Number of regulation in original^a Annex I	New Reg. Number of regulation in the revised Annex I
1(9)	1.10
1(10)	1.11
1(11)	1.12
1(12)	1.13
1(13)	1.14
1(14)	1.15
1(15)	1.16
1(16)	1.17
1(17)	1.18
1(18)	1.19
1(19)	1.20
1(20)	1.21
1(21)	1.22
1(22)	1.23
1(23)	1.24
1(24)	1.25
1(25)	1.26
1(26)	1.28.4, 18.11
1(27)	1.28.3
1(28)	1.2
1(29)	1.6
1(30)	1.7
1(31)	1.27
	1.28.8 (new text)
2(1)	2.1
2(2)	2.2
2(3)	2.3
2(4)(a)	3.1
2(4)(b)	3.2
2(4)(c)	3.3

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Old Reg. Number of regulation in original^a Annex I	New Reg. Number of regulation in the revised Annex I
3(1)	5.1
3(2)	5.2
4(1)	6.1
4(1)(a)	6.1.1
4(1)(b)	6.1.2
4(1)(c)	6.1.3
4(1)(d)	6.1.4
4(1)(e)	6.1.5
4(2)	6.2
4(3)(a)	6.3.1
4(3)(b)	6.3.2
4(3)(c)	6.3.3
4(3)(d)	6.3.4
4(4)(a)	6.4.1
4(4)(b)	6.4.2
4(4)(c)	6.4.3
5(1)	7.1
5(2)	7.2
5(3)	Deleted (outdated)
6(1)	8.1
6(2)	8.2
6(3)	8.3
6(4)	8.4
7	9
8(1)	10.1
8(2)(a)	10.2.1
8(2)(b)	10.2.2
8(2)(c)	10.2.3
8(3)	10.3
8(4)	10.4

Old Reg. Number of regulation in original^a Annex I	New Reg. Number of regulation in the revised Annex I
8(5)	10.5
8(6)	10.6
8(7)	10.7
8(8)	10.8
8(9)	10.9
8A	11
9(1)	15.1, 34.1
9(1)(a)	34.1
9(1)(a)(i)	34.1.1
9(1)(a)(ii)	34.1.2
9(1)(a)(iii)	34.1.3
9(1)(a)(iv)	34.1.4
9(1)(a)(v)	34.1.5
9(1)(a)(vi)	34.1.6
9(1)(b)	15.2, 15.2.4-5
9(1)(b)(i)	15.A
9(1)(b)(ii)	15.2.1
9(1)(b)(iii)	15.2.3
9(1)(b)(iv)	15.2.2
9(2)	15.6
9(3)	15.7, 34.7
9(4)	34.2
9(5)	15.8, 34.8
9(6)	15.9, 34.9
9(7)	Deleted (outdated)
10(1)(a)	1.11.1
10(1)(b)	1.11.2
10(1)(c)	1.11.3
10(1)(d)	1.11.4
10(1)(e)	1.11.5

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Old Reg. Number of regulation in original^a Annex I	New Reg. Number of regulation in the revised Annex I
10(1)(f)	1.11.6
10(1)(g)	1.11.7
10(1)(h)	1.11.8
10(2)	15.1
10(2)(a)	15.3, 34.3
10(2)(a), 2nd sentence	15.4
10(2)(b)	15.6
10(3)(a)	34.4
10(3)(b)	15.3
10(3)(b)(i)	15.3.4
10(3)(b)(ii)	15.3.5
10(3)(b)(iii)	15.3.1
10(3)(b)(iv)	15.3.3
10(3)(b)(v)	15.3.2
10(3)(b)(vi)	15.3.2
10(4)(a)	15.8, 34.8
10(4)(b)	15.9, 34.9
10(5)	15.5, 34.5
10(6)	15.7, 34.7
10(7)(a)(i)	38.4
10(7)(a)(ii)	38.5
10(7)(a)(iii)	Deleted (outdated)
10(7)(a)(iv)	38.8
10(7)(b)(i)	38.4
10(7)(b)(ii)	38.5
10(7)(b)(iii)	38.6.1
10(7)(b)(iv)	38.6.2
10(7)(b)(v)	38.6.3
10(7)(b)(vi)	38.6.4
10(7)(b)(vii)	38.6.5

Old Reg. Number of regulation in original^a Annex I	New Reg. Number of regulation in the revised Annex I
10(8)	38.7
11(a)	4.1
11(b)	4.2
11(c)	4.3
12(1)	38.1
12(2)	38.2
12(3)	38.3
12(4)	Deleted (outdated)
12(5)	38.8
13(1)	18.1
13(2)	18.2
13(3)	18.3
13(4)	18.4
13(5)	18.5
13(6)	33.1, 35.3
13(7)	18.6
13(8)	18.7, 35.3
13(9)	Deleted (outdated)
13(10)	18.8
13(11)	18.9
13A(1)	18.8.1
13A(2)	18.8.2
13A(3)	18.8.3
13A(4)	18.8.4
13B(1)	33.3
13B(2)	33.2
13B(3)	Deleted (redundant)
13B(4)	35.2
13B(5)	35.1
13C(1)	2.5

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Old Reg. Number of regulation in original^a Annex I	New Reg. Number of regulation in the revised Annex I
13C(2)	2.6
13D(1)	18.10.1
13D(1)(a)	18.10.1.1
13D(1)(b)	18.10.1.2
13D(1)(c)	18.10.1.3
13D(2)	18.10.2
13D(3)	18.10.3
13E(1)	18.12
13E(2)	18.13
13E(3)	18.14
13E(4)	18.15
13E(4)(a)	18.15.1
13E(4)(b)	18.15.2
13F(1)(a) to (d)	1.28.6
	1.28.5 (new text)
13F(2)(a)	19.2.1
13F(2)(b)	19.2.2
13F(3)(a)	19.3.1
13F(3)(b)	19.3.2
13F(3)(c)	19.3.3
13F(3)(d)	19.3.4
13F(3)(e)	19.3.5
13F(3)(f)	19.3.6
13F(4)(a)	19.4.1
13F(4)(b)	19.4.2
13F(4)(c)	19.4.3
13F(5)	19.5
13F(6)	28.6
13F(7)	19.6
13F(8)	19.7

Old Reg. Number of regulation in original^a Annex I	New Reg. Number of regulation in the revised Annex I
13F(9)	19.8
13G(1)(a)	20.1.1
13G(1)(b)	20.1.2
13G(1)(c)	20.1.3
13G(2)(a)	20.2.1
13G(2)(b)	20.2.2
13G(3)(a)	20.3.1
13G(3)(b)	20.3.2
13G(3)(c)	20.3.3
13G(4)	20.4
13G(5)(a)	20.5.1
13G(5)(b)	20.5.2
13G(5)(c)	20.5.3
13G(5)(d)	20.5.4
13G(6)	20.6
13G(7)	20.7
13G(8)(a)	20.8.1
13G(8)(b)	20.8.2
13H(1)(a)	21.1.1
13H(1)(b)	21.1.2
13H(2)(a)	21.2.1
13H(2)(b)	21.2.2
13H(2)(c)	21.2.3
13H(3)	21.3
13H(4)(a)	21.4.1
13H(4)(b)	21.4.2
13H(5)(a)	21.5.1
13H(5)(b)	21.5.2
13H(5)(c)	21.5.3
13H(5)(d)	21.5.4

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Old Reg. Number of regulation in original^a Annex I	New Reg. Number of regulation in the revised Annex I
13H(6)(a)	21.6.1
13H(6)(b)	21.6.2
13H(7)(a)	21.7.1
13H(7)(b)	21.7.2
13H(8)(a)	21.8.1
13H(8)(b)	21.8.2
14(1)	16.1
14(2)	16.2
14(3)	16.4
14(4)	16.3
14(5)	16.4
15(1)	29.1, 31.1, 32
15(2)(a)	29.2.1
15(2)(b)	29.2.2
15(2)(c)	29.2.3, 29.3
15(2)(c)(i)	29.2.3.1
15(2)(c)(ii)	29.2.3.2
15(2)(c)(iii)	29.2.3.3
15(2)(d)	29.2.4
15(3)(a)	31.2, 31.3, 36.6
15(3)(b)	32
15(3)(c)	31.4
15(4)	34.6, 36.3
15(5)(a)	3.4
15(5)(b)	3.5
15(5)(b)(i)	3.5.1
15(5)(b)(ii)	3.5.2
15(5)(b)(ii)(1)	3.5.2.1
15(5)(b)(ii)(2)	3.5.2.2
15(5)(b)(ii)(2)	3.5.2.2.1
(aa)	

Old Reg. Number of regulation in original^a Annex I	New Reg. Number of regulation in the revised Annex I
15(5)(b)(ii)(2) (bb)	3.5.2.2.2
15(5)(b)(ii)(3)	3.5.2.3
15(5)(b)(ii)(4)	3.5.2.4
15(5)(b)(ii)(5)	3.5.2.5
15(5)(b)(ii)(6)	3.5.2.6
15(6)	Deleted (outdated)
15(7)	2.4
16(1)	14.1
16(2)	14.2 14.3 (new text)
16(3)(a)	14.5.1
16(3)(b)	14.4 14.5.2 (new text)
16(3)(a)	14.5.3
16(3)(a)(i)	14.5.3.1
16(3)(a)(ii)	14.5.3.2
16(3)(a)(iii)	14.5.3.3
16(3)(a)(iv)	14.5.3.4
16(3)(a)(v)	14.5.3.5
16(4)	14.6
16(5)	14.7
16(6)	Deleted (outdated)
17(1)	12.1
17(2)	12.3
17(3)	12.2
18(1)	30.1
18(2)	30.2
18(3)	30.3
18(4)	30.4
18(5)	30.5

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Old Reg. Number of regulation in original^a Annex I	New Reg. Number of regulation in the revised Annex I
18(6)	30.6
18(6)(a)	30.6.1
18(6)(b)	30.6.2
18(6)(c)	30.6.3
18(6)(d)	30.6.4
18(6)(e)	30.6.5
	30.7 (new text)
19	13
20(1)	17.1, 36.1
20(2) and 20(2)(a)	17.2
20(2) and 20(2)(b)	36.2
20(2)(a)(i)	17.2.1
20(2)(a)(ii)	17.2.2
20(2)(a)(iii)	17.2.3
20(2)(a)(iv)	17.2.4
	17.2.5 (new text)
20(2)(b)(i)	36.2.1
20(2)(b)(ii)	36.2.2
20(2)(b)(iii)	36.2.3
20(2)(b)(iv)	36.2.4
20(2)(b)(v)	36.2.5
20(2)(b)(vi)	36.2.6
20(2)(b)(vii)	36.2.7
20(2)(b)(viii)	36.2.8
20(2)(b)(ix)	36.2.9
20(2)(b)(x)	36.2.10
20(3)	17.3, 36.4
20(4)	17.4, 36.5
	17.5 (new text)

Old Reg. Number of regulation in original^a Annex I	New Reg. Number of regulation in the revised Annex I
20(5)	17.6, 36.7
20(6)	17.7, 36.8
20(7)	36.9
21	39
	23 (new text)
22(1)	24.1
22(1)(a)	24.1.1
22(1)(b)	24.1.2
22(2)	24.2
23(1)	25.1
23(2)	25.2
23(3)(a)	25.3.1-3
23(4)	25.4
23(5)	25.5
24(1)	26.1
24(2)	26.2
24(3)	26.3
24(4)	26.4
24(5)	26.5
24(6)	26.6
	26.7 (new text)
25(1)	28.1
25(2)(a)	28.2.1
25(2)(b)	28.2.2
25(2)(c)	28.2.3
25(2)(d)	28.2.4
25(2)(e)	28.2.5
25(2)(f)	28.2.6
25(3)(a)	28.3.1
25(3)(b)	28.3.2
25(3)(c)	28.3.3

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Old Reg. Number of regulation in original^a Annex I	New Reg. Number of regulation in the revised Annex I
25(3)(d)	28.3.4
25(3)(e)	28.3.5
25(4)(a)	28.4.1
25(4)(b)	28.4.2
25(4)(c)	28.4.3
25(4)(d)	28.4.4
25(4)(e)	28.4.5
25(5)	28.5
25A(1)	1.28.7, 27.1
25A(2)	27.1
25A(3)	27.2
25A(4)	27.3
26(1)	37.1
26(2)	37.2
26(3)	37.3
26(4)	37.4

a “Original” means the Annex I that was adopted in 1973, as later amended.

Table B: “New” versus “old” regulations

New Reg. Number of regulation in the revised Annex I	Old Reg. Number of regulation in original^a Annex I
1.1	1(1)
1.2	1(28)
1.3	1(2)
1.4	1(3)
1.5	1(4)
1.6	1(29)
1.7	1(30)

New Reg. Number of regulation in the revised Annex I	Old Reg. Number of regulation in original^a Annex I
1.8	1(5)
1.9.1	1(8)(a)
1.9.2.1	1(8)(b)
1.9.2.2	1(8)(c)
1.10	1(9)
1.11	1(10)
1.11.1	10(1)(a)
1.11.2	10(1)(b)
1.11.3	10(1)(c)
1.11.4	10(1)(d)
1.11.5	10(1)(e)
1.11.6	10(1)(f)
1.11.7	10(1)(g)
1.11.8	10(1)(h)
1.12	1(11)
1.13	1(12)
1.14	1(13)
1.15	1(14)
1.16	1(15)
1.17	1(16)
1.18	1(17)
1.19	1(18)
1.20	1(19)
1.21	1(20)
1.22	1(21)
1.23	1(22)
1.24	1(23)
1.25	1(24)
1.26	1(25)
1.27	1(31)

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New Reg. Number of regulation in the revised Annex I	Old Reg. Number of regulation in original^a Annex I
1.28.1	1(7)
1.28.2	1(6)
1.28.3	1(27)
1.28.4	1(26)
1.28.5 (new text)	
1.28.6	13F(1)(a) to (d)
1.28.7	25A(1)
1.28.8 (new text)	
2.1	2(1)
2.2	2(2)
2.3	2(3)
2.4	15(7)
2.5	13C(1)
2.6	13C(2)
3.1	2(4)(a)
3.2	2(4)(b)
3.3	2(4)(c)
3.4	15(5)(a)
3.5	15(5)(b)
3.5.1	15(5)(b)(i)
3.5.2	15(5)(b)(ii)
3.5.2.1	15(5)(b)(ii)(1)
3.5.2.2	15(5)(b)(ii)(2)
3.5.2.2.1	15(5)(b)(ii)(2)(aa)
3.5.2.2.2	15(5)(b)(ii)(2)(bb)
3.5.2.3	15(5)(b)(ii)(3)
3.5.2.4	15(5)(b)(ii)(4)
3.5.2.5	15(5)(b)(ii)(5)
3.5.2.6	15(5)(b)(ii)(6)

New Reg. Number of regulation in the revised Annex I	Old Reg. Number of regulation in original^a Annex I
4.1	11(a)
4.2	11(b)
4.3	11(c)
5.1	3(1)
5.2	3(2)
6.1	4(1)
6.1.1	4(1)(a)
6.1.2	4(1)(b)
6.1.3	4(1)(c)
6.1.4	4(1)(d)
6.1.5	4(1)(e)
6.2	4(2)
6.3.1	4(3)(a)
6.3.2	4(3)(b)
6.3.3	4(3)(c)
6.3.4	4(3)(d)
6.4.1	4(4)(a)
6.4.2	4(4)(b)
6.4.3	4(4)(c)
7.1	5(1)
7.2	5(2)
	5(3) Deleted (outdated)
8.1	6(1)
8.2	6(2)
8.3	6(3)
8.4	6(4)
9	7
10.1	8(1)
10.2.1	8(2)(a)
10.2.2	8(2)(b)
10.2.3	8(2)(c)

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New Reg. Number of regulation in the revised Annex I	Old Reg. Number of regulation in original^a Annex I
10.3	8(3)
10.4	8(4)
10.5	8(5)
10.6	8(6)
10.7	8(7)
10.8	8(8)
10.9	8(9)
11	8A
12.1	17(1)
12.2	17(3)
12.3	17(2)
13	19
14.1	16(1)
14.2	16(2)
14.3 (new text)	
14.4	16(3)(b)
14.5.1	16(3)(a)
14.5.2 (new text)	
14.5.3	16(3)(a)
14.5.3.1	16(3)(a)(i)
14.5.3.2	16(3)(a)(ii)
14.5.3.3	16(3)(a)(iii)
14.5.3.4	16(3)(a)(iv)
14.5.3.5	16(3)(a)(v)
14.6	16(4)
14.7	16(5)
15.1	9(1) (part)
15.1	10(2) (part)
15.A	9(1)(b)(i)

New Reg. Number of regulation in the revised Annex I	Old Reg. Number of regulation in original^a Annex I
15.2	9(1)(b)
15.2.1	9(1)(b)(ii)
15.2.2	9(1)(b)(iv)
15.2.3	9(1)(b)(iii)
15.2.4	9(1)(b)
15.2.5	9(1)(b)
15.3	10(2)(a)
15.3	10(3)(b)
15.3.1	10(3)(b)(iii)
15.3.2	10(3)(b)(v) 10(3)(b)(vi)
15.3.3	10(3)(b)(iv)
15.3.4	10(3)(b)(i)
15.3.5	10(3)(b)(ii)
15.4	10(2)(a), 2nd sentence
15.5	10(5)
15.6	9(2)
15.6	10(2)(b)
15.7	9(3)
15.7	10(6)
15.8	9(5)
15.8	10(4)(a) 9(7) Deleted (outdated)
15.9	9(6)
15.9	10(4)(b)
16.1	14(1)
16.2	14(2)
16.3	14(4)
16.4	14(3)
16.4	14(5)
17.1	20(1)

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New Reg. Number of regulation in the revised Annex I	Old Reg. Number of regulation in original^a Annex I
17.2	20(2) and 20(2)(a)
17.2.1	20(2)(a)(i)
17.2.2	20(2)(a)(ii)
17.2.3	20(2)(a)(iii)
17.2.4	20(2)(a)(iv)
17.2.5 (new text)	
17.3	20(3)
17.4	20(4)
17.5 (new text)	
17.6	20(5)
17.7	20(6)
18.1	13(1)
18.2	13(2)
18.3	13(3)
18.4	13(4)
18.5	13(5)
18.6	13(7)
18.7	13(8)
	13(9) Deleted (outdated)
18.8	13(10)
18.8.1	13A(1)
18.8.2	13A(2)
18.8.3	13A(3)
18.8.4	13A(4)
18.9	13(11)
18.10.1	13D(1)
18.10.1.1	13D(1)(a)
18.10.1.2	13D(1)(b)
18.10.1.3	13D(1)(c)

New Reg. Number of regulation in the revised Annex I	Old Reg. Number of regulation in original^a Annex I
18.10.2	13D(2)
18.10.3	13D(3)
18.11	1(26)
18.12	13E(1)
18.13	13E(2)
18.14	13E(3)
18.15	13E(4)
18.15.1	13E(4)(a)
18.15.2	13E(4)(b)
19.1	13F(1)
19.2.1	13F(2)(a)
19.2.2	13F(2)(b)
19.3.1	13F(3)(a)
19.3.2	13F(3)(b)
19.3.3	13F(3)(c)
19.3.4	13F(3)(d)
19.3.5	13F(3)(e)
19.3.6	13F(3)(f)
19.4.1	13F(4)(a)
19.4.2	13F(4)(b)
19.4.3	13F(4)(c)
19.5	13F(5)
19.6	13F(7)
19.7	13F(8)
19.8	13F(9)
20.1.1	13G(1)(a)
20.1.2	13G(1)(b)
20.1.3	13G(1)(c)
20.2.1	13G(2)(a)
20.2.2	13G(2)(b)

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New Reg. Number of regulation in the revised Annex I	Old Reg. Number of regulation in original^a Annex I
20.3.1	13G(3)(a)
20.3.2	13G(3)(b)
20.3.3	13G(3)(c)
20.4	13G(4)
20.5.1	13G(5)(a)
20.5.2	13G(5)(b)
20.6	13G(6)
20.7	13G(7)
20.8.1	13G(8)
21.1.1	13H(1)(a)
21.1.2	13H(1)(b)
21.2.1	13H(2)(a)
21.2.2	13H(2)(b)
21.2.3	13H(2)(b)
21.3	13H(3)
21.4.1	13H(4)(a)
21.4.2	13H(4)(b)
21.5.1	13H(5)(a)
21.5.2	13H(5)(b)
21.5.3	13H(5)(c)
21.5.4	13H(5)(d)
21.6.1	13H(6)(a)
21.6.2	13H(6)(b)
21.7.1	13H(7)(a)
21.7.2	13H(7)(b)
21.8.1	13H(8)(a)
21.8.2	13H(8)(b)
22 (new text)	
23 (new text)	
24.1	22(1)

New Reg. Number of regulation in the revised Annex I	Old Reg. Number of regulation in original^a Annex I
24.1.1	22(1)(a)
24.1.2	22(1)(b)
24.2	22(2)
25.1	23(1)
25.2	23(2)
25.3.1	23(3)(a)
25.3.2	23(3)(a)
25.3.3	23(3)(a)
25.4	23(4)
25.5	23(5)
26.1	24(1)
26.2	24(2)
26.3	24(3)
26.4	24(4)
26.5	24(5)
26.6	24(6)
26.7 (new text)	
27.1	25A(1)
27.1	25A(2)
27.2	25A(3)
27.3	25A(4)
28.1	25(1)
28.2.1	25(2)(a)
28.2.2	25(2)(b)
28.2.3	25(2)(c)
28.2.4	25(2)(d)
28.2.5	25(2)(e)
28.2.6	25(2)(f)
28.3.1	25(3)(a)
28.3.2	25(3)(b)

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New Reg. Number of regulation in the revised Annex I	Old Reg. Number of regulation in original^a Annex I
28.3.3	25(3)(c)
28.3.4	25(3)(d)
28.3.5	25(3)(e)
28.4.1	25(4)(a)
28.4.2	25(4)(b)
28.4.3	25(4)(c)
28.4.4	25(4)(d)
28.4.5	25(4)(e)
28.5	25(5)
28.6	13F(6)
29.1	15(1)
29.2.1	15(2)(a)
29.2.2	15(2)(b)
29.2.3	15(2)(c)
29.2.3.1	15(2)(c)(i)
29.2.3.2	15(2)(c)(ii)
29.2.3.3	15(2)(c)(iii)
29.2.4	15(2)(d)
29.3	15(2)(c)
30.1	18(1)
30.2	18(2)
30.3	18(3)
30.4	18(4)
30.5	18(5)
30.6	18(6)
30.6.1	18(6)(a)
30.6.2	18(6)(b)
30.6.3	18(6)(c)
30.6.4	18(6)(d)
30.6.5	18(6)(e)

New Reg. Number of regulation in the revised Annex I	Old Reg. Number of regulation in original^a Annex I
30.7 (new text)	
31.1	15(1)
31.2	15(3)(a)
31.3	15(3)(a)
31.4	15(3)(c)
32	15(1) and 15(3)(b)
33.1	13(6)
33.2	13B(2)
33.3	13B(1)
34.1	9(1)
34.1	9(1)(a)
34.1.1	9(1)(a)(i)
34.1.2	9(1)(a)(ii)
34.1.3	9(1)(a)(iii)
34.1.4	9(1)(a)(iv)
34.1.5	9(1)(a)(v)
34.1.6	9(1)(a)(vi)
34.2	9(4)
34.3	10(2)(a)
34.4	10(3)(a)
34.5	10(5)
34.6	15(4)
34.7	9(3)
34.7	10(6)
34.8	9(5)
34.8	10(4)(a)
34.9	9(6)
34.9	10(4)(b)
35.1	13B(5)
35.2	13B(4)

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New Reg. Number of regulation in the revised Annex I	Old Reg. Number of regulation in original^a Annex I
35.3	13(8) last sentence
36.1	20(1)
36.2	20(2) and 20(2)(b)
36.2.1	20(2)(b)(i)
36.2.2	20(2)(b)(ii)
36.2.3	20(2)(b)(iii)
36.2.4	20(2)(b)(iv)
36.2.5	20(2)(b)(v)
36.2.6	20(2)(b)(vi)
36.2.7	20(2)(b)(vii)
36.2.8	20(2)(b)(viii)
36.2.9	20(2)(b)(ix)
36.2.10	20(2)(b)(x)
36.3	15(4)
36.4	20(3)
36.5	20(4)
36.6	15(3)(a)
36.7	20(5)
36.8	20(6)
36.9	20(7)
37.1	26(1)
37.2	26(2)
37.3	26(3)
38.1	12(1)
38.2	12(2)
38.3	12(3) 12(4) Deleted (outdated)
38.4	10(7)(a)(i)
38.4	10(7)(b)(i)
38.5	10(7)(a)(ii)

New Reg. Number of regulation in the revised Annex I	Old Reg. Number of regulation in original^a Annex I
38.5	10(7)(b)(ii) 10(7)(a)(iii) Deleted (outdated)
38.6.1	10(7)(b)(iii)
38.6.2	10(7)(b)(iv)
38.6.3	10(7)(b)(v)
38.6.4	10(7)(b)(vi)
38.6.5	10(7)(b)(vii)
38.7	10(8)
38.8	10(7)(a)(iv)
38.8	12(5)
39	21

a “Original” means the Annex I that was adopted in 1973, as later amended.

6 Prospective amendments to MARPOL Annex I

Resolution MEPC.141(54)

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

(New regulation 12A, consequential amendments to the IOPP Certificate and amendments to regulation 21 of the revised Annex I of MARPOL 73/78)¹³²

adopted on 23 March 2006

¹³² Expected to come into force 1 August 2007 upon acceptance on 1 February 2007.

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),

NOTING ALSO that the revised Annex I to MARPOL 73/78 was adopted by resolution MEPC.117(52) and is expected to enter into force on 1 January 2007,

HAVING CONSIDERED proposed amendments to regulation 1, proposed new regulation 12A, consequential amendments to the Supplement (Forms A and B) of the IOPP Certificate, and proposed amendments to regulation 21 of the revised Annex I to MARPOL 73/78,

1. ADOPTS, in accordance with article 16(2)(d) of the 1973 Convention, the amendments to the revised Annex I of MARPOL 73/78, the text of which is set out at annex to the present resolution;
2. DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on 1 February 2007 unless, prior to that date, not less than one-third of the Parties or Parties the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world’s merchant fleet have communicated to the Organization their objection to the amendments;
3. INVITES the Parties to note that, in accordance with article 16(2)(g)(ii) of the 1973 Convention, the said amendments shall enter into force on 1 August 2007 upon their acceptance in accordance with paragraph 2 above;

2 Addition of new regulation 12A on oil fuel tank protection

The following new regulation 12A is added after the existing regulation 12:

“Regulation 12A Oil fuel tank protection

- 1 This regulation shall apply to all ships with an aggregate oil fuel capacity of 600 m³ and above which are delivered on or after 1 August 2010, as defined in regulation 1.28.9 of this Annex.
- 2 The application of this regulation in determining the location of tanks used to carry oil fuel does not govern over the provisions of regulation 19 of this Annex.
- 3 For the purpose of this regulation, the following definitions shall apply:
 - .1 *Oil fuel* means any oil used as fuel oil in connection with the propulsion and auxiliary machinery of the ship in which such oil is carried.
 - .2 *Load line draught* (d_S) is the vertical distance, in metres, from the moulded baseline at mid-length to the waterline corresponding to the summer freeboard draught to be assigned to the ship.
 - .3 *Light ship draught* is the moulded draught amidships corresponding to the lightweight.
 - .4 *Partial load line draught* (d_P) is the light ship draught plus 60% of the difference between the light ship draught and the load line draught (d_S). The partial load line draught (d_P) shall be measured in metres.
 - .5 *Waterline* d_B is the vertical distance, in metres, from the moulded baseline at mid-length to the waterline corresponding to 30% of the depth D_S .
 - .6 *Breadth* B_S is the greatest moulded breadth of the ship, in metres, at or below the deepest load line draught d_S .

-
- .7 *Breadth* B_B is the greatest moulded breadth of the ship, in metres, at or below the waterline d_B .
- .8 *Depth* (D_S) is the moulded depth, in metres, measured at mid-length to the upper deck at side. For the purpose of the application, “upper deck” means the highest deck to which the watertight transverse bulkheads except aft peak bulkheads extend.
- .9 *Length* (L) means 96% of the total length on a waterline at 85% of the least moulded depth measured from the top of the keel, or the length from the foreside of the stem to the axis of the rudder stock on that waterline, if that be greater. In ships designed with a rake of keel the waterline on which this length is measured shall be parallel to the designed waterline. The length (L) shall be measured in metres.
- .10 *Breadth* (B) means the maximum breadth of the ship, in metres, measured amidships to the moulded line of the frame in a ship with a metal shell and to the outer surface of the hull in a ship with a shell of any other material.
- .11 *Oil fuel tank* means a tank in which oil fuel is carried, but excludes those tanks which would not contain oil fuel in normal operation, such as overflow tanks.
- .12 *Small oil fuel tank* is an oil fuel tank with a maximum individual capacity not greater than 30 m³.
- .13 C is the ship’s total volume of oil fuel, including that of the small oil fuel tanks, in cubic metres, at 98% tank filling.
- .14 *Oil fuel capacity* means the volume of a tank in cubic metres, at 98% filling.
- 4 The provisions of this regulation shall apply to all oil fuel tanks except small oil fuel tanks, as defined in 3.12, provided that the aggregate capacity of such excluded tanks is not greater than 600 m³.
- 5 Individual oil fuel tanks shall not have a capacity of over 2,500 m³.

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- 6 For ships, other than self-elevating drilling units, having an aggregate oil fuel capacity of 600 m³ and above, oil fuel tanks shall be located above the moulded line of the bottom shell plating nowhere less than the distance h as specified below:

$$h = B/20 \text{ (m) or}$$

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

The minimum value of $h = 0.76 \text{ m}$

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

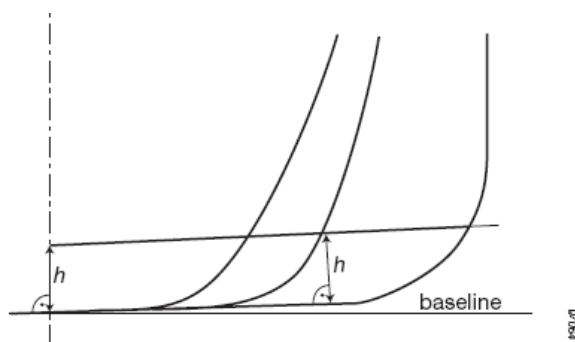


Figure 1 – Oil fuel tank boundary lines for the purpose of paragraph 6

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

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

The minimum value of $w = 1.0 \text{ m}$; however, for individual tanks with an oil fuel capacity of less than 500 m³ the minimum value is 0.76 m.

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

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

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

The minimum value of $w = 1.0 \text{ m}$.

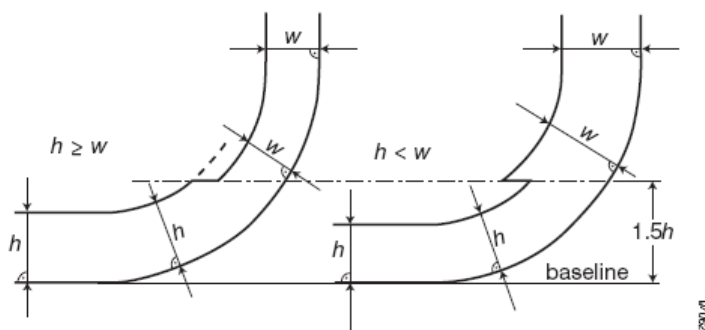


Figure 2 – Oil fuel tank boundary lines for the purpose of paragraphs 7 and 8

- 9 Lines of oil fuel piping located at a distance from the ship's bottom of less than h , as defined in paragraph 6, or from the ship's side less than w , as defined in paragraphs 7 and 8, shall be fitted with valves or similar closing devices within or immediately adjacent to the oil fuel tank. These valves shall be capable of being brought into operation from a readily accessible enclosed space the location of which is accessible from the navigation bridge or propulsion machinery control position without traversing exposed freeboard or superstructure decks. The valves shall close in case of remote control system failure (fail in a closed position) and shall be kept closed at sea at any time when the tank contains oil fuel except that they may be opened during oil fuel transfer operations.

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

11 Alternatively to paragraphs 6 and either 7 or 8, ships shall comply with the accidental oil fuel outflow performance standard specified below:

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

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

$$O_M \leq 0.010 \quad \text{for } C \geq 5,000 \text{ m}^3$$

where:

O_M = mean oil outflow parameter;

C = total oil fuel volume.

.2 The following general assumption shall apply when calculating the mean oil outflow parameter:

.2.1 the ship shall be assumed loaded to the partial load line draught (d_p) without trim or heel;

.2.2 all oil fuel tanks shall be assumed loaded to 98% of their volumetric capacity;

.2.3 the nominal density of the oil fuel (ρ_n) shall generally be taken as $1,000 \text{ kg/m}^3$. If the density of the oil fuel is specifically restricted to a lesser value, the lesser value may be applied; and

.2.4 for the purpose of these outflow calculations, the permeability of each oil fuel tank shall be taken as 0.99, unless proven otherwise.

.3 The following assumptions shall be used when combining the oil outflow parameters:

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

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

where:

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

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

C = total oil fuel volume.

.3.2 For bottom damage, independent calculations for mean outflow shall be done for 0 m and 2.5 m tide conditions, and then combined as follows:

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

where:

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

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

.4 The mean outflow for side damage O_{MS} shall be calculated as follows:

$$O_{MS} = \sum_i^n P_{S(i)} O_{S(i)} \quad \langle m^3 \rangle$$

where:

i = each oil fuel tank under consideration;

n = total number of oil fuel tanks;

$P_{S(i)}$ = the probability of penetrating oil fuel tank i from side damage, calculated in accordance with paragraph 11.6 of this regulation;

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

.5 The mean outflow for bottom damage shall be calculated for each tidal condition as follows:

$$.5.1 O_{MB(0)} = \sum_i^n P_{B(i)} O_{B(i)} C_{DB(i)} \quad \langle m^3 \rangle$$

where:

i = each oil fuel tank under consideration;

n = total number of oil fuel tanks;

$P_{B(i)}$ = the probability of penetrating oil fuel tank i from bottom damage, calculated in accordance with paragraph 11.7 of this regulation;

$O_{B(i)}$ = the outflow from oil fuel tank i , in m^3 , calculated in accordance with paragraph 11.5.3 of this regulation; and

$C_{DB(i)}$ = factor to account for oil capture as defined in paragraph 11.5.4.

$$.5.2 O_{MB(2.5)} = \sum_i^n P_{B(i)} O_{B(i)} C_{DB(i)} \quad \langle m^3 \rangle$$

where:

i , n , $P_{B(i)}$ and $C_{DB(i)}$ = as defined in subparagraph .5.1 above

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

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

.5.3.1 The ship shall be assumed stranded with zero trim and heel, with the stranded draught prior to tidal change equal to the partial load line draught d_P .

.5.3.2 The oil fuel level after damage shall be calculated as follows:

$$h_F = \{(d_P + t_C - Z_1)\rho_S\} / \rho_n$$

where:

h_F = the height of the oil fuel surface above Z_1 , in metres;

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

Z_1 = the height of the lowest point in the oil fuel tank above the baseline, in metres;

ρ_S = density of seawater, to be taken as 1025 kg/m³; and

ρ_n = nominal density of the oil fuel, as defined in 11.2.3.

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

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

where:

$H_W = 1.0$ m, when $Y_B = 0$

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

H_W is to be measured upwards from the midship flat bottom line. In the turn of the bilge area and at locations without a clearly

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defined turn of the bilge, H_W is to be measured from a line parallel to the midship flat bottom, as shown for distance h in figure 1.

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

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

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

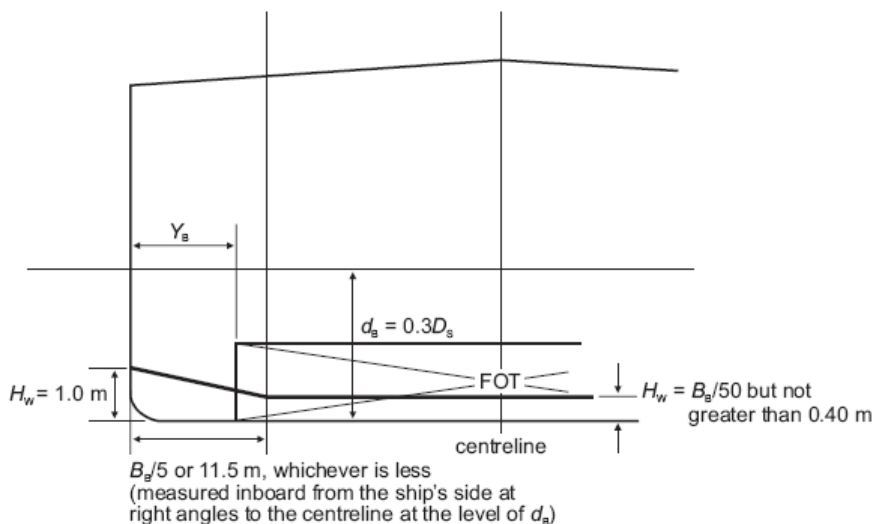


Figure 3 – Dimensions for calculation of the minimum oil outflow for the purpose of sub-paragraph 11.5.3.3

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

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

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

.6 The probability P_S of breaching a compartment from side damage shall be calculated as follows:

.6.1 $P_S = P_{SL} \cdot P_{SV} \cdot P_{ST}$

where:

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

$P_{SV} = (1 - P_{Su} - P_{Sl}) =$ probability the damage will extend into the vertical zone bounded by Z_1 and Z_u ;

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

.6.2 P_{Sa} , P_{Sf} , P_{Su} and P_{Sl} shall be determined by linear interpolation from the tables of probabilities for side damage provided in 11.6.3, and P_{Sy} shall be calculated from the formulas provided in 11.6.3, where:

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

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

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

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

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

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

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

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

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

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

y = the minimum horizontal distance measured at right angles to the centreline between the compartment under consideration and the side shell, in metres.¹³³

133 For symmetrical tank arrangements, damages are considered for one ship only, in which case all “y” dimensions are to be measured from that side. For asymmetrical arrangements, reference is made to the Explanatory Notes on matters related to the accidental oil outflow performance, adopted by the Organization by resolution MEPC.122(52).

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

.6.3 Tables of probabilities for side damage

X_a/L	P_{Sa}	X_f/L	P_{Sf}	Z_l/D_S	P_{Sl}	Z_u/D_S	P_{Su}
0.00	0.000	0.00	0.967	0.00	0.000	0.00	0.968
0.05	0.023	0.05	0.917	0.05	0.000	0.05	0.952
0.10	0.068	0.10	0.867	0.10	0.001	0.10	0.931
0.15	0.117	0.15	0.817	0.15	0.003	0.15	0.905
0.20	0.167	0.20	0.767	0.20	0.007	0.20	0.873
0.25	0.217	0.25	0.717	0.25	0.013	0.25	0.836
0.30	0.267	0.30	0.667	0.30	0.021	0.30	0.789
0.35	0.317	0.35	0.617	0.35	0.034	0.35	0.733
0.40	0.367	0.40	0.567	0.40	0.055	0.40	0.670
0.45	0.417	0.45	0.517	0.45	0.085	0.45	0.599
0.50	0.467	0.50	0.467	0.50	0.123	0.50	0.525
0.55	0.517	0.55	0.417	0.55	0.172	0.55	0.452
0.60	0.567	0.60	0.367	0.60	0.226	0.60	0.383
0.65	0.617	0.65	0.317	0.65	0.285	0.65	0.317
0.70	0.667	0.70	0.267	0.70	0.347	0.70	0.255
0.75	0.717	0.75	0.217	0.75	0.413	0.75	0.197
0.80	0.767	0.80	0.167	0.80	0.482	0.80	0.143
0.85	0.817	0.85	0.117	0.85	0.553	0.85	0.092
0.90	0.867	0.90	0.068	0.90	0.626	0.90	0.046
0.95	0.917	0.95	0.023	0.95	0.700	0.95	0.013
1.00	0.967	1.00	0.000	1.00	0.775	1.00	0.000

P_{Sy} shall be calculated as follows:

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

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

for $0.05 < y/B_S < 0.1$

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

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

- .7 The probability P_B of breaching a compartment from bottom damage shall be calculated as follows:

.7.1 $P_B = P_{BL} \cdot P_{BT} \cdot P_{BV}$

where:

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

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

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

- .7.2 P_{Ba} , P_{Bf} , P_{Bp} and P_{Bs} shall be determined by linear interpolation from the tables of probabilities for bottom damage provided in 11.7.3, and P_{Bz} shall be calculated from the formulas provided in 11.7.3, where:

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

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

P_{Bp} = probability the damage will lie entirely to port of the tank;

P_{Bs} = probability the damage will lie entirely to starboard of the tank; and

P_{Bz} = probability the damage will lie entirely below the tank.

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

X_a and X_f as defined in 11.6.2;

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

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

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

.7.3 Tables of probabilities for bottom damage

X_a/L	P_{Ba}	X_f/L	P_{Bf}	Y_p/B_B	P_{Bp}	Y_s/B_B	P_{Bs}
0.00	0.000	0.00	0.969	0.00	0.844	0.00	0.000
0.05	0.002	0.05	0.953	0.05	0.794	0.05	0.009
0.10	0.008	0.10	0.936	0.10	0.744	0.10	0.032
0.15	0.017	0.15	0.916	0.15	0.694	0.15	0.063
0.20	0.029	0.20	0.894	0.20	0.644	0.20	0.097
0.25	0.042	0.25	0.870	0.25	0.594	0.25	0.133
0.30	0.058	0.30	0.842	0.30	0.544	0.30	0.171

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X_a/L	P_{Ba}	X_f/L	P_{Bf}	Y_p/B_B	P_{Bp}	Y_s/B_B	P_{Bs}
0.35	0.076	0.35	0.810	0.35	0.494	0.35	0.211
0.40	0.096	0.40	0.775	0.40	0.444	0.40	0.253
0.45	0.119	0.45	0.734	0.45	0.394	0.45	0.297
0.50	0.143	0.50	0.687	0.50	0.344	0.50	0.344
0.55	0.171	0.55	0.630	0.55	0.297	0.55	0.394
0.60	0.203	0.60	0.563	0.60	0.253	0.60	0.444
0.65	0.242	0.65	0.489	0.65	0.211	0.65	0.494
0.70	0.289	0.70	0.413	0.70	0.171	0.70	0.544
0.75	0.344	0.75	0.333	0.75	0.133	0.75	0.594
0.80	0.409	0.80	0.252	0.80	0.097	0.80	0.644
0.85	0.482	0.85	0.170	0.85	0.063	0.85	0.694
0.90	0.565	0.90	0.089	0.90	0.032	0.90	0.744
0.95	0.658	0.95	0.026	0.95	0.009	0.95	0.794
1.00	0.761	1.00	0.000	1.00	0.000	1.00	0.844

P_{Bz} shall be calculated as follows:

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

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

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

- .8 For the purpose of maintenance and inspection, any oil fuel tanks that do not border the outer shell plating shall be located no closer to the bottom shell plating than the minimum value of h in paragraph 6 and no closer to the side shell plating than the applicable minimum value of w in paragraph 7 or 8.
- 12 In approving the design and construction of ships to be built in accordance with this regulation, Administrations shall have due regard to the general safety aspects, including the need for maintenance and inspection of wing and double bottom tanks or spaces.”

3 Consequential amendments to the Supplement of the IOPP Certificate (Forms A and B)

The following new paragraph 2A is added to the Supplement of the IOPP Certificate (Forms A and B):

- “2A.1 The ship is required to be constructed according to regulation 12A and complies with the requirements of:
- paragraphs 6 and either 7 or 8 (double hull construction)
- paragraph 11 (accidental oil fuel outflow performance).
- 2A.2 The ship is not required to comply with the requirements of regulation 12A. ”

4 Amendments to regulation 21

The text of existing paragraph 2.2 of regulation 21 on Prevention of oil pollution from oil tankers carrying heavy grade oil as cargo is replaced by the following:

“oils, other than crude oils, having either a density at 15°C higher than 900 kg/m³ or a kinematic viscosity at 50°C higher than 180 mm²/s; or”

7 Unified Interpretation to regulation 12A¹³⁴ of MARPOL Annex I

Reg. 12A.7, 12A.8

In applying regulation 12A of MARPOL Annex I to column-stabilized units (MODUs) as defined in the MODU Code, for the purpose of placing the oil fuel tanks, the location limitations of paragraphs 7 and 8 of the regulation apply to those areas subject to damage as follows:

- .1 only those columns, underwater hulls and braces on the periphery of the unit shall be assumed to be damaged and the damage shall be assumed in the

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- exposed portions of the columns, underwater hulls and braces;
- .2 columns and braces shall be assumed to be damaged at any level between 5.0 m above and 3.0 m below the range of draughts in the MODUs operating manual for normal and severe weather operations; and
 - .3 underwater hull and footings shall be assumed to be damaged when operating in a transit condition in the same manner as indicated in .1 and .2, having regard to their shape.

8 Prospective amendments to MARPOL Annex IV

Resolution MEPC.143(54)

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

(Addition of new regulation 13 of Annex IV of MARPOL 73/78)

adopted on 23 March 2006

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 new regulation 13 of Annex IV of MARPOL 73/78 concerning port State control on operational requirements,

1. ADOPTS, in accordance with article 16(2)(b), (c) and (d) of the 1973 Convention, the new regulation 13 of Annex IV of MARPOL 73/78, the text of which is set out at annex to the present resolution;
2. DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the revised Annex IV shall be deemed to have been accepted on 1 February 2007, unless, prior to that date, not less than one third of the Parties to MARPOL 73/78 or the Parties the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet have notified to the Organization their objections to the amendments;
3. INVITES Parties to MARPOL 73/78 to note that, in accordance with article 16(2)(g)(ii) of the 1973 Convention, the said amendments shall enter into force on 1 August 2007 upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article 16(2)(e) of the 1973 Convention, to transmit to all Parties to MARPOL 73/78 certified copies of the present resolution and the text of the amendments contained in the annex; and
5. REQUESTS FURTHER the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization which are not Parties to MARPOL 73/78.

Annex

Amendments to MARPOL Annex IV

The following new chapter 5 and regulation 13 are added after the existing regulation 12:

“Chapter 5

Port State Control

Regulation 13

Port State control on operational requirements¹³⁵

- 1 A ship when in a port or an offshore terminal of another Party is subject to inspection by officers duly authorized by such Party concerning operational requirements under this Annex, where there are clear grounds for believing that the master or crew are not familiar with essential shipboard procedures relating to the prevention of pollution by sewage.
- 2 In the circumstances given in paragraph (1) of this regulation, the Party shall take such steps as will ensure that the ship shall not sail until the situation has been brought to order in accordance with the requirements of this Annex.
- 3 Procedures relating to the port State control prescribed in article 5 of the present Convention shall apply to this regulation.
- 4 Nothing in this regulation shall be construed to limit the rights and obligations of a Party carrying out control over operational requirements specifically provided for in the present Convention.”

¹³⁵ Refer to procedures for port State control adopted by the Organization by resolution A.787(19) and amended by resolution A.882(21); see IMO sales publication IA650E.

9 Guidelines for on-board exhaust gas - SO_x cleaning systems

Resolution MEPC.130(53)

Guidelines for on-board exhaust gas-SO_x cleaning systems

adopted on 22 July 2005

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,

RECALLING ALSO that the Conference of Parties to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), held in September 1997, adopted the Protocol of 1997 to amend MARPOL 73/78 with a new Annex VI on the Prevention of Air Pollution from Ships,

NOTING that the 1997 Conference, by regulation 14(4)(b) of Annex VI, agreed that ships within a SO_x emission control area are permitted to operate with an exhaust gas cleaning system approved by the Administration and taking into account guidelines to be developed by the Organization,

BEING AWARE that the Protocol of 1997 entered into force on 19 May 2005 and that exemptions from the requirements for SO_x emission control areas will cease on 18 May 2006,

HAVING CONSIDERED the recommendation made by the Sub-Committee on Ship Design and Equipment at its forty-eighth session,

1. ADOPTS the Guidelines for exhaust gas-SO_x cleaning systems, as set out in the annex to this resolution;
2. INVITES Governments to apply the Guidelines from the date of their adoption.

Annex **Guidelines for exhaust gas-SO_x cleaning systems – MARPOL Annex VI, regulation 14(4)(b)**

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Appendix – SO₂ over CO₂ monitoring method

Introduction

Regulation 14(4) of Annex VI to MARPOL 73/78 requires ships within SO_x emission control areas to either use fuel oil with a sulphur content not exceeding 1.5% or apply an exhaust gas (SO_x) cleaning system (EGCS-SO_x) to reduce the total emission of SO_x to 6.0 g/kW·h. (6.0 g SO_x/kW·h or less should be calculated as the total weight of sulphur dioxide emission). The EGCS-SO_x unit is to be approved by the Administration taking into account guidelines developed by the Organization.

Similar to a NO_x emission reduction system, a EGCS-SO_x unit may be type approved subject to periodic parameter and emission checks or the system may be equipped with a continuous emission monitoring system. These guidelines have been developed with the intention of being objective and performance-oriented. Introduction of the SO₂ (ppm)/CO₂ (%) ratio method would simplify the monitoring of SO_x emission and facilitate type approval of the EGCS-SO_x unit. See appendix for the rationale explaining the use of SO₂ (ppm)/CO₂ (%) as the basis for system monitoring.

These guidelines are recommendatory in nature; however, Administrations are invited to base their implementation on these guidelines.

Safety note

Due attention is to be given to the safety implications related to the handling and proximity of exhaust gases, the measurement equipment and the storage and use of cylindered pure and calibration gases. Sampling positions and access staging should be such that this monitoring may be performed safely. In locating discharge outlet of waste water used in the EGCS-SO_x unit, due consideration should be given to the location of the ship's seawater inlet and other implications of the acidic nature of such water.

Scheme A – EGCS-SO_x unit type approval and certification

Unit certification of Exhaust Gas-SO_x Cleaning Systems (EGCS-SO_x) by the Administration with subsequent in-service verification at survey intervals by indirect means together with unit use monitoring.

1 General

1.1 Purpose

The purpose of these guidelines is to specify the requirements for the design, testing, survey and certification of exhaust gas cleaning-SO_x systems (EGCS-SO_x) to ensure that they comply with the requirements of regulation 14(4)(b) of Annex VI of MARPOL 73/78.

1.2 Application

1.2.1 These guidelines apply to any EGCS-SO_x unit as fitted to fuel oil combustion machinery, excluding shipboard incinerators, installed on board a ship which is to operate within a SO_x Emission Control Area (SECA).

1.2.2 These guidelines cover only the certification, survey, and testing of the EGCS-SO_x unit for compliance with regulation 14(4)(b) of Annex VI.

1.3 Definitions

ppm means “parts per million”. It is assumed that ppm is measured by gas analysers on a molar basis, assuming ideal micro-moles of substance per mole of total amount

($\mu\text{mol/mol}$), but ppm is used in order to be consistent with units in the NO_x Technical Code.

Fuel oil combustion unit means any engine, boiler, gas turbine, or other fuel-oil-fired equipment.

2 Survey and certification

2.1 General

- 2.1.1 Prior to use within a SECA, each EGCS- SO_x unit should be issued with a SECA Compliance Certificate (SCC) by the Administration.
- 2.1.2 The EGCS- SO_x unit should be subject to survey on installation and at Initial, Annual/Intermediate and Renewals Surveys by the Administration, irrespective of whether or not the ship is in a SECA at the time of survey.
- 2.1.3 The ship's SCC should be duly endorsed at each survey as required by 2.1.2.
- 2.1.4 In accordance with regulation 10 of MARPOL Annex VI, EGCS- SO_x units may also be subject to inspection by PSC Officers when operating within a SECA.

2.2 Procedures for the certification of an EGCS- SO_x unit

- 2.2.1 In order to meet the requirements of 2.1.1 either prior to or after installation on board, each EGCS- SO_x unit should be certified as meeting the emission limit of 6.0 g $\text{SO}_x/\text{kW}\cdot\text{h}$ under the operating conditions and restrictions as given by the EGCS- SO_x Technical Manual (ETM) as approved by the Administration.
- 2.2.2 Determination of the emission value should be in accordance with the provisions of these guidelines.
- 2.2.3 Each EGCS- SO_x unit meeting the requirements of 2.2.1 should be issued by the Administration with a SCC.
- 2.2.4 Application for a SCC should be made by the EGCS- SO_x manufacturer, shipowner or other party.

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- 2.2.5 Subsequent EGCS-SO_x units of the same design and rating as that certified under 2.2.1 may be issued with SCC by the Administration without the need for testing in accordance with 2.2.1 subject to section 4.2 of these guidelines.
- 2.2.6 EGCS-SO_x units of the same design, but with ratings different from that certified under 2.2.1 may be accepted by the Administration subject to section 4.3 of these guidelines.
- 2.2.7 EGCS-SO_x units which treat only part of the exhaust gas flow of the uptake in which they are fitted should be subject to special consideration by the Administration to ensure that, under all defined operating conditions, the overall emission value of the exhaust gas downstream of the system is no more than 6.0 g SO_x/kW·h.
- 2.3 EGCS-SO_x unit Technical Manual
- 2.3.1 Each EGCS-SO_x unit is to be supplied with a EGCS-SO_x Technical Manual (ETM) provided by the manufacturer. This ETM should, as a minimum, contain the following information:
- (a) the identification of the unit (manufacturer, model/type, serial number and other details as necessary) including a description of the unit and any required ancillary systems;
 - (b) the operating limits, or range of operating values, for which the unit is certified. These should, as a minimum, include:
 - (i) maximum and, if applicable, minimum mass flow rate of exhaust gas;
 - (ii) the power, type and other relevant parameters of the fuel oil combustion unit for which the EGCS-SO_x unit is to be fitted. In the cases of boilers, the maximum air/fuel ratio at 100% load should also be given. In the cases of diesel engines, whether the engine is of 2- or 4-stroke cycle;

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- (iii) maximum and minimum wash water flow rate, inlet pressures and minimum inlet water alkalinity (pH);
 - (iv) exhaust gas inlet temperature ranges and maximum exhaust gas outlet temperature with the EGCS-SO_x unit in operation;
 - (v) exhaust gas differential pressure range and the maximum exhaust gas inlet pressure with the fuel oil combustion unit operating at MCR or 80% of power rating, whichever is appropriate;
 - (vi) salinity levels or fresh water elements necessary to provide adequate neutralizing agents; and
 - (vii) other factors concerning the design and operation of the EGCS-SO_x unit relevant to achieving a maximum emission value no higher than 6.0 g SO_x/kW·h;
- (c) any requirements or restrictions applicable to the EGCS-SO_x unit or associated equipment necessary to enable the unit to achieve a maximum emission value no higher than 6.0 g SO_x/kW·h;
 - (d) maintenance, service or adjustment requirements in order that the EGCS-SO_x unit can continue to achieve a maximum emission value no higher than 6.0 g SO_x/kW·h;
 - (e) the means by which the EGCS-SO_x unit is to be surveyed to ensure that its performance is maintained and that the unit is used as required (see section 6);
 - (f) through-range performance variation in wash water characteristics;
 - (g) design requirements of the wash water system; and
 - (h) the SCC.

2.3.2 The ETM should be approved by the Administration.

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- 2.3.3 The ETM should be retained on board the ship onto which the EGCS-SO_x unit is fitted. The ETM should be available for surveys as required.
- 2.3.4 Additions, deletions or amendments to the ETM should be approved by the Administration. Where additions, deletions or amendments to the ETM are separate to the ETM as initially approved, they should be retained with the ETM and should be considered as part of the ETM.
- 2.3.5 As an alternative to the maximum emission rate stipulated in 2.3.1(b)(vii) of 6.0 g SO_x/kW·h, SO₂ (ppm)/CO₂ (%) ratio of 65 or below, measured downstream of EGCS-SO_x unit, may be used.

3 Emission limit

- 3.1 Each EGCS-SO_x unit should be capable of reducing emissions to no more than 6.0 g SO_x/kW·h at any load point when operated in accordance with the criteria as given within 2.3.1(b), as specified in paragraphs 3.2 through 3.5 of these guidelines, and as excepted in paragraphs 3.7 and 3.8.
- 3.2 EGCS-SO_x units fitted to main propulsion diesel engines should meet the requirements of 3.1 at all loads between 25 and 100% of the load range of the engines to which they are fitted.
- 3.3 EGCS-SO_x units fitted to auxiliary diesel engines should meet the requirements of 3.1 at all loads between 10 and 100% of the load range of the engines to which they are fitted.
- 3.4 EGCS-SO_x units fitted to diesel engines which supply power for both main propulsion and auxiliary purposes should meet the requirements of 3.3.
- 3.5 EGCS-SO_x units fitted to boilers should meet the requirements of 3.1 at all loads between 10 and 100% of the load range (steaming rates) of the boilers to which they are fitted.
- 3.6 In order to demonstrate performance, emission measurements should be undertaken, with the agreement of the

Administration, at a minimum of four load points. One load point is to be at 95–100% of the maximum exhaust gas mass flow rate for which the unit is to be certified. One load point is to be within $\pm 5\%$ of the minimum exhaust gas mass flow rate for which the unit is to be certified. The other two load points are to be equally spaced between the maximum and minimum exhaust gas mass flow rates. Where there are discontinuities in the operation of the system, the number of load points should be increased, with the agreement of the Administration, so that it is demonstrated that the required performance over the stated exhaust gas mass flow rate range is retained. Additional intermediate load points should be tested if there is evidence of an emission peak below the maximum exhaust gas mass flow rate and above, if applicable, the minimum exhaust gas flow rate. These additional tests should be sufficient in number as to establish the emission peak value.

- 3.7 For loads below those specified in 3.2 to 3.5, the EGCS-SO_x unit should continue in operation. In those cases where the fuel oil combustion equipment may be required to operate under idling conditions, the SO₂ emission concentration (ppm) at standardized O₂ concentration (15.0% diesel engines, 3.0% boilers) should not exceed 50 ppm.
- 3.8 Alternatively to the provisions of 3.2–3.5 and 3.7, each EGCS-SO_x unit should be capable of reducing emissions to 65 or below, in SO₂ (ppm)/CO₂ (%) ratio, at any load point when operated in accordance with the criteria as given within 2.3.1(b) and 2.3.4.

4 Approval of an EGCS-SO_x unit

4.1 Unit approval

- 4.1.1 An EGCS-SO_x unit should be capable of meeting the limit value of 6.0 g SO_x/kW·h (other than as given in section 3) with fuel oils of up to 4.5% m/m sulphur and for the range of operating parameters, as listed in 2.3.1(b), for which they are to be approved.

4.1.2 Where testing is not to be undertaken with fuel oils of 4.5% m/m sulphur content or above, testing should be undertaken to demonstrate the effect of fuel oil sulphur content on system performance. In such cases a minimum of two tests, in accordance with section 3 as appropriate, should be performed. These need not be sequential and could be undertaken on two different, but identical, EGCS-SO_x units. The minimum sulphur content of the fuel oil used in one test should not be less than 2.0% m/m sulphur. The other fuel oil should have a sulphur content of at least 1.0% m/m sulphur above that of the lower sulphur content fuel oil. The EGCS-SO_x unit manufacturer should justify, on the basis of the above considerations and other testing as may be required, that the EGCS-SO_x unit would meet the required limit of 6.0 g SO_x/kW·h when used with a fuel oil of 4.5% m/m sulphur.

4.1.3 The maximum and, if applicable, minimum exhaust gas mass flow rate of the unit should be stated. The effect of variation of the other parameters defined in 2.3.1(b) should be justified by the equipment manufacturer. The effect of variations in these factors is to be assessed by testing or otherwise as appropriate. No variation in these factors, or combination of variations in these factors, should be such that the emission value of the EGCS-SO_x unit would be in excess of 6.0 g SO_x/kW·h.

4.1.4 Data obtained in accordance with this section should be submitted to the Administration for approval together with the ETM.

4.2 Serially manufactured units

In the case of nominally similar EGCS-SO_x units of the same mass flow ratings as that certified under 4.1, and to avoid the testing in accordance with 2.2.1 of each EGCS-SO_x unit, the equipment manufacturer may submit, for acceptance by the Administration, a conformity of production arrangement. The certification of each EGCS-SO_x unit under this arrangement should be subject to such surveys that the Administration may consider necessary as to assure that each EGCS-SO_x unit has an emission value of not more than 6.0 g SO_x/kW·h when

operated in accordance with the parameters defined in 2.3.1(b).

- 4.3 Product range approval
- 4.3.1 In the case of an EGCS-SO_x unit of the same design, but of different maximum exhaust gas mass flow capacities, the Administration may accept, in lieu of tests on an EGCS-SO_x unit of all capacities in accordance with section 4.1, tests of EGCS-SO_x systems of three different capacities provided that the three tests are performed at intervals including the highest, lowest and one intermediate capacity rating within the range.
- 4.3.2 Where there are significant differences in the design of EGCS-SO_x units of different capacities, this procedure should not be applied unless it can be shown, to the satisfaction of the Administration, that in practice those differences do not materially alter the performance between the various EGCS-SO_x unit types.
- 4.3.3 For EGCS-SO_x units of different capacities, the sensitivity to variations in the type of combustion machinery to which they are fitted should be detailed together with sensitivity to the variations in the parameters listed in 2.3.1(b). This should be on the basis of testing, or other data as appropriate.
- 4.3.4 The effect of changes of EGCS-SO_x capacity on wash water characteristics should be detailed.
- 4.3.5 All supporting data obtained in accordance with this section, together with the ETM for each capacity unit, should be submitted to the Administration in accordance with 4.1.6.
- 4.3.6 An SO₂ (ppm)/CO₂ (%) ratio of 65 may be used for emission limit values specified in 4.1.2, 4.1.3 and 4.2.

5 Emission testing

- 5.1 Emission testing should follow the requirements of the NO_x Technical Code, chapter 5, and associated appendices, except as provided for in these guidelines.

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- 5.2 CO₂, O₂ and SO₂ should be measured. CO₂ and O₂ as % to a precision of 2 decimal places. SO₂ to a precision of $\pm 1\%$ of the true reading for a signal averaging time of 10 s, but not less than a lower detectable limit of 5 ppm.
- 5.3 SO₂ should be measured on a dry or wet basis, using analysers operating on NDIR or NDUV principles and with additional equipment such as dryers as necessary. Other systems or analysers may be accepted, subject to the approval of the Administration, provided they yield equivalent results to those of the equipment referenced above.
- 5.4 An exhaust gas sample for SO₂ should be obtained from a representative sampling point downstream of the EGCS-SO_x unit.
- 5.5 SO₂ should be monitored on-line, using either cross-duct or extractive sample systems.
- 5.6 Extractive exhaust gas samples for SO₂ determination should be maintained at a sufficient temperature to avoid condensed water in the sampling system and hence loss of SO₂.
- 5.7 If an extractive exhaust gas sample for determination needs to be dried prior to analysis, it should be done in a manner which does not result in loss of SO₂ in the sample as analysed.
- 5.8 Where SO₂ is measured by a cross-duct system, the water content in the exhaust gas stream at that point is also to be determined in order to correct the reading to a dry-basis value.
- 5.9 Where the exhaust gas mass flow is to be calculated in accordance with the NO_x Technical Code, appendix 6, the complete combustion case calculations may be used. The exhaust gas mass flow (GEXHW) should be determined in respect of the mass flow into the EGCS-SO_x unit.
- 5.10 In applying the NO_x Technical Code, equation 15, the dry-basis SO₂ concentration should be converted to a wet-basis value using the dry/wet correction factor applicable to the exhaust gas at entry into the EGCS-SO_x unit (NO_x Technical Code, equation 11, CO = 0):

$w = 0.002855$, $u = w/\text{exhaust gas density in g/m}^3$ at 0°C and 101.3 kPa

- 5.11 The fuel oil as used in the test should be a residual blend product. A representative sample of that fuel should be analysed in order to establish its chemical composition (carbon, hydrogen and sulphur) together with the other parameters as necessary to establish its grade in accordance with the ISO 8217 specification.
- 5.12 For diesel engines the power should be the uncorrected brake power.
- 5.13 For boilers the “power” should be determined based on the fuel rate and assumed brake specific fuel consumption of $200 \text{ g/kW}\cdot\text{h}$.
- 5.14 The determined emission value at each test point should be equal to, or less than, $6.0 \text{ g SO}_x/\text{kW}\cdot\text{h}$.
- 5.15 In lieu of the testing procedure laid down in 5.9 to 5.10 and 5.12 to 5.14, compliance may be demonstrated by continuous monitoring of SO_2 and CO_2 concentration in the exhaust gas downstream of the EGCS- SO_x unit and demonstrating that the SO_2 (ppm)/ CO_2 (%) ratio, at each test point, is 65 or below.
- 5.16 Should the SO_2 (ppm)/ CO_2 (%) ratio method be used:
- The conditions stipulated in 5.4 and 5.5 should also apply to the measurement of CO_2 (%) and it is recommended that SO_2 and CO_2 samples should be obtained at the same location.
 - Measurement of SO_2 and CO_2 should either be carried out above the respective dewpoints or on a fully dry basis, recognizing that the conditions stipulated in 5.6–5.8 should also apply to the measurement of CO_2 (%).
 - The carbon and hydrogen content of the test fuel as stipulated in 5.11 need not be determined.
 - Calculation of the SO_2/CO_2 ratio should comply with the requirements of Scheme B, section 10.

6 Procedures for demonstrating compliance with emission limit on board

- 6.1 For each EGCS-SO_x unit, the ETM should contain a verification procedure for use at surveys as required. This procedure should not require specialized equipment or an in-depth knowledge of the system. Where particular devices are required, they should be provided and maintained as part of the system. The EGCS-SO_x unit should be designed in such a way as to facilitate inspection as required. The basis of this verification procedure is that if all relevant components and operating values or settings are within those as approved, then the performance of the EGCS-SO_x system is within that required without the need for actual exhaust emission measurements. It is also necessary to ensure that the EGCS-SO_x unit is fitted to an item of fuel oil combustion equipment for which it is rated - this forms part of the SCP.
- 6.2 Included in the verification procedure should be all components and operating values or settings which may affect the operation of the EGCS-SO_x unit and its ability to meet the required emission limit.
- 6.3 The verification procedure should be submitted by the EGCS-SO_x manufacturer and approved by the Administration.
- 6.4 The verification procedure should cover both a documentation check and a physical check of the EGCS-SO_x unit.
- 6.5 The Surveyor should verify that each EGCS-SO_x unit is installed in accordance with the ETM and has a SCC as required.
- 6.6 At the discretion of the Administration, the Surveyor should have the option of checking one or all of the identified components, operating values or settings. Where there is more than one EGCS-SO_x unit, the Administration may, at its discretion, abbreviate or reduce the extent of the survey on board. However, the entire survey should be completed for at least one of each type of EGCS-SO_x unit on board provided

that it is expected that the other EGCS-SO_x units perform in the same manner.

- 6.7 The EGCS-SO_x unit should include means to automatically record when the system is in use. This should automatically record, as a minimum, wash water pressure and flow rate at the EGCS-SO_x unit's inlet connection, pH of wash water at the EGCS-SO_x unit's inlet and outlet connections, exhaust gas pressure before and pressure drop across the EGCS-SO_x unit, fuel oil combustion equipment load, and exhaust gas temperature before and after the EGCS-SO_x unit. The data-recording system should comply with the requirements of Scheme B, sections 12 and 13.
- 6.8 If a continuous exhaust gas monitoring system is not fitted, it is recommended that a daily spot check of the exhaust gas quality, in terms of SO₂ (ppm)/CO₂ (%) ratio, is used to verify compliance in conjunction with parameter checks stipulated in 6.7. If a continuous exhaust gas monitoring system is fitted, only daily spot checks of the parameters listed in paragraph 6.7 would be needed to verify proper operation of the EGCS-SO_x unit.
- 6.9 If the EGCS-SO_x manufacturer is unable to provide assurance that the EGCS-SO_x unit will meet the limit value of 6 g SO_x/kW·h or SO₂ (ppm)/CO₂ (%) ratio of 65 or below between surveys, by means of the verification procedure stipulated in 6.1, or if this requires specialist equipment or in-depth knowledge, it is recommended that continuous exhaust gas monitoring of each EGCS-SO_x unit be used to assure ship operators of compliance when operating within a SECA and in the event of port State authority inspection.
- 6.10 An EGCS-SO_x Record Book should be maintained by the shipowner recording maintenance and service of the unit. The form of this record should be submitted by the EGCS-SO_x manufacturer and approved by the Administration. This record book should be available at surveys as required and may be read in conjunction with engine-room log-books and other data as necessary to confirm the correct operation of the

EGCS-SO_x unit. Alternatively, this information is to be recorded in the vessel's planned maintenance record system as approved by the Administration.

7 Wash water monitoring

- 7.1 The clean seawater supply to the EGCS-SO_x unit and the wash water being discharged should also be monitored, at a defined frequency appropriate to the sensors used, for pH and oil content together with other parameters which may have an adverse impact on ecosystems in the area in which the ship operates, taking into account the requirements of section 17. The data provided by this monitoring should be used by the ship in assessing the acceptability of water discharge against criteria which may be developed by individual port State authorities.
- 7.2 The wash water monitor and data recording system should comply with the requirements of Scheme B, sections 12 and 13.

Scheme B – Continuous monitoring of SO_x emissions

Compliance demonstrated in service by continuous exhaust gas monitoring. Monitoring system should be approved by the Administration and the results of that monitoring should be available to the Administration as necessary to demonstrate compliance as required.

Additionally for all ships which are to use an EGCS-SO_x unit, in part or in total, in order to comply with the requirements of regulation 14(4) there should be a SECA Compliance Plan (SCP) for the ship, approved by the Administration, detailing how:

- (a) compliance is to be achieved;
- (b) that compliance is to be demonstrated.

8 General

This Scheme should be used to demonstrate that the emissions from an item of fuel oil combustion equipment fitted with an EGCS will, with that system in operation, result in an emission value of SO₂ (ppm)/CO₂ (%) ratio of 65 or below at any load point, including during transient operation, and thus compliance with the requirements of regulation 14(4)(b) of MARPOL Annex VI.

9 Exhaust gas measurement

Exhaust gas composition (SO₂ plus CO₂) measurement should be at an appropriate position after the EGCS-SO_x unit and comply with the requirements of 5.2 and 5.16, Scheme A.

10 Calculation of emission rate

- 10.1 SO₂ (ppm) and CO₂ (%) are to be continuously monitored and recorded onto a data recording and processing device at a rate which should not be less than 0.005 Hz.
- 10.2 If more than one analyser is to be used to determine the SO₂/CO₂ ratio, these should be tuned to have similar sampling and measurement times and the data outputs aligned so that the SO₂/CO₂ ratio is fully representative of the exhaust gas composition.

11 Wash water monitoring

The clean seawater to the EGCS-SO_x unit and the wash water being discharged should also be monitored, at a defined frequency appropriate to the sensors used, for pH and oil content together with other parameters which may have an adverse impact on ecosystems in the area in which the ship operates. The data provided by this monitoring should be used by the ship in assessing the acceptability of water discharge against criteria which may be developed by individual port State authorities.

12 Data recording and processing device

- 12.1 The recording and processing device should be of robust, tamperproof design with read-only capability.
- 12.2 The recording and processing device should record the data required by section 10.1 against UTC and ship's position by a Global Navigational Satellite System (GNSS).
- 12.3 The recording and processing device should be capable of preparing reports over specified time periods.
- 12.4 Data should be retained for a period of not less than 18 months from the date of recording. If the unit is changed over that period, the shipowner should ensure that the required data is retained on board and available as required.
- 12.5 The device should be capable of downloading a copy of the recorded data and reports in a readily useable format. Such copy of the data and reports should be available to the Administration or port State authority as requested.

13 On-board Monitoring Manual

- 13.1 An On-board Monitoring Manual (OMM) should be prepared to cover each item of fuel oil combustion equipment, which should be identified, for which compliance is to be demonstrated by this Scheme.
- 13.2 The OMM should, as a minimum, include:
 - (a) the sensors to be used in evaluating EGCS performance and discharge water, their service, maintenance and calibration requirements;
 - (b) the positions from which exhaust emission measurements are to be taken together with details of any necessary ancillary services such as sample transfer lines and sample treatment units and any related service or maintenance requirements;
 - (c) the analysers to be used, their service, maintenance, and calibration requirements;
 - (d) analyser zero and span-check procedures; and

- (e) other information or data relevant to the correct functioning of the monitoring system or its use in demonstrating compliance.
- 13.3 The OMM should specify how the monitoring is to be surveyed.
- 13.4 The OMM should be approved by the Administration.

14 SECA Compliance Plan (SCP)

For all ships which are to use an EGCS-SO_x unit, in part or in total, in order to comply with the requirements of regulation 14(4) there should be a SECA Compliance Plan (SCP) for the ship, approved by the Administration.

15 Ship compliance

- 15.1 The SCP should list each item of fuel oil combustion equipment which is to meet the requirements for operating in a SECA by means of an approved EGCS-SO_x unit.
- 15.2 Under Scheme A, the SCP should present continuous monitoring data demonstrating that the parameters in paragraph 6.7 are maintained within the manufacturer's recommended specifications. Under Scheme B, this would be demonstrated using daily recordings.
- 15.3 Under Scheme B, the SCP should present continuous monitoring demonstrating that the SO₂ (ppm)/CO₂ (%) ratio is 65 or below. Under Scheme A, this would be demonstrated using daily recordings.
- 15.4 There may be some equipment, such as small engines and boilers, to which the fitting of EGCS-SO_x units would not be practical, particularly where such equipment is located in a position remote from the main machinery spaces. All such fuel oil combustion units should be listed in the SCP. For these fuel oil combustion units which are not to be fitted with EGCS-SO_x units, compliance may be achieved by means of regulation 14(4)(a) while operating within a SECA.

Alternatively, compliance may be achieved based on total ship emissions as described in paragraphs 15.7 and 15.8.

- 15.5 Ship construction requirements generally require that each fuel oil combustion unit should have its own exhaust gas system venting to the atmosphere. Therefore compliance by the ship may be demonstrated by each item of fuel oil combustion equipment meeting the requirements of either Scheme A or Scheme B. Alternatively, compliance may be demonstrated on the basis of total emissions generated by the ship as noted in paragraphs 15.7 and 15.8.
- 15.6 If each fuel oil combustion unit meets the requirements of either regulation 14(4)(a) or 14(4)(b) the ship is considered to be in compliance with the requirements.
- 15.7 Recognizing that the limit given in regulation 14(4)(b) is for the ship, not each individual item of combustion equipment, the shipowner should have the opportunity to balance performance which considerably exceeds the requirement of 6.0 g SO_x/kW·h or SO₂ (ppm)/CO₂ (%) ratio of 65 or below against that of equipment, potentially not fitted with EGCS-SO_x units, which does not meet that requirement. These cases should be subject to special consideration by the Administration. In particular the SCP should detail how the actual emissions from each fuel oil combustion unit are to be aggregated together to obtain an overall, real-time, emission value for the ship which does not exceed 6.0 g SO_x/kW·h or SO₂ (ppm)/CO₂ (%) ratio of 65 or below.
- 15.8 Since the emission value in regulation 14(4)(b) is an alternative to that given in regulation 14(4)(a), not an equivalent, compliance in excess of that required by means of regulation 14(4)(a) in respect of fuel oil burning units, such as given in section 2.3, should only be set against the requirements of regulation 14(4)(b) where it can be clearly documented as to the actual sulphur content of the fuel oil being used at any time together with the requirement that the specific fuel consumption rate (g fuel/kW·h) of that equipment is capable of determination on a real-time basis (calibration requirements of such equipment to comply with those as given in the NO_x Technical Code).

- 15.9 At no time during operation in a SECA should the total ship emissions, as described in paragraph 15.5, exceed the requirement of 6.0 g SO_x/kW·h or exceed the SO₂ (ppm)/CO₂ (%) ratio of 65 or below. Shipowners are advised to consider worst case operating scenarios, such as manoeuvring or high power operation, in their SO_x control strategies.

16 Demonstration of compliance

- 16.1 The SCP should refer to, not reproduce, the ETM and Record Book as specified under that Scheme. Alternatively, this information is to be recorded in the ship's Planned Maintenance Record System, as allowed by the Administration.
- 16.2 For all fuel oil combustion equipment listed under 15.1, details should be provided demonstrating that the rating and restrictions for the EGCS-SO_x unit as specified in paragraph 2.3.1(b) are complied with.
- 16.3 The wash water flow rate and pressure at the EGCS-SO_x unit inlet connections, pH of the wash water at the EGCS-SO_x unit's inlet and outlet connections, exhaust gas pressure before and pressure drop across the EGCS-SO_x unit, fuel oil equipment load, and other parameters, as considered necessary, should be monitored and recorded continuously while within a SECA in order to demonstrate compliance.
- 16.4 The SCP should refer to the On-board Monitoring Manual as approved by the Administration and the input data and resulting reports.

17 Wash water

EGCS-SO_x unit's wash water systems should:

- (a) eliminate, or reduce to a level at which they are not harmful, hydrocarbons, carbon residue, ash, vanadium, other heavy metals, and other substances contained within EGCS-SO_x unit's wash water that may have an adverse impact on ecosystems if discharged overboard;

- (b) ensure that the approach adopted to control wash water quality and residual waste is not achieved in a way that causes pollution in other areas or environmental media;
- (c) also take into account guidelines to be developed by the Organization.

18 Wash water residues

- 18.1 Residues generated by the EGCS-SO_x unit should be land-disposed. Such residues should not be discharged to the sea or incinerated on board.
- 18.2 The record-keeping requirements in respect of the disposal of wash water residues are to take into account guidelines to be developed by the Organization.

Appendix SO₂ over CO₂ monitoring method

- 1 Correspondence between 65 (¹³⁶ppm/%) SO₂/CO₂ and 1.5% sulphur in fuel is demonstrated by first calculating the mass ratio of fuel sulphur to fuel carbon, which is tabulated in table 1 for various fuels and fuel sulphur contents; including 1.5% sulphur for both distillate and residual fuels. These ratios were used to solve for the corresponding SO₂ and CO₂ concentrations in exhaust, which are tabulated in table 2. Molecular weights (MW) were taken into account to convert mass fractions to mole fractions. For the 1.5% sulphur fuels in table 2, the amount of CO₂ is set first at 8% and then changed to 0.5% to show that there is no effect due to changes in excess air. As expected, the absolute SO₂ concentration changes, but the SO₂/CO₂ ratio does not. This indicates that the SO₂/CO₂ ratio is independent of fuel-to-air ratios. Therefore, SO₂/CO₂ ratio can be used robustly at any point of

136 ppm means “parts per million”. It is assumed that ppm is measured by gas analysers on a molar basis, assuming ideal gas behaviour. The technically correct units are actually micro-moles of substance per mole of total amount (μmol/mol), but ppm is used in order to be consistent with units in the NO_x Technical Code.

operation, including operation where no brake power is produced.

Note that the SO₂/CO₂ ratio varies slightly from distillate to residual fuel. This occurs because of the very different atomic hydrogen-to-carbon ratios (H:C) of the two fuels. Figure 1 illustrates the extent of the SO₂/CO₂ ratio's sensitivity to H:C over a broad range of H:C and fuel sulphur concentrations. From figure 1, it can be concluded that for fuel sulphur levels less than 3.00% S, the difference in S/C ratios for distillate and residual fuel is less than 5.0%.

Table 1: Fuel properties for marine distillate and residual fuel

	Carbon	Hydrogen	Sulphur	Other	H:C	Fuel S/C
	<i>g/g</i>	<i>g/g</i>	<i>g/g</i>	<i>g/g</i>	<i>mol/mol</i>	<i>g/g</i>
Distillate ^a	86.20%	13.60%	0.17%	0.03%	1.880	0.00197
Residual ^a	86.10%	10.90%	2.70%	0.30%	1.509	0.03136
Distillate 1.5% S	85.05%	13.42%	1.50%	0.03%	1.880	<u>0.01764</u>
Residual 1.5% S	87.17%	11.03%	1.50%	0.30%	1.509	<u>0.01721</u>

^a Based on properties in the IMO NO_x Monitoring Guidelines, MEPC.103(49).

Table 2: Emissions calculations corresponding to 1.5% fuel sulphur

	CO₂	SO₂	Exh SO₂/CO₂	Exh S/C
	<i>%</i>	<i>ppm</i>	<i>ppm/%</i>	<i>g/g</i>
Distillate 0.17% S	8	59.1	7.4	0.00197
Residual 2.70% S	8	939.7	117.5	0.03136
Distillate 1.5% S	8	528.5	<u>66.1</u>	<u>0.01764</u>
Residual 1.5% S	8	515.7	<u>64.5</u>	<u>0.01721</u>

Schedule 1

Distillate 1.5% S	0.5	33.0	66.1	0.01764
Residual 1.5% S	0.5	32.2	64.5	0.01721

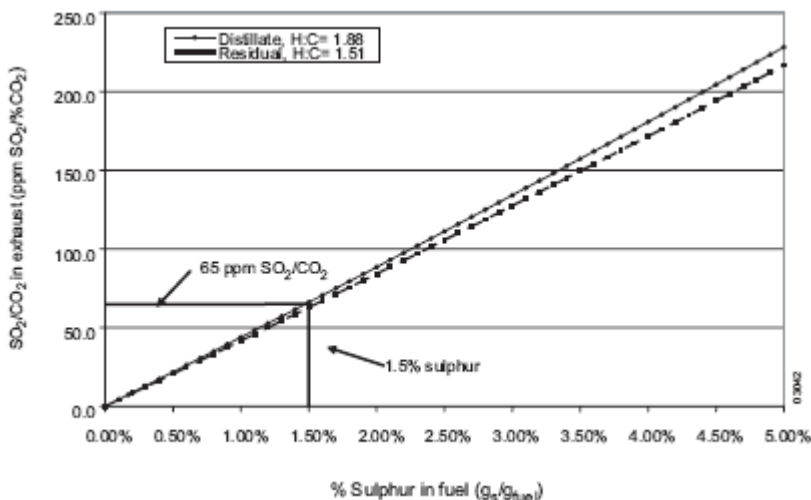


Figure 1 – SO₂/CO₂ versus % sulphur in fuel

- Correspondence between 65 (ppm/%) SO₂/CO₂ and 6.0 g of SO₂/kW·h is demonstrated by showing that their S/C ratios are similar. This requires the additional assumption of a brake-specific fuel consumption (BSFC) value of 200 g/kW·h. This is an appropriate average for marine diesel engines. The calculation is as follows:

$$\frac{S}{C_{\text{fuel}}} = \frac{\text{brake - specific SO}_2 \times \left(\frac{MW_s}{MW_{\text{SO}_2}} \right)}{\text{BSFC} \times \left(\frac{\% \text{ carbon in fuel}}{100} \right)}$$

$$\text{brake-specific SO}_2 = 6.0 \text{ g/kW}\cdot\text{h}$$

$$MW_S = 32.065 \text{ g/mol}$$

$$MW_{SO_2} = 64.064 \text{ g/mol}$$

$$BSFC = 200 \text{ g/kW}\cdot\text{h}$$

% carbon in 1.5% S fuel (from table 1) = 85.05% (distillate)
& 87.17% (residual)

$$\frac{S}{C_{\text{residual fuel}}} = \frac{6.0 \times \left(\frac{32.065}{64.064}\right)}{200 \times \left(\frac{87.17\%}{100}\right)}$$

$$\frac{S}{C_{\text{residual fuel}}} = 0.01723$$

$$\frac{S}{C_{\text{distillate fuel}}} = \frac{6.0 \times \left(\frac{32.065}{64.064}\right)}{200 \times \left(\frac{85.05\%}{100}\right)}$$

$$\frac{S}{C_{\text{distillate fuel}}} = 0.01765$$

Note that the S/C mass ratios calculated above, based on 6.0 g SO₂/kW·h and 200 g/kW·h BSFC, are both within 0.10% of the S/C mass ratios in the emissions table (table 2). Therefore, 65 ppm/% SO₂/CO₂ corresponds well to 6.0 g SO_x/kW·h in regulation 14(4)(b).

3 Thus, the working formulae are as follows:

$$\text{For complete combustion} = \frac{SO_2(\text{ppm}^*)}{CO_2(\%*)} \leq 65$$

For incomplete combustion =

$$\frac{\text{SO}_2(\text{ppm}^*)}{\text{CO}_2(\%*) + \left(\frac{\text{CO}(\text{ppm})^*}{10000}\right) + \left(\frac{\text{THC}(\text{ppm})^*}{10000}\right)} \leq 65$$

* Note: gas concentrations must be sampled or converted to the same residual water content (e.g., fully wet, fully dry).

- 4 The following is the basis of using the 65 (ppm/%) SO₂/CO₂ as the limit for determining compliance with regulation 14:
- (a) This limit can be used to determine compliance from fuel oil burners that do not produce mechanical power.
 - (b) This limit can be used to determine compliance at any power output, including idle.
 - (c) This limit only requires two gas concentration measurements at one sampling location.
 - (d) There is no need to measure any engine parameters such as engine speed, engine torque, engine exhaust flow, or engine fuel flow.
 - (e) If both gas concentration measurements are made at the same residual water content in the sample (e.g. fully wet, fully dry), no dry-to-wet conversion factors are required in the calculation.
 - (f) This limit completely decouples the thermal efficiency of the fuel oil combustion unit from the EGCS-SO_x unit.
 - (g) No fuel properties need to be known.
 - (h) Because only two measurements are made at a single location, transient engine or EGCS-SO_x unit effects can be minimized by aligning signals from just these two analysers. (Note that the most appropriate points to align are the points where each analyser responds to a step change in emissions at the sample probe by 50% of the steady-state value).
 - (i) This limit is independent of the amount of exhaust gas dilution. Dilution may occur due to evaporation of water in an EGCS-SO_x unit, and as part of an exhaust sampler's preconditioning

10 Certificates and documents required to be carried on board ships¹³⁷

(Note: All certificates to be carried on board must be originals)

	Reference
1 All ships	
<i>International Tonnage Certificate (1969)</i> An International Tonnage Certificate (1969) shall be issued to every ship, the gross and net tonnage of which have been determined in accordance with the Convention.	Tonnage Convention, article 7
<i>International Load Line Certificate</i> An International Load Line Certificate shall be issued under the provisions of the International Convention on Load Lines, 1966, to every ship which has been surveyed and marked in accordance with the Convention or the Convention as modified by the 1988 LL Protocol, as appropriate.	LL Convention, article 16; 1988 LL Protocol, article 18
<i>International Load Line Exemption Certificate</i> An International Load Line Exemption Certificate shall be issued to any ship to which an exemption has been granted under and in accordance with article 6 of the Load Line Convention or the Convention as modified by the 1988 LL Protocol, as appropriate.	LL Convention, article 6; 1988 LL Protocol, article 18

¹³⁷ This document (FAL.2/Circ.87) shows regulation numbers of MARPOL Annexes I and II that were in force before 1 January 2007. Corresponding regulation numbers in the revised Annex I are identified in item 5 of the additional information. Revisions of the FAL.2 Circular will be available on the IMO webpage (www.imo.org).

Intact stability booklet

Every passenger ship regardless of size and every cargo ship of 24 metres and over shall be inclined on completion and the elements of their stability determined. The master shall be supplied with a Stability Booklet containing such information as is necessary to enable him, by rapid and simple procedures, to obtain accurate guidance as to the stability of the ship under varying conditions of loading. For bulk carriers, the information required in a bulk carrier booklet may be contained in the stability booklet.

Damage control plans and booklets

On passenger and cargo ships, there shall be permanently exhibited plans showing clearly for each deck and hold the boundaries of the watertight compartments, the openings therein with the means of closure and position of any controls thereof, and the arrangements for the correction of any list due to flooding. Booklets containing the aforementioned information shall be made available to the officers of the ship.

Minimum safe manning document

Every ship to which chapter I of the Convention applies shall be provided with an appropriate safe manning document or equivalent issued by the Administration as evidence of the minimum safe manning.

Reference

SOLAS 1974,
regulations II-1/22 and
II-1/25-8;1988 LL
Protocol, regulation 10

SOLAS 1974,
regulations II-1/23,
23-1, 25-8;
MSC/Circ.919

SOLAS 1974 (2000
amendments),
regulation V/14.2

Reference*Fire safety training manual*

A training manual shall be written in the working language of the ship and shall be provided in each crew mess room and recreation room or in each crew cabin. The manual shall contain the instructions and information required in regulation II-2/15.2.3.4. Part of such information may be provided in the form of audio-visual aids in lieu of the manual.

SOLAS 1974(2000 amendments),
regulation II-2/15.2.3

Fire Control plan/booklet

General arrangement plans shall be permanently exhibited for the guidance of the ship's officers, showing clearly for each deck the control stations, the various fire sections together with particulars of the fire detection and fire alarm systems and the fire-extinguishing appliances etc. Alternatively, at the discretion of the Administration, the aforementioned details may be set out in a booklet, a copy of which shall be supplied to each officer, and one copy shall at all times be available on board in an accessible position. Plans and booklets shall be kept up to date; any alterations shall be recorded as soon as practicable. A duplicate set of fire control plans or a booklet containing such plans shall be permanently stored in a prominently marked weathertight enclosure outside the deckhouse for the assistance of shore-side fire-fighting personnel.

SOLAS 1974 (2000 amendments),
regulation II-2/15.2.4

On board training and drills record

Fire drills shall be conducted and recorded in accordance with the provisions of regulations III/19.3 and III/19.5.

SOLAS 1974 (2000 amendments),
regulation II-2/
15.2.2.5

Fire safety operational booklet

The fire safety operational booklet shall contain the necessary information and instructions for the safe operation of the ship and cargo handling operations in relation to fire safety. The booklet shall be written in the working language of the ship and be provided in each crew mess room and recreation room or in each crew cabin. The booklet may be combined with the fire safety training manuals required in regulation II-2/15.2.3.

Certificates for masters, officers or ratings

Certificates for masters, officers or ratings shall be issued to those candidates who, to the satisfaction of the Administration, meet the requirements for service, age, medical fitness, training, qualifications and examinations in accordance with the provisions of the STCW Code annexed to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978. Formats of certificates are given in section A-I/2 of the STCW Code. Certificates must be kept available in their original form on board the ships on which the holder is serving.

Reference

SOLAS 1974 (2000 amendments), regulation II-2/16.2

STCW 1978, article VI, regulation I/2; STCW Code, section A-I/2

Reference*International Oil Pollution Prevention Certificate*

An International Oil Pollution Prevention Certificate shall be issued, after survey in accordance with regulation 4 of Annex I of MARPOL 73/78, to any oil tanker of 150 gross tonnage and above and any other ship of 400 gross tonnage and above which is engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to MARPOL 73/78. The certificate is supplemented with a Record of Construction and Equipment for Ships other than Oil Tankers (Form A) or a Record of Construction and Equipment for Oil Tankers (Form B), as appropriate.

MARPOL 73/78,
Annex I, regulation 5

Oil Record Book

Every oil tanker of 150 gross tonnage and above and every ship of 400 gross tonnage and above other than an oil tanker shall be provided with an Oil Record Book, Part I (Machinery space operations). Every oil tanker of 150 gross tonnage and above shall also be provided with an Oil Record Book, Part II (Cargo/ballast operations).

MARPOL 73/78,
Annex I, regulation 20

Shipboard Oil Pollution Emergency Plan

Every oil tanker of 150 gross tonnage and above and every ship other than an oil tanker of 400 gross tonnage and above shall carry on board a Shipboard Oil Pollution Emergency Plan approved by the Administration.

MARPOL 73/78,
Annex I, regulation 26

Reference

International Sewage Pollution Prevention Certificate

An International Sewage Pollution Prevention Certificate shall be issued, after an initial or renewal survey in accordance with the provisions of regulation 4 of Annex IV of MARPOL 73/78, to any ship which is required to comply with the provisions of that Annex and is engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to the Convention.

MARPOL 73/78,
Annex IV, regulation
5; MEPC/Circ.408

Garbage Management Plan

Every ship of 400 gross tonnage and above and every ship which is certified to carry 15 persons or more shall carry a garbage management plan which the crew shall follow.

MARPOL 73/78,
Annex V, regulation 9

Garbage Record Book

Every ship of 400 gross tonnage and above and every ship which is certified to carry 15 persons or more engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to the Convention and every fixed and floating platform engaged in exploration and exploitation of the sea-bed shall be provided with a Garbage Record Book.

MARPOL 73/78,
Annex V, regulation 9

Reference*Voyage data recorder system—certificate of compliance*

The voyage data recorder system, including all sensors, shall be subjected to an annual performance test. The test shall be conducted by an approved testing or servicing facility to verify the accuracy, duration and recoverability of the recorded data. In addition, tests and inspections shall be conducted to determine the serviceability of all protective enclosures and devices fitted to aid location. A copy of the certificate of compliance issued by the testing facility, stating the date of compliance and the applicable performance standards, shall be retained on board the ship.

SOLAS 1974,
regulation V/18.8

Cargo Securing Manual

All cargoes, other than solid and liquid bulk cargoes, cargo units and cargo transport units, shall be loaded, stowed and secured throughout the voyage in accordance with the Cargo Securing Manual approved by the Administration. In ships with ro-ro spaces, as defined in regulation II-2/3.41, all securing of such cargoes, cargo units and cargo transport units, in accordance with the Cargo Securing Manual, shall be completed before the ship leaves the berth. The Cargo Securing Manual is required on all types of ships engaged in the carriage of all cargoes other than solid and liquid bulk cargoes, which shall be drawn up to a standard at least equivalent to the guidelines developed by the Organization.

SOLAS 1974 (2002
amendments),
regulations VI/5.6 and
VII/5; MSC/Circ.745

Document of Compliance

A document of compliance shall be issued to every company which complies with the requirements of the ISM Code. A copy of the document shall be kept on board.

Safety Management Certificate

A Safety Management Certificate shall be issued to every ship by the Administration or an organization recognized by the Administration. The Administration or an organization recognized by it shall, before issuing the Safety Management Certificate, verify that the company and its shipboard management operate in accordance with the approved safety management system.

International Ship Security Certificate (ISSC) or Interim International Ship Security Certificate

An International Ship Security Certificate (ISSC) shall be issued to every ship by the Administration or an organization recognized by it to verify that the ship complies with the maritime security provisions of SOLAS chapter XI-2 and part A of the ISPS Code. An interim ISSC may be issued under the ISPS Code part A, section 19.4.

Reference

SOLAS 1974,
regulation IX/4; ISM
Code, paragraph 13

SOLAS 1974,
regulation IX/4; ISM
Code, paragraph 13

SOLAS 1974 (2002
amendments),
regulation XI-2/9.1.1;
ISPS Code part A,
section 19 and
appendices.

Ship Security Plan and associated records

Each ship shall carry on board a ship security plan approved by the Administration. The plan shall make provisions for the three security levels as defined in part A of the ISPS Code.

Records of the following activities addressed in the ship security plan shall be kept on board for at least the minimum period specified by the Administration:

- .1 training, drills and exercises;
- .2 security threats and security incidents;
- .3 breaches of security;
- .4 changes in security level;
- .5 communications relating to the direct security of the ship such as specific threats to the ship or to port facilities the ship is, or has been, in;
- .6 internal audits and reviews of security activities;
- .7 periodic review of the ship security assessment;
- .8 periodic review of the ship security plan;
- .9 implementation of any amendments to the plan; and
- .10 maintenance, calibration and testing of any security equipment provided on board, including testing of the ship security alert system.

Reference

SOLAS 1974 (2002 amendments), regulation XI-2/9; ISPS Code part A, sections 9 and 10

	Reference
<p><i>Continuous Synopsis Record (CSR)</i> Every ship to which chapter I of the Convention applies shall be issued with a Continuous Synopsis Record. The Continuous Synopsis Record provides an onboard record of the history of the ship with respect to the information recorded therein.</p>	<p>SOLAS 1974 (2002 amendments), regulation XI-1/5</p>
<p>2 In addition to the certificates listed in section 1 above, passenger ships shall carry:</p>	
<p><i>Passenger Ship Safety Certificate^a</i> A certificate called a Passenger Ship Safety Certificate shall be issued after inspection and survey to a passenger ship which complies with the requirements of chapters II-1, II-2, III and IV and any other relevant requirements of SOLAS 1974. A Record of Equipment for the Passenger Ship Safety Certificate (Form P) shall be permanently attached.</p>	<p>SOLAS 1974, regulation I/12, as amended by the GMDSS amendments; 1988 SOLAS Protocol, regulation I/12, (2000 amendments), appendix</p>
<p><i>Exemption Certificate^b</i> When an exemption is granted to a ship under and in accordance with the provisions of SOLAS 1974, a certificate called an Exemption Certificate shall be issued in addition to the certificates listed above.</p>	<p>SOLAS 1974, regulation I/12; 1988 SOLAS Protocol, regulation I/12</p>
<p><i>Special Trade Passenger Ship Safety Certificate, Special Trade Passenger Ship Space Certificate</i> A Special Trade Passenger Ship Safety Certificate issued under the provisions of the Special Trade Passenger Ships Agreement, 1971.</p>	<p>STP 71, rule 5</p>

A certificate called a Special Trade Passenger Ship Space Certificate shall be issued under the provisions of the Protocol on Space Requirements for Special Trade Passenger Ships, 1973.

Search and rescue co-operation plan

Passenger ships to which chapter I of the Convention applies shall have on board a plan for co-operation with appropriate search and rescue services in event of an emergency.

List of operational limitations

Passenger ships to which chapter I of the Convention applies shall keep on board a list of all limitations on the operation of the ship, including exemptions from any of the SOLAS, regulations, restrictions in operating areas, weather restrictions, sea state restrictions, restrictions in permissible loads, trim, speed and any other limitations, whether imposed by the Administration or established during the design or the building stages.

Decision support system for masters

In all passenger ships, a decision support system for emergency management shall be provided on the navigation bridge.

Reference

SSTP 73, rule 5

SOLAS 1974 (2000 amendments), regulation V/7.3

SOLAS 1974 (2000 amendments), regulation V/30

SOLAS 1974, regulation III/29

3 In addition to the certificates listed in section 1 above, cargo ships shall carry:

Cargo Ship Safety Construction Certificate^c

A certificate called a Cargo Ship Safety Construction Certificate shall be issued after survey to a cargo ship of 500 gross tonnage and over which satisfies the requirements for cargo ships on survey, set out in regulation I/10 of SOLAS 1974, and complies with the applicable requirements of chapters II-1 and II-2, other than those relating to fire-extinguishing appliances and fire control plans.

Cargo Ship Safety Equipment Certificate^a

A certificate called a Cargo Ship Safety Equipment Certificate shall be issued after survey to a cargo ship of 500 gross tonnage and over which complies with the relevant requirements of chapters II-1 and II-2 and III and any other relevant requirements of SOLAS 1974. A Record of Equipment for the Cargo Ship Safety Equipment Certificate (Form E) shall be permanently attached.

Reference

SOLAS 1974, regulation I/12, as amended by the GMDSS amendments; 1988 SOLAS Protocol, regulation I/12

SOLAS 1974, regulation I/12, as amended by the GMDSS amendments; 1988 SOLAS Protocol, regulation I/12 (2000 amendments), appendix

Reference*Cargo Ship Safety Radio Certificate^a*

A certificate called a Cargo Ship Safety Radio Certificate shall be issued after survey to a cargo ship of 300 gross tonnage and over, fitted with a radio installation, including those used in life-saving appliances, which complies with the requirements of chapters III and IV and any other relevant requirements of SOLAS 1974. A Record of Equipment for the Cargo Ship Safety Radio Certificate (Form R) shall be permanently attached.

SOLAS 1974, regulation I/12, as amended by the GMDSS amendments; 1988 SOLAS Protocol, regulation I/12

Cargo Ship Safety Certificate

A certificate called a Cargo Ship Safety Certificate may be issued after survey to a cargo ship which complies with the relevant requirements of chapters II-1, II-2, III, IV and V and other relevant requirements of SOLAS 1974 as modified by the 1988 SOLAS Protocol, as an alternative to the above cargo ship safety certificates. A Record of Equipment for the Cargo Ship Safety Certificate (Form C) shall be permanently attached.

1988 SOLAS Protocol, regulation I/12 (2000 amendments), appendix

Exemption Certificate^a

When an exemption is granted to a ship under and in accordance with the provisions of SOLAS 1974, a certificate called an Exemption Certificate shall be issued in addition to the certificates listed above.

SOLAS 1974, regulation I/12; 1988 SOLAS Protocol, regulation I/12

Document of authorization for the carriage of grain

A document of authorization shall be issued for every ship loaded in accordance with the regulations of the International Code for the Safe Carriage of Grain in Bulk either by the Administration or an organization recognized by it or by a Contracting Government on behalf of the Administration. The document shall accompany or be incorporated into the grain loading manual provided to enable the master to meet the stability requirements of the Code.

Certificate of insurance or other financial security in respect of civil liability for oil pollution damage

A certificate attesting that insurance or other financial security is in force shall be issued to each ship carrying more than 2,000 tons of oil in bulk as cargo. It shall be issued or certified by the appropriate authority of the State of the ship's registry after determining that the requirements of article VII, paragraph 1, of the CLC Convention have been complied with.

Reference

SOLAS 1974,
regulation VI/9;
International Code for
the Safe Carriage of
Grain in Bulk, section
3

CLC 1969, article VII

Reference*Certificate of insurance or other financial security in respect of civil liability for oil pollution damage*

A certificate attesting that insurance or other financial security is in force in accordance with the provisions of the 1992 CLC Convention shall be issued to each ship carrying more than 2,000 tons of oil in bulk as cargo after the appropriate authority of a Contracting State has determined that the requirements of article VII, paragraph 1 of the Convention have been complied with. With respect to a ship registered in a Contracting State, such certificate shall be issued by the appropriate authority of the State of the ship's registry; with respect to a ship not registered in a Contracting State, it may be issued or certified by the appropriate authority of any Contracting State.

CLC 1992, article VII

Enhanced survey report file

Bulk carriers and oil tankers shall have a survey report file and supporting documents complying with paragraphs 6.2 and 6.3 of annex A and annex B of resolution A.744(18) - Guidelines on the enhanced programme of inspections during surveys of bulk carriers and oil tankers.

SOLAS 1974 (2002 amendments), regulation XI-1/2; resolution A.744(18)

Record of oil discharge monitoring and control system for the last ballast voyage
Subject to provisions of paragraphs (4), (5), (6) and (7) of regulation 15 of Annex I of MARPOL 73/78, every oil tanker of 150 gross tonnage and above shall be fitted with an oil discharge monitoring and control system approved by the Administration. The system shall be fitted with a recording device to provide a continuous record of the discharge in litres per nautical mile and total quantity discharged, or the oil content and rate of discharge. This record shall be identifiable as to time and date and shall be kept for at least three years.

Cargo Information

The shipper shall provide the master or his representative with appropriate information, confirmed in writing, on the cargo, in advance of loading. In bulk carriers, the density of the cargo shall be provided in the above information.

Bulk Carrier Booklet

To enable the master to prevent excessive stress in the ship's structure, the ship loading and unloading solid bulk cargoes shall be provided with a booklet referred to in SOLAS regulation VI/7.2. The booklet shall be endorsed by the Administration or on its behalf to indicate that SOLAS regulations XII/4, 5, 6 and 7, as appropriate, are complied with. As an alternative to a separate booklet, the required information may be contained in the intact stability booklet.

Reference

MARPOL 73/78,
Annex I, regulation
15(3)(a)

SOLAS 1974,
regulations VI/2 and
XII/10; MSC/
Circ.663

SOLAS 1974,
regulations VI/7 and
XII/8; Code of
Practice for the Safe
Loading and
Unloading of Bulk
Carriers (BLU Code)

Reference*Dedicated Clean Ballast Tank Operation Manual*

Every oil tanker operating with dedicated clean ballast tanks in accordance with the provisions of regulation 13(10) of Annex I of MARPOL 73/78 shall be provided with a Dedicated Clean Ballast Tank Operation Manual detailing the system and specifying operational procedures. Such a Manual shall be to the satisfaction of the Administration and shall contain all the information set out in the Specifications referred to in paragraph 2 of regulation 13A of Annex I of MARPOL 73/78.

MARPOL 73/78,
Annex I, regulation
13A

Crude Oil Washing Operation and Equipment Manual (COW Manual)

Every oil tanker operating with crude oil washing systems shall be provided with an Operations and Equipment Manual detailing the system and equipment and specifying operational procedures. Such a Manual shall be to the satisfaction of the Administration and shall contain all the information set out in the specifications referred to in paragraph 2 of regulation 13B of Annex I of MARPOL 73/78.

MARPOL 73/78,
Annex I, regulation
13B

Reference

*Condition Assessment Scheme (CAS)
Statement of Compliance, CAS Final
Report and Review Record*

A Statement of Compliance shall be issued by the Administration to every oil tanker which has been surveyed in accordance with the requirements of the Condition Assessment Scheme (CAS) (resolution MEPC.94(46), as amended) and found to be in compliance with these requirements. In addition, a copy of the CAS Final Report which was reviewed by the Administration for the issue of the Statement of Compliance and a copy of the relevant Review Record shall be placed on board to accompany the Statement of Compliance.

MARPOL 73/78,
Annex I (2001
amendments
(resolution
MEPC.95(46)),
regulation 13G;
resolution
MEPC.94(46)

*Hydrostatically Balanced Loading (HBL)
Operational Manual*

Every oil tanker which, in compliance with regulation 13G(6)(b), operates with Hydrostatically Balanced Loading shall be provided with an operational manual in accordance with resolution MEPC.64(36).

MARPOL 73/78,
Annex I (2001
amendments
(resolution
MEPC.95(46)),
regulation 13G

*Oil Discharge Monitoring and Control
(ODMC) Operational Manual*

Every oil tanker fitted with an Oil Discharge Monitoring and Control system shall be provided with instructions as to the operation of the system in accordance with an operational manual approved by the Administration.

MARPOL 73/78,
Annex I, regulation
15(3)(c)

Reference*Subdivision and stability information*

Every oil tanker to which regulation 25 of Annex I of MARPOL 73/78 applies shall be provided in an approved form with information relative to loading and distribution of cargo necessary to ensure compliance with the provisions of this regulation and data on the ability of the ship to comply with damage stability criteria as determined by this regulation.

MARPOL 73/78,
Annex I, regulation 25

4 In addition to the certificates listed in sections 1 and 3 above, where appropriate, any ship carrying noxious liquid chemical substances in bulk shall carry:

International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk (NLS Certificate)

An International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk (NLS Certificate) shall be issued, after survey in accordance with the provisions of regulation 10 of Annex II of MARPOL 73/78, to any ship carrying noxious liquid substances in bulk and which is engaged in voyages to ports or terminals under the jurisdiction of other Parties to MARPOL 73/78. In respect of chemical tankers, the Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk and the International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk, issued under the provisions of the Bulk Chemical Code and International Bulk Chemical Code, respectively, shall have the same force and receive the same recognition as the NLS Certificate.

MARPOL 73/78,
Annex II, regulations
11 and 12A

Cargo record book

Every ship to which Annex II of MARPOL 73/78 applies shall be provided with a Cargo Record Book, whether as part of the ship's official log book or otherwise, in the form specified in appendix IV to the Annex.

Procedures and Arrangements Manual (P & A Manual)

Every ship certified to carry noxious liquid substances in bulk shall have on board a Procedures and Arrangements Manual approved by the Administration.

Shipboard Marine Pollution Emergency Plan for Noxious Liquid Substances

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

Reference

MARPOL 73/78,
Annex II, regulation 9

Resolution
MEPC.18(22), chapter
2; MARPOL 73/78,
Annex II, regulations
5, 5A and 8

MARPOL 73/78,
Annex II, regulation
16

5 In addition to the certificates listed in sections 1 and 3 above, where applicable, any chemical tanker shall carry:

Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk

A certificate called a Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk, the model form of which is set out in the appendix to the Bulk Chemical Code, should be issued after an initial or periodical survey to a chemical tanker engaged in international voyages which complies with the relevant requirements of the Code.

Note: The Code is mandatory under Annex II of MARPOL 73/78 for chemical tankers constructed before 1 July 1986.

or

International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk

A certificate called an International Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk, the model form of which is set out in the appendix to the International Bulk Chemical Code, should be issued after an initial or periodical survey to a chemical tanker engaged in international voyages which complies with the relevant requirements of the Code.

Reference

BCH Code, section 1.6; BCH Code as modified by resolution MSC.18(58), section 1.6

IBC Code, section 1.5; IBC Code as modified by resolutions MSC.16(58) and MEPC.40(29), section 1.5

Reference

Note: The Code is mandatory under both chapter VII of SOLAS 1974 and Annex II of MARPOL 73/78 for chemical tankers constructed on or after 1 July 1986.

6 In addition to the certificates listed in sections 1 and 3 above, where applicable, any gas carrier shall carry:

Certificate of Fitness for the Carriage of Liquefied Gases in Bulk

A certificate called a Certificate of Fitness for the Carriage of Liquefied Gases in Bulk, the model form of which is set out in the appendix to the Gas Carrier Code, should be issued after an initial or periodical survey to a gas carrier which complies with the relevant requirements of the Code.

GC Code, section 1.6

International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk

A certificate called an International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk, the model form of which is set out in the appendix to the International Gas Carrier Code, should be issued after an initial or periodical survey to a gas carrier which complies with the relevant requirements of the Code.

IGC Code, section 1.5;
IGC Code as modified
by resolution
MSC.17(58), section
1.5

Note: The Code is mandatory under chapter VII of SOLAS 1974 for gas carriers constructed on or after July 1986

7 In addition to the certificates listed in sections 1, and 2 or 3 above, where applicable, any high-speed craft shall carry:

High-Speed Craft Safety Certificate

A certificate called a High-Speed Craft Safety Certificate shall be issued after completion of an initial or renewal survey to a craft which complies with the requirements of the 1994 HSC Code or the 2000 HSC Code, as appropriate.

Reference

SOLAS 1974, regulation X/3; 1994 HSC Code, section 1.8; 2000 HSC Code, section 1.8

Permit to Operate High-Speed Craft

A certificate called a Permit to Operate High-Speed Craft shall be issued to a craft which complies with the requirements set out in paragraphs 1.2.2 to 1.2.7 of the 1994 HSC Code or the 2000 HSC Code, as appropriate.

1994 HSC Code, section 1.9; 2000 HSC Code, section 1.9

8 In addition to the certificates listed in sections 1, and 2 or 3 above, where applicable, any ship carrying dangerous goods shall carry:

Document of compliance with the special requirements for ships carrying dangerous goods

The Administration shall provide the ship with an appropriate document as evidence of compliance of construction and equipment with the requirements of regulation II-2/19 of SOLAS 1974.

Certification for dangerous goods, except solid dangerous goods in bulk, is not required for those cargoes specified as class 6.2 and 7 and dangerous goods in limited quantities.

SOLAS 1974, (2000 amendments), regulation II-2/19.4

9 In addition to the certificates listed in sections 1, and 2 or 3 above, where applicable, any ship carrying dangerous goods in packaged form shall carry:

Dangerous goods manifest or stowage plan

Each ship carrying dangerous goods in packaged form shall have a special list or manifest setting forth, in accordance with the classification set out in the IMDG Code, the dangerous goods on board and the location thereof. Each ship carrying dangerous goods in solid form in bulk shall have a list or manifest setting forth the dangerous goods on board and the location thereof. A detailed stowage plan, which identifies by class and sets out the location of all dangerous goods on board, may be used in place of such a special list or manifest. A copy of one of these documents shall be made available before departure to the person or organization designated by the port State authority.

Reference

SOLAS 1974, (2002 amendments), regulations VII/4.5 and VII/7-2; MARPOL 73/78, Annex III, regulation 4

Reference

- 10 In addition to the certificates listed in sections 1, and 2 or 3 above, where applicable, any ship carrying INF cargo shall carry:**

International Certificate of Fitness for the Carriage of INF Cargo

A ship carrying INF cargo shall comply with the requirements of the International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on Board Ships (INF Code) in addition to any other applicable requirements of the SOLAS regulations and shall be surveyed and be provided with the International Certificate of Fitness for the Carriage of INF Cargo.

SOLAS 1974,
regulation VII/16; INF
Code (resolution
MSC.88(71)),
paragraph 1.3

- 11 In addition to the certificates listed in sections 1, and 2 or 3 above, where applicable, any Nuclear Ship shall carry:**

A Nuclear Cargo Ship Safety Certificate or Nuclear Passenger Ship Safety Certificate, in place of the Cargo Ship Safety Certificate or Passenger Ship Safety Certificate, as appropriate.

Every Nuclear powered ship shall be issued with the certificate required by SOLAS chapter VIII.

SOLAS 1974,
regulation VIII/10

Reference

Other certificates and documents which are not mandatory

Special purpose ships

Special Purpose Ship Safety Certificate

In addition to SOLAS certificates as specified in paragraph 7 of the Preamble of the Code of Safety for Special Purpose Ships, a Special Purpose Ship Safety Certificate should be issued after survey in accordance with the provisions of paragraph 1.6 of the Code for Special Purpose Ships. The duration and validity of the certificate should be governed by the respective provisions for cargo ships in SOLAS 1974. If a certificate is issued for a special purpose ship of less than 500 gross tonnage, this certificate should indicate to what extent relaxations in accordance with 1.2 were accepted.

Resolution A.534(13) as amended by MSC/Circ.739; SOLAS 1974, regulation I/12; 1988 SOLAS Protocol, regulation I/12

Offshore support vessels

Certificate of Fitness for Offshore Support Vessels

When carrying such cargoes, offshore support vessels should carry a Certificate of Fitness issued under the “Guidelines for the Transport and Handling of Limited Amounts of Hazardous and Noxious Liquid Substances in Bulk on Offshore Support Vessels”. If an offshore support vessel carries only noxious liquid substances, a suitably endorsed International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk may be issued instead of the above Certificate of Fitness.

Resolution A.673(16); MARPOL 73/78, Annex II, regulation 13(4)

Diving systems*Diving System Safety Certificate*

A certificate should be issued either by the Administration or any person or organization duly authorized by it after survey or inspection to a diving system which complies with the requirements of the Code of Safety for Diving Systems. In every case, the Administration should assume full responsibility for the certificate.

Dynamically supported craft*Dynamically Supported Craft**Construction and Equipment Certificate*

To be issued after survey carried out in accordance with paragraph 1.5.1(a) of the Code of Safety for Dynamically Supported Craft.

Mobile offshore drilling units*Mobile Offshore Drilling Unit Safety Certificate*

To be issued after survey carried out in accordance with the provisions of the Code for the Construction and Equipment of Mobile Offshore Drilling Units, 1979, or, for units constructed on or after 1 May 1991, the Code for the Construction and Equipment of Drilling Units, 1989.

Reference

Resolution A.536(13),
section 1.6

Resolution A.373(X),
section 1.6

Resolution A.414(XI),
section 1.6;
Resolution A.649(16),
section 1.6;
Resolution A.649(16)
as modified by
resolution
MSC.38(63), section
1.6

Wing-In-Ground (WIG) Craft

Wing-in-ground Craft Safety Certificate

A certificate called a WIG Craft Safety Certificate should be issued after completion of an initial or renewal survey to a craft which complies with the provisions of the Interim Guidelines for WIG craft.

Reference

MSC/Circ.1054,
section 9

Permit to Operate WIG Craft

A permit to operate should be issued by the Administration to certify compliance with the provisions of the Interim Guidelines for WIG craft.

MSC/Circ.1054,
section 10

Noise levels

Noise Survey Report

A noise survey report should be made for each ship in accordance with the Code on Noise Levels on Board Ships.

Resolution
A.468(XII), section
4.3

-
- a The form of the Certificate and its Record of Equipment may be found in the GMDSS amendments to SOLAS 1974.
 - b SLS.14/Circ.115 and Add.1 refers to the issue of exemption certificates.
 - c The form of the Certificate may be found in the GMDSS amendments to SOLAS 1974.
 - d SLS.14/Circ.115 and Add.1 refers to the issue of exemption certificates.

Schedule 2 Recordable operations and recordable events

sections 17 and 35

Part 1 Entries for oil record book

1 Machinery space operations

Each of the following is a recordable operation—

- (a) a ballasting or cleaning of an oil fuel tank;
- (b) a discharge of dirty ballast or dirty cleaning water from an oil fuel tank;
- (c) a disposal of oil residues that are sludge;
- (d) a discharge overboard or another disposal of bilge water that has accumulated in any machinery space;
- (e) a bunkering of fuel or bulk lubricating oil.

2 Cargo or ballast operations

(1) Each of the following is a recordable operation—

- (a) a loading of oil cargo, including by transfer operation;
- (b) an internal transfer of oil cargo during voyage;
- (c) an unloading of oil cargo, including by transfer operation;
- (d) a ballasting of cargo tanks and dedicated clean ballast tanks;
- (e) a cleaning of cargo tanks, including crude oil washing;
- (f) a discharge of ballast except from segregated ballast tanks;
- (g) a discharge of water from slop tanks;

Schedule 2

- (h) a closure of all applicable valves or similar devices after slop tank discharge operations;
 - (i) a closure of valves necessary for isolation of dedicated clean ballast tanks from cargo and stripping lines after slop tank discharge operations;
 - (j) a disposal of residues after an operation mentioned in paragraphs (a) to (i).
- (2) In this section—
- transfer operation* has the meaning given in section 59 of the Act.

3 Recordable events

Each of the following is a recordable event—

- (a) a discharge into coastal waters of oil or an oily mixture necessary for the purpose of securing the safety of a ship or saving life at sea;
- (b) a discharge into coastal waters of oil or an oily mixture resulting from damage to a ship or its equipment;
- (c) a discharge into coastal waters of an oily mixture, approved by an authorised officer, to combat specific pollution incidents to minimise the damage from pollution;
- (d) a failure of the ship's oil filtering equipment;
- (e) a discharge exempted under part 2, division 2.

Part 2 Entries for cargo record book

4 Recordable operations

Each of the following is a recordable operation—

- (a) a loading of cargo;

- (b) an internal transfer of cargo;
- (c) an unloading of cargo;
- (d) a mandatory prewash in accordance with ship's procedures and arrangements manual;
- (e) a cleaning of a cargo tank other than under paragraph (d);
- (f) a ballasting of a cargo tank;
- (g) a discharge of ballast from a cargo tank;
- (h) a disposal of residues to a reception facility;
- (i) a removal of cargo residues from a tank by ventilation procedures approved by the general manager under section 23(2) or 28(2).

5 Recordable events

Each of the following is a recordable event—

- (a) a discharge into coastal waters of a noxious liquid substance necessary for the purpose of securing the safety of a ship or saving life at sea;
- (b) a discharge into coastal waters of a noxious liquid substance resulting from damage to a ship or its equipment;
- (c) a discharge into coastal waters of a noxious liquid substance, approved by an authorised officer, to combat specific pollution incidents to minimise the damage from pollution;
- (d) a discharge exempted under section 22 or 27.

Schedule 3 International Bulk Chemical Code

section 37(3), schedule 9, definitions *category X substance*, *category Y substance* and *category Z substance*,

Chapter 17

Summary of minimum requirements

Mixtures of noxious liquid substances presenting pollution hazards only, and which are assessed or provisionally assessed under regulation 6.3 of MARPOL Annex II, may be carried under the requirements of the Code applicable to the appropriate position of the entry in this chapter for Noxious Liquid Substances, not otherwise specified (n.o.s.).

EXPLANATORY NOTES

Product name (<i>column a</i>)	The product name shall be used in the shipping document for any cargo offered for bulk shipments. Any additional name may be included in brackets after the product name. In some cases, the product names are not identical with the names given in previous issues of the Code.
Pollution Category (<i>column c</i>)	The letter X, Y, Z means the Pollution Category assigned to each product under MARPOL Annex II

a	c
Alcohols (C ₁₂ –C ₁₃), primary, linear and essentially linear (n)	Y
Alcohols (C ₁₄ –C ₁₈), primary, linear and essentially linear (n)	Y

a	c
Alkanes (C ₆ –C ₉)	X
<i>n</i> -Alkanes (C ₁₀ +))	Y
<i>n</i> -Alkanes (C ₁₀ +) (n)	Z
Alkaryl polyethers (C ₉ –C ₂₀) (n)	Y
Alkenyl (C ₁₁ +) amide (n)	X
Alkenyl (C ₁₆ –C ₂₀) succinic anhydride	Z
Alkyl acrylate–Vinylpyridine copolymer in toluene (n)	Y
Alkylaryl phosphate mixtures (more than 40% Diphenyl tolyl phosphate, less than 0.02% ortho-isomers)	X
Alkylated (C ₄ –C ₉) hindered phenols	Y
Alkylbenzene, alkylindane, alkylindene mixture (each C ₁₂ –C ₁₇)	Z
Alkyl benzene distillation bottoms (n)	Y
Alkylbenzene mixtures (containing at least 50% of toluene) (n)	Y
Alkyl (C ₃ –C ₄) benzenes (n)	Y
Alkyl (C ₅ –C ₈) benzenes (n)	X
Alkyl(C ₉ +)benzenes (n)	Y
Alkyl(C ₉ +)benzenes	Z
Alkyl (C ₁₁ –C ₁₇) benzene sulphonic acid (n)	Y
Alkylbenzene sulphonic acid, sodium salt solution (n)	Y
Alkyl (C ₁₂ +) dimethylamine	X
Alkyl dithiocarbamate (C ₁₉ –C ₃₅)	Y
Alkyldithiothiadiazole (C ₆ –C ₂₄)	Z
Alkyldithiothiadiazole (C ₆ –C ₂₄) (n)	Y
Alkyl ester copolymer (C ₄ –C ₂₀)	Y
Alkyl (C ₈ –C ₁₀)/(C ₁₂ –C ₁₄):(40% or less/60% or more) polyglucoside solution (55% or less)	Y
Alkyl (C ₈ –C ₁₀)/(C ₁₂ –C ₁₄):(50%/50%) polyglucoside solution (55% or less)	Y

Schedule 3

a	c
Alkyl (C ₈ -C ₁₀)/(C ₁₂ -C ₁₄):(60% or more/40% or less) polyglucoside solution (55% or less)	Y
Alkyl (C ₇ -C ₉) nitrates (n)	Y
Alkyl(C ₇ -C ₁₁)phenol poly(4-12)ethoxylate (n)	Y
Alkyl (C ₈ -C ₄₀) phenol sulphide	Z
Alkyl (C ₈ -C ₉) phenylamine in aromatic solvents	Y
Alkyl (C ₉ -C ₁₅) phenyl propoxylate	Z
Alkyl (C ₁₂ -C ₁₄) polyglucoside solution (55% or less)	Y
Alkyl (C ₈ -C ₁₀) polyglucoside solution (65% or less)	Y
Alkyl (C ₁₀ -C ₂₀ , saturated and unsaturated) phosphite	Y
Alkyl sulphonic acid ester of phenol	Y
Allyl alcohol	Y
Allyl chloride	Y
Aluminium sulphate solution	Y
2-(2-Aminoethoxy)ethanol (n)	Z
Aminoethyldiethanolamine/ Aminoethylethanolamine solution (n)	Z
Aminoethylethanolamine	Z
N-Aminoethylpiperazine (n)	Z
2-Amino-2-methyl-1-propanol	Z
Ammonia aqueous (28% or less)	Y
Ammonium hydrogen phosphate solution	Z
Ammonium lignosulphonate solutions (n)	Z
Ammonium nitrate solution (93% or less)	Z
Ammonium polyphosphate solution	Z
Ammonium sulphate solution	Z
Ammonium sulphide solution (45% or less)	Y
Ammonium thiosulphate solution (60% or less) (n)	Z
Amyl acetate (all isomers)	Y
n-Amyl alcohol	Z
Amyl alcohol, primary	Z

a	c
<i>sec</i> -Amyl alcohol	Z
<i>tert</i> -Amyl alcohol	Z
<i>tert</i> -Amyl methyl ether	X
Aniline	Y
Aryl polyolefins (C ₁₁ –C ₅₀)	Y
Aviation alkylates (C ₈ paraffins and iso-paraffins BPT 95–120°C)	X
Barium long chain (C ₁₁ –C ₅₀) alkaryl sulphonate	Y
Benzene and mixtures having 10% benzene or more (i)	Y
Benzene sulphonyl chloride (n)	Z
Benzenetricarboxylic acid, trioctyl ester	Y
Benzyl acetate	Y
Benzyl alcohol	Y
Benzyl chloride (n)	Y
Brake fluid base mix: Poly(2–8)alkylene (C ₂ –C ₃) glycols/Polyalkylene (C ₂ –C ₁₀) glycols monoalkyl (C ₁ –C ₄) ethers and their borate esters (n)	Z
Bromochloromethane	Z
Butene oligomer (n)	X
Butyl acetate (all isomers)	Y
Butyl acrylate (all isomers)	Y
<i>tert</i> -Butyl alcohol	Z
Butylamine (all isomers)	Y
Butylbenzene (all isomers)	X
Butyl benzyl phthalate	X
Butyl butyrate (all isomers)	Y
Butyl/Decyl/Cetyl/Eicosyl methacrylate mixture	Y
Butylene glycol	Z
1,2-Butylene oxide	Y
<i>n</i> -Butyl ether	Y
Butyl methacrylate	Z
<i>n</i> -Butyl propionate	Y

Schedule 3

a	c
Butyraldehyde (all isomers)	Y
Butyric acid	Y
<i>gamma</i> -Butyrolactone	Y
Calcium carbonate slurry	Z
Calcium hydroxide slurry (n)	Z
Calcium hypochlorite solution (15% or less)	Y
Calcium hypochlorite solution (more than 15%)	X
Calcium lignosulphonate solutions (n)	Z
Calcium long-chain alkaryl sulphonate (C ₁₁ -C ₅₀) (n)	Z
Calcium long-chain alkyl (C ₅ -C ₁₀) phenate	Y
Calcium long-chain alkyl (C ₁₁ -C ₄₀) phenate	Z
Calcium long-chain alkyl (C ₁₁ -C ₄₀) phenate (n)	Y
Calcium long-chain alkyl phenate sulphide (C ₈ -C ₄₀)	Y
Calcium long-chain alkyl salicylate (C ₁₃ +) (n)	Y
Calcium nitrate/Magnesium nitrate/Potassium chloride solution (n)	Z
<i>epsilon</i> -Caprolactam (molten or aqueous solutions)	Z
Carbolic oil (n)	Y
Carbon disulphide	Y
Carbon tetrachloride	Y
Cashew nut shell oil (untreated) (n)	Y
Castor oil (n)	Y
Castor oil (containing less than 2% free fatty acids)	Y
Cetyl/Eicosyl methacrylate mixture	Y
Chlorinated paraffins (C ₁₀ -C ₁₃)	X
Chlorinated paraffins (C ₁₄ -C ₁₇) (with 50% chlorine or more, and less than 1% C ₁₃ or shorter chains) (n)	X
Chloroacetic acid (80% or less)	Y
Chlorobenzene	Y
Chloroform	Y
Chlorohydrins (crude)	Y

a	c
4-Chloro-2-methylphenoxyacetic acid, dimethylamine salt solution	Y
<i>o</i> -Chloronitrobenzene (n)	Y
1-(4-Chlorophenyl)-4,4-dimethylpentan-3-one	Y
2- or 3-Chloropropionic acid	Z
Chlorosulphonic acid	Y
<i>m</i> -Chlorotoluene	Y
<i>o</i> -Chlorotoluene	Y
<i>p</i> -Chlorotoluene	Y
Chlorotoluenes (mixed isomers)	Y
Choline chloride solutions	Z
Citric acid (70% or less)	Z
Coal tar (n)	X
Coal tar naphtha solvent (n)	Y
Coal tar pitch (molten) (n)	X
Cocoa butter (n)	Y
Coconut oil (n)	Y
Coconut oil (containing less than 5% free fatty acids)	Y
Coconut oil fatty acid (n)	Y
Coconut oil fatty acid methyl ester (n)	Y
Copper salt of long chain (C ₁₇₊) alkanolic acid (n)	Y
Corn oil (n)	Y
Corn oil (containing less than 10% free fatty acids)	Y
Cotton seed oil (n)	Y
Cotton seed oil (containing less than 12% free fatty acids)	Y
Creosote (coal tar) (n)	X
Cresols (all isomers)	Y
Cresylic acid, dephenolized	Y
Cresylic acid, sodium salt solution (n)	Y
Crotonaldehyde	Y
1,5,9-Cyclododecatriene	X
Cycloheptane	X

Schedule 3

a	c
Cyclohexane	Y
Cyclohexanol	Y
Cyclohexanone	Z
Cyclohexanone, Cyclohexanol mixture	Y
Cyclohexyl acetate	Y
Cyclohexylamine	Y
1,3-Cyclopentadiene dimer (molten)	Y
Cyclopentane	Y
Cyclopentene	Y
<i>p</i> -Cymene	Y
Decahydronaphthalene	Y
Decanoic acid	X
Decene (n)	X
Decyl acrylate	X
Decyl alcohol (all isomers)	Y
Decyloxytetrahydrothiophene dioxide (n)	X
Diacetone alcohol	Z
Dialkyl (C ₈ –C ₉) diphenylamines	Z
Dialkyl (C ₇ –C ₁₃) phthalates	X
Dibromomethane	Y
Dibutylamine	Y
Dibutyl hydrogen phosphonate	Y
2,6-Di- <i>tert</i> -butylphenol (n)	X
Dibutyl phthalate	X
Dichlorobenzene (all isomers)	X
3,4-Dichloro-1-butene	Y
1,1-Dichloroethane (n)	Z
Dichloroethyl ether	Y
1,6-Dichlorohexane (n)	Y
2,2'-Dichloroisopropyl ether	Y
Dichloromethane (n)	Y

a	c
2,4-Dichlorophenol	Y
2,4-Dichlorophenoxyacetic acid, diethanolamine salt solution (n)	Y
2,4-Dichlorophenoxyacetic acid, dimethylamine salt solution (70% or less) (n)	Y
2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt solution (n)	Y
1,1-Dichloropropane	Y
1,2-Dichloropropane	Y
1,3-Dichloropropene	X
Dichloropropene/Dichloropropane mixtures	X
2,2-Dichloropropionic acid (n)	Y
Diethanolamine	Y
Diethylamine	Y
Diethylaminoethanol	Y
2,6-Diethylaniline (n)	Y
Diethylbenzene	Y
Diethylene glycol dibutyl ether (n)	Z
Diethylene glycol diethyl ether (n)	Z
Diethylene glycol phthalate (n)	Y
Diethylenetriamine	Y
Diethylenetriaminepentaacetic acid, pentasodium salt solution (n)	Z
Diethyl ether	Z
Di-(2-ethylhexyl) adipate	Y
Di-(2-ethylhexyl)phosphoric acid (n)	Y
Diethyl phthalate	Y
Diethyl sulphate	Y
Diglycidyl ether of bisphenol A (n)	X
Diglycidyl ether of bisphenol F (n)	Y
Diheptyl phthalate	Y
Di- <i>n</i> -hexyl adipate	X

Schedule 3

a	c
Dihexyl phthalate	Y
Diisobutylamine	Y
Diisobutylene	Y
Diisobutyl ketone	Y
Diisobutyl phthalate (n)	X
Diisononyl adipate	Y
Diisooctyl phthalate	Y
Diisopropanolamine	Z
Diisopropylamine	Y
Diisopropylbenzene (all isomers)	X
Diisopropylnaphthalene (n)	Y
<i>N,N</i> -Dimethylacetamide	Z
<i>N,N</i> -Dimethylacetamide solution (40% or less)	Z
Dimethyl adipate	X
Dimethylamine solution (45% or less)	Y
Dimethylamine solution (greater than 45% but not greater than 55%)	Y
Dimethylamine solution (greater than 55% but not greater than 65%)	Y
<i>N,N</i> -Dimethylcyclohexylamine	Y
Dimethyl disulphide	Y
<i>N,N</i> -Dimethyldodecylamine	X
Dimethylethanolamine	Y
Dimethylformamide	Y
Dimethyl glutarate	Y
Dimethyl hydrogen phosphite	Y
Dimethyloctanoic acid	Y
Dimethyl phthalate	Y
Dimethylpolysiloxane	Y
2,2-Dimethylpropane-1,3-diol (molten or solution) (n)	Z
2,2-Dimethylpropane-1,3-diol (molten or solution)	Z
Dimethyl succinate	Y

a	c
Dinitrotoluene (molten)	X
Dinonyl phthalate (n)	Y
Dioctyl phthalate	X
1,4-Dioxane	Y
Dipentene	Y
Diphenyl	X
Diphenylamine (molten) (n)	Y
Diphenylamine, reaction product with 2,2,4-Trimethylpentene (n)	Y
Diphenylamines, alkylated (n)	Y
Diphenyl/Diphenyl ether mixtures	X
Diphenyl ether	X
Diphenyl ether/Diphenyl phenyl ether mixture	X
Diphenylmethane diisocyanate (n)	Y
Diphenylolpropane–Epichlorohydrin resins	X
Di- <i>n</i> -propylamine	Y
Dipropylene glycol	Z
Dithiocarbamate ester (C ₇ –C ₃₅)	X
Ditridecyl adipate (n)	Y
Ditridecyl phthalate (n)	Y
Diundecyl phthalate	Y
Dodecane (all isomers)	Y
<i>tert</i> -Dodecanethiol	X
Dodecene (all isomers)	X
Dodecyl alcohol	Y
Dodecylamine/Tetradecylamine mixture (n)	Y
Dodecylbenzene	Z
Dodecyl diphenyl ether disulphonate solution (n)	X
Dodecyl hydroxypropyl sulphide	X
Dodecyl methacrylate	Z
Dodecyl/Octadecyl methacrylate mixture (n)	Y
Dodecyl/Octadecyl methacrylate mixture	Z

Schedule 3

a	c
Dodecyl/Pentadecyl methacrylate mixture	Y
Dodecylphenol	X
Dodecylxylene	Y
Drilling brines (containing zinc salts)	X
Drilling brines, including: calcium bromide solution, calcium chloride solution and sodium chloride solution	Z
Epichlorohydrin	Y
Ethanolamine	Y
2-Ethoxyethyl acetate	Y
Ethoxylated long chain (C ₁₆ +) alkyloxyalkylamine	Y
Ethoxylated long chain (C ₁₆ +) alkyloxyalkylamine (n)	Z
Ethyl acetate	Z
Ethyl acetoacetate	Z
Ethyl acrylate	Y
Ethylamine	Y
Ethylamine solutions (72% or less)	Y
Ethyl amyl ketone (n)	Y
Ethylbenzene	Y
Ethyl <i>tert</i> -butyl ether	Y
Ethyl butyrate (n)	Y
Ethylcyclohexane	Y
N-Ethylcyclohexylamine	Y
S-Ethyl dipropylthiocarbamate	Y
Ethylene chlorohydrin	Y
Ethylene cyanohydrin	Y
Ethylenediamine	Y
Ethylenediaminetetraacetic acid, tetrasodium salt solution (n)	Y
Ethylene dibromide	Y
Ethylene dichloride	Y
Ethylene glycol	Y
Ethylene glycol acetate (n)	Y

a	c
Ethylene glycol butyl ether acetate	Y
Ethylene glycol diacetate	Y
Ethylene glycol methyl ether acetate (n)	Y
Ethylene glycol monoalkyl ethers	Y
Ethylene glycol phenyl ether (n)	Z
Ethylene glycol phenyl ether/Diethylene glycol phenyl ether mixture	Z
Ethylene oxide/Propylene oxide mixture with an ethylene oxide content of not more than 30% by mass	Y
Ethylene-Vinyl acetate copolymer (emulsion) (n)	Y
Ethyl 3-ethoxypropionate	Y
2-Ethylhexanoic acid	Y
2-Ethylhexyl acrylate	Y
2-Ethylhexylamine	Y
2-Ethyl-2-(hydroxymethyl)propane-1,3-diol (C ₈ -C ₁₀) ester	Y
Ethylidenenorbornene	Y
Ethyl methacrylate	Y
N-Ethylmethylallylamine	Y
Ethyl propionate (n)	Y
2-Ethyl-3-propylacrolein	Y
Ethyltoluene	Y
Fatty acid (saturated C ₁₃ +)	Y
Fatty acid methyl esters (m) (n)	Y
Fatty acids, C ₈ -C ₁₀ (n)	Y
Fatty acids, C ₁₂ + (n)	Y
Fatty acids, C ₁₆ + (n)	Y
Fatty acids, essentially linear (C ₆ -C ₁₈) 2-ethylhexyl ester	Y
Ferric chloride solutions	Y
Ferric nitrate/Nitric acid solution	Y
Fish oil (n)	Y

Schedule 3

a	c
Fish oil (containing less than 4% free fatty acids)	Y
Fluorosilicic acid (20–30%) in water solution (n)	Y
Formaldehyde solutions (45% or less)	Y
Formamide	Y
Formic acid	Y
Furfural	Y
Furfuryl alcohol	Y
Glucitol/Glycerol blend propoxylated (containing less than 10% amines) (n)	Z
Glutaraldehyde solutions (50% or less)	Y
Glycerol monooleate (n)	Y
Glycerol propoxylated (n)	Z
Glycerol, propoxylated and ethoxylated (n)	Z
Glycerol/Sucrose blend propoxylated and ethoxylated (n)	Z
Glyceryl triacetate	Z
Glycidyl ester of C10 trialkylacetic acid	Y
Glycine, sodium salt solution	Z
Glycolic acid solution (70% or less)	Z
Glyoxal solution (40% or less)	Y
Glyoxylic acid solution (50% or less) (n)	Y
Glyphosate solution (not containing surfactant)	Y
Groundnut oil (n)	Y
Groundnut oil (containing less than 4% free fatty acids)	Y
Heptane (all isomers)	X
<i>n</i> -Heptanoic acid	Z
Heptanol (all isomers) (d)	Y
Heptene (all isomers)	Y
Heptyl acetate	Y
1-Hexadecylnaphthalene/ 1,4-Bis(hexadecyl)naphthalene mixture	Y
Hexamethylenediamine adipate (50% in water)	Z
Hexamethylenediamine (molten)	Y

a	c
Hexamethylenediamine solution	Y
Hexamethylene diisocyanate	Y
Hexamethylene glycol	Z
Hexamethyleneimine	Y
Hexane (all isomers)	Y
1,6-Hexanediol, distillation overheads (n)	Y
Hexanoic acid	Y
Hexanol	Y
Hexene (all isomers)	Y
Hexyl acetate	Y
Hydrochloric acid	Z
Hydrogen peroxide solutions (over 60% but not over 70% by mass)	Y
Hydrogen peroxide solutions (over 8% but not over 60% by mass) (n)	Y
2-Hydroxyethyl acrylate	Y
N-(Hydroxyethyl)ethylenediaminetriacetic acid, trisodium salt solution	Y
2-Hydroxy-4-(methylthio)butanoic acid	Z
Illipe oil (n)	Y
Isoamyl alcohol	Z
Iso- and cyclo-alkanes (C ₁₀ -C ₁₁) (n)	Y
Iso- and cyclo-alkanes (C ₁₀ -C ₁₁)	Z
Iso- and cyclo-alkanes (C ₁₂ +) (n)	Y
Iso- and cyclo-alkanes (C ₁₂ +) (n)	Y
Isobutyl alcohol	Z
Isobutyl formate	Z
Isobutyl methacrylate	Z
Isophorone	Y
Isophoronediamine	Y
Isophorone diisocyanate	X
Isoprene	Y

Schedule 3

a	c
Isopropanolamine	Y
Isopropyl acetate	Z
Isopropylamine	Y
Isopropylamine (70% or less) solution (n)	Y
Isopropylcyclohexane	Y
Isopropyl ether	Y
Lactic acid	Z
Lactonitrile solution (80% or less)	Y
Lard (n)	Y
Lard (containing less than 1% free fatty acids)	Y
Latex, ammonia (1% or less)-inhibited (n)	Y
Latex: Carboxylated styrene-Butadiene copolymer; Styrene-Butadiene rubber (n)	Z
Lauric acid	X
Ligninsulphonic acid, sodium salt solution (n)	Z
Linseed oil (n)	Y
Linseed oil (containing less than 2% free fatty acids)	Y
Liquid chemical wastes	X
Long-chain alkaryl polyether (C ₁₁ -C ₂₀)	Y
Long-chain alkaryl sulphonic acid (C ₁₆ -C ₆₀) (n)	Y
Long-chain alkylphenate/Phenol sulphide mixture (n)	Y
L-Lysine solution (60% or less)	Z
Magnesium chloride solution	Z
Magnesium long-chain alkaryl sulphonate (C ₁₁ -C ₅₀) (n)	Y
Magnesium long-chain alkyl salicylate (C ₁₁₊) (n)	Y
Maleic anhydride	Y
Mango kernel oil (n)	Y
Mercaptobenzothiazol, sodium salt solution	X
Mesityl oxide	Z
Metam sodium solution	X
Methacrylic acid-Alkoxypoly(alkylene oxide) methacrylate copolymer, sodium salt aqueous solution (45% or less) (n)	Z

a	c
Methacrylic acid	Y
Methacrylic resin in ethylene dichloride	Y
Methacrylonitrile	Y
3-Methoxy-1-butanol	Z
3-Methoxybutyl acetate	Y
N-(2-Methoxy-1-methylethyl)-2-ethyl-6-methylchloroacetanilide	X
Methyl acetate	Z
Methyl acetoacetate	Z
Methyl acrylate	Y
Methyl alcohol	Y
Methylamine solutions (42% or less)	Y
Methylamyl acetate	Y
Methylamyl alcoho	Z
Methyl amyl ketone	Z
Methylbutenol	Y
Methyl <i>tert</i> -butyl ether	Z
Methyl butyl ketone	Y
Methylbutynol	Z
Methyl butyrate	Y
Methylcyclohexane	Y
Methylcyclopentadiene dimer	Y
Methylcyclopentadienyl manganese tricarbonyl	X
Methyl diethanolamine	Y
2-Methyl-6-ethylaniline	Y
Methyl ethyl ketone	Z
2-Methyl-5-ethylpyridine	Y
Methyl formate	Z
2-Methyl-2-hydroxy-3-butyne	Z
Methyl isobutyl ketone	Z
Methyl methacrylate	Y
3-Methyl-3-methoxybutanol	Z

Schedule 3

a	c
Methylnaphthalene (molten)	X
2-Methyl-1,3-propanediol (n)	Z
2-Methylpyridine	Z
3-Methylpyridine	Z
4-Methylpyridine	Z
<i>N</i> -Methyl-2-pyrrolidone	Y
Methyl salicylate	Y
<i>alpha</i> -Methylstyrene	Y
3-(Methylthio)propionaldehyde	Y
3-(Methylthio)propionaldehyde (n)	Y
Molybdenum polysulfide long chain alkyl dithiocarbamide complex (n)	Y
Morpholine	Y
Motor fuel anti-knock compounds (containing lead alkyls)	X
Myrcene (n)	X
Naphthalene (molten)	X
Naphthalenesulphonic acid–Formaldehyde copolymer, sodium salt solution (n)	Z
Neodecanoic acid	Y
Nitrating acid (mixture of sulphuric and nitric acids)	Y
Nitric acid (70% and over)	Y
Nitric acid (less than 70%)	Y
Nitrilotriacetic acid, trisodium salt solution	Y
Nitrobenzene	Y
Nitroethane	Y
Nitroethane (80%)/Nitropropane (20%)	Y
Nitroethane, 1-Nitropropane (each 15% or more) mixture (n)	Y
<i>o</i> -Nitrophenol (molten)	Y
1- or 2-Nitropropane	Y
Nitropropane (60%)/Nitroethane (40%) mixture	Y
<i>o</i> - or <i>p</i> -Nitrotoluenes (n)	Y

a	c
Nonane (all isomers)	X
Nonanoic acid (all isomers)	Y
Non-edible industrial grade palm oil	Y
Nonene (all isomers)	Y
Nonyl alcohol (all isomers)	Y
Nonyl methacrylate monomer	Y
Nonylphenol	X
Nonylphenol poly(4+)ethoxylate (n)	Y
Noxious liquid, NF, (1) n.o.s. (trade name . . . , contains . . .) ST1, Cat. X	X
Noxious liquid, F, (2) n.o.s. (trade name . . . , contains . . .) ST1, Cat. X	X
Noxious liquid, NF, (3) n.o.s. (trade name . . . , contains . . .) ST2, Cat. X	X
Noxious liquid, F, (4) n.o.s. (trade name . . . , contains . . .) ST2, Cat. X	X
Noxious liquid, NF, (5) n.o.s. (trade name . . . , contains . . .) ST2, Cat. Y	Y
Noxious liquid, F, (6) n.o.s. (trade name . . . , contains . . .) ST2, Cat. Y	Y
Noxious liquid, NF, (7) n.o.s. (trade name . . . , contains . . .) ST3, Cat. Y	Y
Noxious liquid, F, (8) n.o.s. (trade name . . . , contains . . .) ST3, Cat. Y	Y
Noxious liquid, NF, (9) n.o.s. (trade name . . . , contains . . .) ST3, Cat. Z	Z
Noxious liquid, F, (10) n.o.s. (trade name . . . , contains . . .) ST3, Cat. Z	Z
Octane (all isomers) (n)	X
Octanoic acid (all isomers) (n)	Y
Octanoic acid (all isomers)	Z
Octanol (all isomers)	Y
Octene (all isomers)	Y
<i>n</i> -Octyl acetate (n)	Y

Schedule 3

a	c
Octyl aldehydes (n)	Y
Octyl aldehydes	Y
Octyl decyl adipate (n)	Y
Olefin-Alkyl ester copolymer (molecular weight 2000+)	Y
Olefin mixtures (C ₅ -C ₇) (n)	Y
Olefin mixtures (C ₅ -C ₁₅) (n)	X
Olefins (C ₁₃ +, all isomers)	Y
<i>alpha</i> -Olefins (C ₆ -C ₁₈) mixtures (n)	X
Oleic acid	Y
Oleum	Y
Oleylamine (n)	X
Olive oil (n)	Y
Olive oil (containing less than 3.3% free fatty acids)	Y
Oxygenated aliphatic hydrocarbon mixture (n)	Z
Palm acid oil (n)	Y
Palm fatty acid distillate (n)	Y
Palm kernel acid oil (n)	Y
Palm kernel oil (n)	Y
Palm kernel oil (containing less than 5% free fatty acids)	Y
Palm kernel olein (n)	Y
Palm kernel stearin (n)	Y
Palm mid fraction (n)	Y
Palm oil (n)	Y
Palm oil (containing less than 5% free fatty acids)	Y
Palm oil fatty acid methyl ester (n)	Y
Palm olein (n)	Y
Palm olein (containing less than 5% free fatty acids)	Y
Palm stearin (n)	Y
Palm stearin (containing less than 5% free fatty acids)	Y
Paraffin wax	Y
Paraldehyde	Z

a	c
Paraldehyde–Ammonia reaction product	Y
Pentachloroethane	Y
1,3-Pentadiene (n)	Y
1,3-Pentadiene	Y
Pentaethylenehexamine	X
Pentane (all isomers)	Y
Pentanoic acid	Y
<i>n</i> -Pentanoic acid (64%)/2-Methylbutyric acid (36%) mixture	Y
Pentene (all isomers)	Y
<i>n</i> -Pentyl propionate	Y
Perchloroethylene	Y
Petrolatum (n)	Y
Petrolatum	Z
Phenol	Y
1-Phenyl-1-xylylethane	Y
Phosphate esters, alkyl (C ₁₂ –C ₁₄) amine (n)	Y
Phosphoric acid	Z
Phosphorus, yellow or white	X
Phthalic anhydride (molten)	Y
<i>alpha</i> -Pinene	X
<i>beta</i> -Pinene	X
Pine oil	X
Polyacrylic acid solution (40% or less) (n)	Z
Polyalkyl (C ₁₈ –C ₂₂) acrylate in xylene (n)	Y
Polyalkyl (C ₁₈ –C ₂₂) acrylate in xylene	Y
Poly(2–8)alkylene glycol monoalkyl (C ₁ –C ₆) ether (n)	Z
Poly(2–8)alkylene glycol monoalkyl (C ₁ –C ₆) ether acetate (n)	Y
Polyalkyl (C ₁₀ –C ₂₀) methacrylate	Y

Schedule 3

a	c
Polyalkyl (C ₁₀ –C ₁₈) methacrylate/Ethylene– Propylene copolymer mixture	Y
Polybutene (n)	Y
Polybutenyl succinimide (n)	Y
Poly(2+)cyclic aromatics	X
Polyether (molecular weight 1350+) (n)	Y
Polyethylene glycol	Z
Polyethylene glycol dimethyl ether	Z
Polyethylene polyamines (n)	Y
Polyethylene polyamines (more than 50% C ₅ –C ₂₀ paraffin oil) (n)	Y
Polyferric sulphate solution	Y
Poly(iminoethylene)-graft-N-poly(ethyleneoxy) solution (90% or less) (n)	Z
Polyisobutenamine in aliphatic (C ₁₀ –C ₁₄) solvent	Y
Polyisobutenyl anhydride adduct	Z
Poly(4+)isobutylene	Y
Polymethylene polyphenyl isocyanate (n)	Y
Polyolefin (molecular weight 300+) (n)	Y
Polyolefin amide alkeneamine (C ₁₇ +)	Y
Polyolefin amide alkeneamine borate (C ₂₈ –C ₂₅₀)	Y
Polyolefinamine (C ₂₈ –C ₂₅₀)	Y
Polyolefinamine in alkyl (C ₂ –C ₄) benzenes	Y
Polyolefinamine in aromatic solvent	Y
Polyolefin aminoester salts (molecular weight 2000+) (n)	Y
Polyolefin anhydride	Y
Polyolefin ester (C ₂₈ –C ₂₅₀)	Y
Polyolefin phenolic amine (C ₂₈ –C ₂₅₀)	Y
Polyolefin phosphorusulphide, barium derivative (C ₂₈ –C ₂₅₀)	Y
Poly(20)oxyethylene sorbitan monooleate	Y

a	c
Poly(5+)propylene (n)	Y
Polypropylene glycol (n)	Z
Polypropylene glycol	Z
Polysiloxane	Y
Potassium chloride solution (n)	Z
Potassium hydroxide solution	Y
Potassium oleate	Y
Potassium thiosulphate (50% or less)	Y
<i>n</i> -Propanolamine	Y
<i>beta</i> -Propiolactone	Y
Propionaldehyde	Y
Propionic acid	Y
Propionic anhydride	Y
Propionitrile	Y
<i>n</i> -Propyl acetate	Y
<i>n</i> -Propyl alcohol	Y
<i>n</i> -Propylamine	Z
Propylbenzene (all isomers)	Y
Propylene glycol methyl ether acetate	Z
Propylene glycol monoalkyl ether	Z
Propylene glycol phenyl ether	Z
Propylene oxide	Y
Propylene tetramer	X
Propylene trimer	Y
Pyridine	Y
Pyrolysis gasoline (containing benzene) (n)	Y
Rapeseed oil (n)	Y
Rapeseed oil (low erucic acid, containing less than 4% free fatty acids)	Y
Rape seed oil fatty acid methyl esters (n)	Y
Resin oil, distilled (n)	Y
Rice bran oil (n)	Y

Schedule 3

a	c
Rosin	Y
Safflower oil (n)	Y
Shea butter (n)	Y
Sodium alkyl (C ₁₄ –C ₁₇) sulphonates (60–65% solution) (n)	Y
Sodium aluminosilicate slurry	Z
Sodium benzoate	Z
Sodium borohydride (15% or less)/Sodium hydroxide solution	Y
Sodium carbonate solution	Z
Sodium chlorate solution (50% or less)	Z
Sodium dichromate solution (70% or less)	Y
Sodium hydrogen sulphide (6% or less)/ Sodium carbonate (3% or less) solution	Z
Sodium hydrogen sulphite solution (45% or less)	Z
Sodium hydrosulphide/Ammonium sulphide solution	Y
Sodium hydrosulphide solution (45% or less)	Z
Sodium hydroxide solution	Y
Sodium hypochlorite solution (15% or less)	Y
Sodium nitrite solution	Y
Sodium petroleum sulphonate (n)	Y
Sodium poly(4+)acrylate solutions (n)	Z
Sodium silicate solution	Y
Sodium sulphide solution (15% or less)	Y
Sodium sulphite solution (25% or less)	Y
Sodium thiocyanate solution (56% or less)	Y
Soyabean oil (n)	Y
Soyabean oil (containing less than 0.5% free fatty acids)	Y
Styrene monomer (n)	Y
Sulphohydrocarbon (C ₃ –C ₈₈) (n)	Y
Sulpholane	Y
Sulphonated polyacrylate solution (o)	Z
Sulphur (molten)	Z

a	c
Sulphuric acid	Y
Sulphuric acid, spent	Y
Sulphurized fat (C ₁₄ –C ₂₀)	Z
Sulphurized polyolefinamide alkene (C ₂₈ –C ₂₅₀) amine (n)	Z
Sunflower seed oil (n)	Y
Sunflower seed oil (containing less than 7% free fatty acids)	Y
Tall oil, crude (n)	Y
Tall oil, distilled (n)	Y
Tall oil fatty acid (resin acids less than 20%) (n)	Y
Tall oil pitch (n)	Y
Tallow (n)	Y
Tallow (containing less than 15% free fatty acids)	Y
Tallow fatty acid	Y
Tetrachloroethane	Y
Tetraethylene glycol	Z
Tetraethylenepentamine	Y
Tetrahydrofuran	Z
Tetrahydronaphthalene	Y
Tetramethylbenzene (all isomers)	X
Titanium dioxide slurry	Z
Toluene	Y
Toluenediamine	Y
Toluene diisocyanate	Y
o-Toluidine	Y
Tributyl phosphate	Y
1,2,3-Trichlorobenzene (molten)	X
1,2,4-Trichlorobenzene	X
1,1,1-Trichloroethane	Y
1,1,2-Trichloroethane	Y
Trichloroethylene	Y
1,2,3-Trichloropropane	Y

Schedule 3

a	c
1,1,2-Trichloro-1,2,2-trifluoroethane	Y
Tricresyl phosphate (containing 1% or more <i>ortho</i> -isomer)	Y
Tricresyl phosphate (containing less than 1% <i>ortho</i> -isomer) (n)	Y
Tridecane	Y
Tridecanoic acid	Y
Tridecyl acetate	Y
Tridecyl acetate (n)	Z
Triethanolamine	Z
Triethylamine	Y
Triethylbenzene	X
Triethylenetetramine	Y
Triethyl phosphate	Z
Triethyl phosphite	Z
Triisopropanolamine	Z
Triisopropylated phenyl phosphates	X
Trimethylacetic acid (n)	Y
Trimethylacetic acid	Y
Trimethylamine solution (30% or less)	Z
Trimethylbenzene (all isomers)	X
Trimethylolpropane propoxylated (n)	Z
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	Z
2,2,4-Trimethyl-1,3-pentanediol-1-isobutyrate	Y
1,3,5-Trioxane	Y
Tripropylene glycol	Z
Trixylyl phosphate	X
Tung oil (n)	Y
Tung oil (containing less than 2.5% free fatty acids)	Y
Turpentine	X
Undecanoic acid	Y
1-Undecene	X
Undecyl alcohol	X

a	c
Urea/Ammonium nitrate solution	Z
Urea/Ammonium nitrate solution (containing aqua ammonia)	Z
Urea/Ammonium nitrate solution (containing less than 1% free ammonia) (n)	Z
Urea/Ammonium phosphate solution	Y
Urea solution	Z
Valeraldehyde (all isomers)	Y
Vegetable acid oils (m) (n)	Y
Vegetable fatty acid distillates (m) (n)	Y
Vegetable protein solution (hydrolysed) (o)	Z
Vinyl acetate	Y
Vinyl ethyl ether	Z
Vinylidene chloride	Y
Vinyl neodecanoate	Y
Vinyltoluene	Y
Waxes (n)	Y
Waxes	Z
White spirit, low (15–20%) aromatic (n)	Y
Xylenes	Y
Xylenes/Ethylbenzene (10% or more) mixture (n)	Y
Xylenol (n)	Y
Xylenol	Y
Zinc alkaryl dithiophosphate (C ₇ –C ₁₆)	Y
Zinc alkenyl carboxamide	Y
Zinc alkyl dithiophosphate (C ₃ –C ₁₄)	Y

- a If the product to be carried contains flammable solvents such that the flashpoint does not exceed 60°C, then special electrical systems and a flammable-vapour detector shall be provided.

Schedule 3

- b Although water is suitable for extinguishing open-air fires involving chemicals to which this footnote applies, water shall not be allowed to contaminate closed tanks containing these chemicals because of the risk of hazardous gas generation.
- c Phosphorus, yellow or white is carried above its autoignition temperature and therefore flashpoint is not appropriate. Electrical equipment requirements may be similar to those for substances with a flashpoint above 60°C.
- d Requirements are based on those isomers having a flashpoint of 60°C, or less; some isomers have a flashpoint greater than 60°C, and therefore the requirements based on flammability would not apply to such isomers.
- e Applies to *n*-decyl alcohol only.
- f Dry chemical shall not be used as fire-extinguishing media.
- g Confined spaces shall be tested for both formic acid vapours and carbon monoxide gas, a decomposition product.
- h Applies to *p*-xylene only.
- i For mixtures containing no other components with safety hazards and where the pollution category is Y or less.
- j Only certain alcohol-resistant foams are effective.
- k Requirements for Ship Type identified in *column e* might be subject to regulation 4.1.3 of Annex II of MARPOL 73/78.
- l Applicable when the melting point is equal to or greater than 0°C.
- m From vegetable oils specified in the IBC Code.
- n Pending official adoption and entry into force which is expected to be 1 January 2009. Products marked with this footnote appear in List 1 of the MEPC.2 Circular. Where these are double entries, those marked with this footnote take precedence.
- o Refer to the entry in chapter 18.

Chapter 18

List of products to which the Code does not apply

- 18.1 The following are products which have been reviewed for their safety and pollution hazards and determined not to present hazards to such an extent as to warrant application of the Code.
- 18.2 Although the products listed in this chapter fall outside the scope of the Code, the attention of Administrations is drawn to the fact that some safety precautions may be needed for their safe transportation. Accordingly, Administrations shall prescribe appropriate safety requirements.
- 18.3 Some liquid substances are identified as falling into Pollution Category Z and, therefore, subject to certain requirements of Annex II of MARPOL 73/78.
- 18.4 Liquid mixtures which are assessed or provisionally assessed under regulation 6.3 of MARPOL Annex II as falling into Pollution Category Z or OS, and which do not present safety hazards, may be carried under the appropriate entry in this chapter for “Noxious or Non-Noxious Liquid Substances, not otherwise specified (n.o.s.)”.

EXPLANATORY NOTES

- | | |
|--------------------|---|
| Product name | The product name shall be used in the shipping document for any cargo offered for bulk shipments. Any additional name may be included in brackets after the product name. In some cases, the product names are not identical with the names given in previous issues of the Code. |
| Pollution Category | The letter Z means the Pollution Category assigned to each product under Annex II of MARPOL 73/78. OS means the product was evaluated and found to fall outside Categories X, Y, or Z. |

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Product name	Pollution Category
Acetone	Z
Alcoholic beverages, n.o.s.	Z
Apple juice	OS
<i>n</i> -Butyl alcohol	Z
<i>sec</i> -Butyl alcohol	Z
Calcium nitrate solutions (50% or less) (a)	Z
Clay slurry	OS
Coal slurry	OS
Diethylene glycol	Z
Ethyl alcohol	Z
Ethylene carbonate	Z
Glucose solution	OS
Glycerine	Z
Glycerol monooleate (b)	Z
Hexamethylenetetramine solutions	Z
Hexylene glycol	Z
Hydrogenated starch hydrolysate (a)	OS
Isopropyl alcohol	Z
Kaolin slurry	OS
Lecithin (a)	OS
Magnesium hydroxide slurry	Z
Maltitol solution (a)	OS
<i>N</i> -Methylglucamine solution (70% or less)	Z
Methyl propyl ketone	Z
Molasses	OS
Noxious liquid, (11) n.o.s. (trade name ..., contains ...) Cat. Z	Z
Non noxious liquid, (12) n.o.s. (trade name ..., contains ...) Cat. OS	OS
Polyaluminium chloride solution	Z
Polyglycerin, sodium salt solution (containing less than 3% sodium hydroxide) (a)	Z

Potassium formate solutions	Z
Propylene carbonate	Z
Propylene glycol	Z
Sodium acetate solutions	Z
Sodium sulphate solutions	Z
Sorbitol solution (a)	OS
Sulphonated polyacrylate solution (a)	Z
Tetraethyl silicate monomer/oligomer (20% in ethanol)	Z
Triethylene glycol	Z
Vegetable protein solution (hydrolysed) (a)	OS
Water	OS

- a Pending official adoption and entry into force, which is expected to be 1 January 2009. Products marked with this footnote appear in List 1 of the MEPC.2 Circular.
- b Refer to the entry in chapter 17.

Schedule 4 Nil discharge waters for untreated sewage

section 44

Part 1 On and from 1 September 2008 to 31 December 2009

- 1 Prohibited discharge waters.
- 2 Smooth waters.
- 3 Hervey Bay waters and northern Moreton Bay waters, within 1852m of any of the following—
 - (a) aquaculture fisheries resources;
 - (b) a reef;
 - (c) the mean low water mark of the mainland;
 - (d) if a ship has 16 or more persons on board—the mean low water mark of an island.
- 4 Open waters—
 - (a) within 926m of a wharf or jetty other than a jetty that is a marina; or
 - (b) within 1852m any of the following—
 - (i) aquaculture fisheries resources;
 - (ii) if a ship has 16 or more persons on board—a reef, or the mean low water mark of an island or the mainland.

Part 2 **On and from 1 January 2010**

- 5 Prohibited discharge waters.
- 6 Smooth waters.
- 7 If a ship has 16 or more persons on board—Hervey Bay waters, northern Moreton Bay waters and open waters.
- 8 Hervey Bay waters and northern Moreton Bay waters, within 1852m of any of the following—
 - (a) aquaculture fisheries resources;
 - (b) a reef;
 - (c) the mean low water mark of the mainland.
- 9 Open waters—
 - (a) within 926m of a wharf or jetty other than a jetty that is a marina; or
 - (b) within 1852m of aquaculture fisheries resources; or
 - (c) if a ship has 7 to 15 persons on board—within 1852m of any of the following—
 - (i) a reef;
 - (ii) the mean low water mark of an island or the mainland.

Schedule 5 Nil discharge waters for treated sewage

section 45

- 1 Prohibited discharge waters.
- 2 For grade B treated sewage—Hervey Bay waters, northern Moreton Bay waters, open waters and smooth waters, within 700m of any of the following—
 - (a) a person in the water;
 - (b) aquaculture fisheries resources;
 - (c) a reef.
- 3 For grade C treated sewage—Hervey Bay waters, northern Moreton Bay waters, open waters and smooth waters, within 926m of any of the following—
 - (a) a person in the water;
 - (b) aquaculture fisheries resources;
 - (c) a reef.

Schedule 6 Nil discharge waters for treated sewage or untreated sewage from declared ship

section 47

Part 1 On and from 1 September 2008 to 31 December 2009

- 1 Prohibited discharge waters.
- 2 For grade B treated sewage—Hervey Bay waters, northern Moreton Bay waters, open waters and smooth waters, within 700m of any of the following—
 - (a) a person in the water;
 - (b) aquaculture fisheries resources;
 - (c) a reef.
- 3 For grade C treated sewage—Hervey Bay waters, northern Moreton Bay waters, open waters and smooth waters, within 926m of any of the following—
 - (a) a person in the water;
 - (b) aquaculture fisheries resources;
 - (c) a reef.
- 4 For untreated sewage—
 - (a) Hervey Bay waters, northern Moreton Bay waters and smooth waters; or
 - (b) open waters within 926m of a wharf or jetty other than a jetty that is a marina; or
 - (c) open waters within 1852m of any of the following—
 - (i) aquaculture fisheries resources;

- (d) if a declared ship has 16 or more persons on board—open waters.

Schedule 7 Levels of sewage quality characteristics for treated sewage

sections 55 and 57

Part 1 Interpretation

1 Definition

In this schedule—

relevant level means—

- (a) for determining a sewage treatment system's performance specifications under normal operating conditions in relation to the levels of sewage quality characteristics remaining in sewage after it has been treated in the treatment system—the geometric mean of the results of the analyses of at least 5 samples taken in a period during which a sewage treatment system's performance is determined; or
- (b) for assessing a treatment system as required under section 55—
 - (i) if 1 sample is used for the assessment—the result of the analysis of the sample; or
 - (ii) if more than 1 sample is used for the assessment—the geometric mean of the results of the analyses of the samples taken in a period during which a sewage treatment system's performance is assessed.

2 Calculating relevant level

- (1) The result of an analysis of a sample used to calculate the relevant level of the sample (the *result*) must only be a real number.

- (2) If the result is 0, or below the limit of reporting for an analytical procedure, the result must be half of the value of the limit of reporting for the procedure.
- (3) In this section—
limit of reporting, for an analytical procedure, means the smallest value for the procedure that can be reported with certainty.

Part 2 Levels for grade A treated sewage

3 Thermotolerant coliforms

The relevant level of the thermotolerant coliform count of the samples of treated sewage taken during the test period must not be more than 250 thermotolerant coliforms/100mL, most probable number, as determined by a multiple tube fermentation analysis or an equivalent analytical procedure.

4 Suspended solids

The relevant level of the total suspended solids content of the samples of treated sewage taken during the test period must not be more than 50mg/L above the suspended solids content of ambient water used for flushing purposes.

5 Biochemical oxygen demand

The relevant level of the 5 day biochemical oxygen demand of the samples of treated sewage taken during the test period must not be more than 50mg/L.

Part 3 **Levels for grade B treated sewage**

6 **Thermotolerant coliforms**

The relevant level of the thermotolerant coliform count of the samples of treated sewage taken during the test period must not be more than 150 thermotolerant coliforms/100mL, most probable number, as determined by a multiple tube fermentation analysis or an equivalent analytical procedure.

7 **Suspended solids**

The relevant level of the total suspended solids content of the samples of treated sewage taken during the test period must not be more than 50mg/L above the suspended solids content of ambient water used for flushing purposes.

Part 4 **Levels for grade C treated sewage**

8 **Thermotolerant coliforms**

The relevant level of the thermotolerant coliform count of the samples of treated sewage taken during the test period must not be more than 150 thermotolerant coliforms/100mL, most probable number, as determined by a multiple tube fermentation analysis or an equivalent analytical procedure.

Schedule 8 **Areas within the Great Barrier Reef Coast Marine Park that are designated areas**

schedule 9, definition *designated area*, paragraph (d)

Part 1 **Interpretation**

1 **Definitions**

In this schedule—

100m line, around a reef, means the line every point of which is 100m seaward from the seaward edge of the reef.

500m line, around a reef, means the line every point of which is 500m seaward from the seaward edge of the reef.

coastal 100m line—

- (a) around an island or the mainland, means the line every point of which is 100m seaward from the island, or the mainland, at low water; or
- (b) to the extent there is a fringing reef around the island or the mainland, means the line every point of which is 100m seaward from the seaward edge of the fringing reef.

coastal 500m line—

- (a) around an island, a group of islands, the mainland, a rock, or a group of rocks, means the line every point of which is 500m seaward from the island, the group of islands, the mainland, the rock or the group of rocks, at low water; or
- (b) to the extent there is a fringing reef around the island, the group of islands, the mainland, the rock or the group of rocks, means the line every point of which is 500m seaward from the edge of the fringing reef.

fringing reef, in relation to an island, a group of islands, the mainland, a rock, or a group of rocks, means a reef that adjoins, overlaps or is in close proximity to the island, the group of islands, the mainland, the rock or the group of rocks, at low water.

geodesic means a line between 2 points that follows the curvature of the earth.

H.A.T. means highest astronomical tide.

highest astronomical tide means the highest level of the tides that can be predicted to happen under average meteorological conditions and under any combination of astronomical conditions.

high water means the mean height of the highest high water at spring tide.

island 500m line, around an island, means the line every point of which is 500m seaward from the island at low water.

L.A.T. means lowest astronomical tide.

lowest astronomical tide means the lowest level of the tides that can be predicted to happen under average meteorological conditions and under any combination of astronomical conditions.

low water means the mean height of the lowest low water at spring tide.

median line, means—

- (a) in relation to 2 islands, a line that—
 - (i) starts at 1 point where the island 500m line around 1 island intersects the island 500m line around the other island; and
 - (ii) ends at the other point where the 2 island 500m lines intersect; and
 - (iii) at every point is equidistant from both islands at low water; or
- (b) in relation to 1 island and a rock or group of rocks, a line that—

-
- (i) starts at 1 point where the island 500m line around the island intersects the rock 500m line around the rock or group of rocks; and
 - (ii) ends at the other point where the island 500m line intersects the rock 500m line; and
 - (iii) at every point is equidistant from the island and the rock or group of rocks at low water; or
- (c) in relation to 2 reefs, a line that—
- (i) starts at 1 point where the 500m line around 1 reef intersects the 500m line around the other reef; and
 - (ii) ends at the other point where the 500m lines intersect; and
 - (iii) at every point is equidistant from the seaward edge of both reefs.

rock 500m line, around a rock or a group of rocks, means the line every point of which is 500m seaward from the rock, or the group of rocks, at low water.

the mainland includes a part of the mainland.

Note—

See also the *Survey and Mapping Infrastructure Act 2003*, section 60 (References to features forming part of an administrative area boundary) for other rules of interpretation for working out boundaries mentioned in this schedule.

2 References to latitudes and longitudes

The latitudes and longitudes used to describe an area mentioned in this schedule are worked out using the Geocentric Datum of Australia 1994, commonly called ‘GDA94’, notified in the Commonwealth Government Gazette No. GN 35 on 6 September 1995, at page 3369.

3 References to H.A.T., high water etc.

- (1) A reference in this schedule to the mainland, an island or another natural feature at H.A.T., high water, L.A.T., or low water is a reference to the line that represents H.A.T., high

water, L.A.T., or low water adjacent to the mainland, the island or the natural feature.

Examples of natural features—

bay, creek, inlet, river, rock

- (2) A reference to the bank of a creek, inlet or river is a reference to the line that—
- (a) runs along the outer limit of the defined channel of the creek, inlet or river; and
 - (b) follows the upper limit of the land in the channel that is covered by the waters of the creek, inlet or river—
 - (i) for a reference to the bank at H.A.T.—at H.A.T.; or
 - (ii) for a reference to the bank at high water—at high water; or
 - (iii) for a reference to the bank at L.A.T.—at L.A.T.; or
 - (iv) for a reference to the bank at low water—at low water.

4 References to bracketed island or reef numbers

- (1) In this schedule, a reference to a bracketed island number after a description of an island, or a bracketed reef number after a description of a reef, is included to provide additional information for identifying the island or reef.
- (2) In this section—
- island number* means the word ‘island’ followed by a sequence of numbers separated by a dash.
- reef number* means the word ‘reef’ followed by—
- (a) a sequence of numbers separated by a dash; or
 - (b) a sequence of numbers separated by a dash and a letter in lower case.

Part 2 **Areas that are designated areas**

Division 1 **Areas within the Mackay/Capricorn Management Area**

5 **Part of Rodds Bay Segment**

The area within the following boundary—

- from where latitude 24°00.528' south intersects the mainland at low water

Note—

Latitude 24°00.528' south intersects the mainland at low water near Spit End.

- then south-westerly along the geodesic that passes through the following points to where the geodesic intersects the coastal 500m line around the mainland at Rodds Peninsula—
 - where the mainland at low water intersects latitude 24°00.528' south
 - where latitude 24°01.818' south intersects Hummock Hill Island at low water
- then generally northerly, north-easterly, easterly and south-easterly along the coastal 500m line around the mainland at Rodds Peninsula to where it intersects longitude 151°43.063' east
- then south along longitude 151°43.063' east to where it intersects the mainland at high water

Note—

Longitude 151°43.063' east intersects the mainland at high water on Rodds Peninsula.

- then generally north-westerly, westerly and southerly along the mainland at high water to where it intersects latitude 24°00.528' south

Note—

The mainland at high water intersects latitude 24°00.528' south near Spit End.

- then west along latitude 24°00.528' south to where it intersects the mainland at low water.

6 Parts of Keppel Bay Segment

The following areas—

- (a) the area within the following boundary—
- from the most western point where North Keppel Island at H.A.T. intersects latitude 23°04.662' south
 - then west along latitude 23°04.662' south to where it intersects the coastal 500m line around North Keppel Island
 - then generally south-easterly along the coastal 500m line around North Keppel Island to where it intersects latitude 23°04.992' south
 - then east along latitude 23°04.992' south to where it intersects North Keppel Island at H.A.T.
 - then generally north-westerly along North Keppel Island at H.A.T. to the most western point where it intersects latitude 23°04.662' south;
- (b) the area within the following boundary—
- from the most western point where Great Keppel Island at H.A.T. intersects latitude 23°10.698' south
 - then west along latitude 23°10.698' to where it intersects the coastal 500m line around Great Keppel Island
 - then generally southerly along the coastal 500m line around Great Keppel Island to where it intersects latitude 23°11.340' south

-
- then east along latitude 23°11.340' south to where it intersects Great Keppel Island at H.A.T.
 - then generally northerly along Great Keppel Island at H.A.T. to the most western point where it intersects latitude 23°10.698' south;
- (c) the area that is landward of the coastal 500m line around Egg Rock;
- (d) the area within the following boundary—
- from the eastern point of the median line between Middle Island and Miall Island
 - then generally south-westerly along the median line between Middle Island and Miall Island to the western point of the line
 - then generally southerly, south-easterly, easterly and north-easterly along the island 500m line around Middle Island to the western point of the median line between Middle Island and Passage Rocks
 - then generally north-easterly along the median line between Middle Island and Passage Rocks to the eastern point of the line
 - then generally north-westerly along the island 500m line around Middle Island to the eastern point of the median line between Middle Island and Miall Island;
- (e) the area within the following boundary—
- from the most northern point of Halfway Island at low water
 - then north along the longitude that passes through the most northern point of Halfway Island at low water to where the longitude intersects the southern point of the median line between Great Keppel Island and Halfway Island

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- then generally north-easterly along the median line between Great Keppel Island and Halfway Island to the northern point of the line
 - then generally south-easterly and southerly along the island 500m line around Halfway Island to where it intersects the latitude that passes through the most southern point of Halfway Island at high water
 - then west along the latitude that passes through the most southern point of Halfway Island at high water to the most southern point of Halfway Island at high water
 - then northerly along a geodesic to the most southern point of Halfway Island at H.A.T.
 - then generally north-easterly and northerly along the eastern side of Halfway Island at H.A.T. to the most northern point of the Island at H.A.T.
 - then northerly along a geodesic to the most northern point of Halfway Island at low water;
- (f) the area within the following boundary—
- from the most western point of the island 500m line around Peak Island
 - then generally northerly along the island 500m line around Peak Island to the southern point of the median line between Peak Island and Split Rock
 - then generally north-easterly along the median line between Peak Island and Split Rock to the northern point of the line
 - then generally south-easterly and southerly along the island 500m line around Peak Island to the north-eastern point of the median line between Peak Island and Arch Rock
 - then generally south-westerly along the median line between Peak Island and Arch Rock to the south-western point of the line

- then generally north-westerly along the island 500m line around Peak Island to the most western point of the line.

7 Parts of Broad Sound Segment

The following areas—

(a) the area within the following boundary—

- from the most southern point of the 500m line around Ethel Sand Shoal (reef 21-357)

Note—

The most southern point of the 500m line around Ethel Sand Shoal (reef 21-357) is at approximately latitude 21°51.174' south, longitude 149°44.556' east.

- then north-westerly and north-easterly along the 500m line around Ethel Sand Shoal (reef 21-357) to its most eastern point
- then south-easterly along a geodesic to the most eastern point of the coastal 500m line around George Island
- then generally south-westerly along the coastal 500m line around George Island to its most southern point
- then south-westerly along a geodesic to the most southern point of the coastal 500m line around Calliope Island
- then westerly along a geodesic to the most southern point of the 500m line around Ethel Sand Shoal (reef 21-357);

(b) the area within the following boundary—

- from the most southern point of Leicester Island at low water
- then northerly along a geodesic to the most southern point of Leicester Island at H.A.T.

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- then north-easterly and northerly along the eastern side of Leicester Island at H.A.T. to its most northern point
- then northerly along a geodesic to the most northern point of Leicester Island at low water
- then east along the latitude that passes through the most northern point of Leicester Island at low water to the most western point where the latitude intersects Townshend Island at H.A.T.
- then generally southerly, easterly, south-westerly, north-easterly and southerly along Townshend Island at H.A.T. to where it intersects the latitude that passes through the most southern point of the coastal 500m line around Marquis Island
- then west along the latitude that passes through the most southern point of the coastal 500m line around Marquis Island to the most southern point where the latitude intersects the coastal 500m line around Marquis Island
- then generally westerly and northerly along the coastal 500m line around Marquis Island to its most western point
- then north-westerly along a geodesic to the most southern point of Leicester Island at low water.

8 Parts of Cumberland Islands Segment

The following areas—

- (a) the area that is landward of the coastal 500m line around Penrith Island;
- (b) the area within the following boundary—
 - from where latitude 20°46.824' south intersects the western side of Carlisle Island at low water
 - then east along latitude 20°46.824' south to the most western point where it intersects Carlisle Island at H.A.T.

- then generally easterly along Carlisle Island at H.A.T. to where it intersects longitude $149^{\circ}17.994'$ east on the southern side of the island
 - then south along longitude $149^{\circ}17.994'$ east to where it intersects the southern side of Carlisle Island at low water
 - then westerly along a geodesic to where latitude $20^{\circ}48.150'$ south intersects the eastern side of Brampton Island at low water
 - then south along latitude $20^{\circ}48.150'$ south to where it intersects the eastern side of Brampton Island at H.A.T.
 - then generally westerly along Brampton Island at H.A.T. to where it intersects longitude $149^{\circ}15.672'$ east
 - then north along longitude $149^{\circ}15.672'$ east to where it intersects the northern side of Brampton Island at low water
 - then north-easterly along a geodesic to where latitude $20^{\circ}46.824'$ south intersects the western side of Carlisle Island at low water;
- (c) the area within the following boundary—
- from the most northern point of the coastal 500m line around Scawfell Island
 - then generally south-easterly, southerly, southwesterly, westerly and north-westerly along the coastal 500m line around Scawfell Island to its most western point
 - then east along the latitude that passes through the most western point of the coastal 500m line around Scawfell Island to where the latitude intersects Scawfell Island at H.A.T.
 - then generally south-easterly, north-easterly, southeasterly, north-easterly, northerly and north-westerly along Scawfell Island at H.A.T. to its most northern point

- then northerly along a geodesic to the most northern point of the coastal 500m line around Scawfell Island.

9 Parts of Capricorn-Bunker Segment

The following areas—

- (a) the area within the following boundary—
 - from the most northern point where the 500m line around Wistari Reef intersects the 500m line around Heron Island Reef
 - then easterly along the 500m line around Heron Island Reef to where it intersects the 500m line around Sykes Reef
 - then generally easterly along the 500m line around Sykes Reef to where it intersects longitude 152°00.054' east
 - then south along longitude 152°00.054' east to the most southern point where it intersects the 500m line around Sykes Reef
 - then westerly along the 500m around Sykes Reef to where it intersects the 500m line around Heron Island Reef
 - then westerly along the 500m line around Heron Island Reef to the most southern point where it intersects the 500m line around Wistari Reef
 - then generally south-westerly, north-westerly and north-easterly along the 500m line around Wistari Reef to the most northern point where it intersects the 500m line around Heron Island Reef;
- (b) the area landward of the 500m line around Lady Elliot Island Reef;
- (c) the area within the following boundary—

-
- from the most northern point where longitude 151°46.638' east intersects the 100m line around Brew Shoal Reef
 - then generally north-easterly along the 100m line around Brew Shoal Reef to where it intersects the longitude that passes through the most eastern point of Tryon Island at high water
 - then south along the longitude that passes through the most eastern point of Tryon Island at high water to where it intersects the most eastern point of Tryon Island at high water
 - then westerly along a geodesic to the most eastern point of Tryon Island at H.A.T.
 - then generally south-westerly along Tryon Island at H.A.T. to where it intersects longitude 151°46.638' east
 - then north along longitude 151°46.638' east to the most northern point where it intersects the 100m line around Brew Shoal Reef;
- (d) the area within the following boundary—
- from the most southern point where the 100m line around Brew Shoal Reef intersects longitude 151°46.638' east
 - then north along longitude 151°46.638' east to where it intersects Tryon Island at H.A.T.
 - then generally north-easterly along Tryon Island at H.A.T. to its most eastern point
 - then easterly along a geodesic to the most eastern point of Tryon Island at high water
 - then south along the longitude that passes through the most eastern point of Tryon Island at high water to where it intersects the 100m line around Brew Shoal Reef

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- then generally south-westerly along the 100m line around Brew Shoal Reef to the most southern point where it intersects longitude 151°46.638' east;
- (e) the area within the following boundary—
- from the most northern point where longitude 151°42.402' east intersects the 100m line around North West Reef
 - then generally easterly along the 100m line around North West Reef to where it intersects the longitude that passes through the most eastern point of North West Island at high water
 - then south along the longitude that passes through the most eastern point of North West Island at high water to the most eastern point of North West Island at high water
 - then westerly along a geodesic to the most eastern point of North West Island at H.A.T.
 - then generally north-westerly and westerly along North West Island at H.A.T. to where it intersects longitude 151°42.402' east
 - then north along longitude 151°42.402' east to the most northern point where it intersects the 100m line around North West Reef;
- (f) the area within the following boundary—
- from the most southern point where the 100m line around North West Reef intersects longitude 151°42.402' east
 - then north along longitude 151°42.402' east to where it intersects North West Island at H.A.T.
 - then generally north-easterly along North West Island at H.A.T. to its most eastern point
 - then easterly along a geodesic to the most eastern point of North West Island at high water
 - then south along the longitude that passes through the most eastern point of North West Island at high

-
- water to where the longitude intersects the 100m line around North West Reef
- then generally north-westerly along the 100m line around North West Reef to the most southern point where the line intersects longitude 151°42.402' east;
- (g) the area within the following boundary—
- from the most northern point where longitude 151°43.512' east intersects the 100m line around Masthead Island Reef
 - then generally south-easterly along the 100m line around Masthead Island Reef to where it intersects the longitude that passes through the most eastern point of Masthead Island at high water
 - then south along the longitude that passes through the most eastern point of Masthead Island at high water to the most eastern point of Masthead Island at high water
 - then westerly along a geodesic to the most eastern point of Masthead Island at H.A.T.
 - then generally westerly along Masthead Island at H.A.T. to where it intersects longitude 151°43.512' east
 - then north along longitude 151°43.512' east to the most northern point where it intersects the 100m line around Masthead Island Reef;
- (h) the area within the following boundary—
- from the most southern point where the 100m line around Masthead Island Reef intersects longitude 151°43.512' east
 - then north along longitude 151°43.512' east to where it intersects Masthead Island at H.A.T.
 - then generally easterly along Masthead Island at H.A.T. to its most eastern point

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- then easterly along a geodesic to the most eastern point of Masthead Island at high water
 - then south along the longitude that passes through the most eastern point of Masthead Island at high water to where the longitude intersects the 100m line around Masthead Island Reef
 - then generally westerly along the 100m line around Masthead Island Reef to the most southern point where it intersects longitude 151°43.512' east;
- (i) the area within the following boundary—
- from the most northern point where Lady Musgrave Island at H.A.T. intersects longitude 152°23.604' east
 - then north along longitude 152°23.604' east to where it intersects the 100m line around Lady Musgrave Island Reef
 - then generally north-easterly along the 100m line around Lady Musgrave Island Reef to where it intersects longitude 152°24.552' east

Note—

Longitude 152°24.552' east approximately passes through the most northern point of the seaward edge of the part of Lady Musgrave Island Reef that is on the southern side of the main entrance channel to Lady Musgrave Island.

- then south-easterly along a geodesic to latitude 23°53.628' south, longitude 152°24.780' east
- then south-westerly along a geodesic to the most eastern point of Lady Musgrave Island at high water
- then westerly along a geodesic to the most eastern point of Lady Musgrave Island at H.A.T.
- then generally northerly, north-westerly and southwesterly along Lady Musgrave Island at H.A.T. to the most northern point where it intersects longitude 152°23.604' east;

-
- (j) the area landward of the 500m line around Llewellyn Reef;
 - (k) the area landward of the 500m line around One Tree Island Reef;
 - (l) the area landward of the 500m line around Wreck Island Reef.

Division 2 Areas within the Townsville/Whitsunday Management Area

10 Parts of Whitsundays Segment

The following areas—

- (a) the area within the following boundary—
 - from the most northern point where longitude 148°57.664' east intersects Hook Island at low water
 - then westerly along a geodesic to the most northern point where longitude 148°55.364' east intersects Hook Island at low water
 - then south along longitude 148°55.364' east to where it intersects Hook Island at H.A.T.
 - then generally south-easterly, southerly, northeasterly and easterly along Hook Island at H.A.T. to the most northern point where it intersects longitude 148°57.664' east
 - then north along longitude 148°57.664' east to the most northern point where it intersects Hook Island at low water;
- (b) the area landward of the coastal 100m line around Border Island;
- (c) the area within the following boundary—

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- from the most northern point of the coastal 100m line around Haslewood Island
 - then southerly along the coastal 100m line around Haslewood Island to the most northern point where it intersects the coastal 100m line around Lupton Island
 - then southerly along the coastal 100m line around Lupton Island to the most southern point where it intersects the coastal 100m line around Haslewood Island
 - then generally southerly along the coastal 100m line around Haslewood Island to its most southern point
 - then north along the longitude that passes through the most southern point of the coastal 100m line around Haslewood Island to where the longitude intersects Haslewood Island at H.A.T.
 - then generally northerly along Haslewood Island at H.A.T. to its most northern point
 - then northerly along a geodesic to the most northern point of the coastal 100m line around Haslewood Island;
- (d) the area within the following boundary—
- from the most eastern point where latitude 20°25.896' south intersects the mainland at low water
 - then north-easterly along a geodesic to the most southern point of the coastal 100m line around Calf Island
 - then generally north-easterly, northerly and northwesterly along the coastal 100m line around Calf Island to the most eastern point where it intersects the coastal 100m line around Cow Island
 - then generally northerly, north-westerly and westerly along the coastal 100m line around Cow

Island to where it intersects the mainland at low water

- then generally southerly along the mainland at low water to the most eastern point where it intersects latitude 20°25.896' south;
- (e) the area within the following boundary—
- from the most northern point of the coastal 500m line around Eshelby Island
 - then generally south-westerly and southerly along the coastal 500m line around Eshelby Island to the most western point where it intersects the coastal 500m line around the unnamed island (island 20-013) just south of Eshelby Island

Note—

The most western point where the coastal 500m line around Eshelby Island intersects the coastal 500m line around the unnamed island (20-013) just south of Eshelby Island is at approximately latitude 20°01.344' south, longitude 148°37.314' east.

- then generally south-westerly, southerly, easterly and northerly along the coastal 500m line around the unnamed island (island 20-013) just south of Eshelby Island to the most eastern point where it intersects the coastal 500m line around Eshelby Island
- then generally northerly and north-westerly along the coastal 500m line around Eshelby Island to its most northern point.

11 Part of Bowling Green Bay Segment

The area within the following boundary—

- from where the mainland at high water intersects latitude 19°15.300' south near Cape Woorra
- then east along latitude 19°15.300' south to where it intersects the coastal 500m line around the mainland

- then generally south-easterly and westerly along the coastal 500m line around the mainland to where it intersects latitude 19°16.902' south
- then west along latitude 19°16.902' south to where it intersects the mainland at high water
- then generally easterly and north-westerly along the mainland at high water to where it intersects latitude 19°15.300' south near Cape Woorra.

12 Parts of Halifax Bay and Magnetic Island Segment

The following areas—

- (a) the part of Balding Bay that is south of the following line—
 - from where longitude 146°52.302' east intersects Magnetic Island at high water on the eastern side of the bay
 - then north-westerly along a geodesic to where longitude 146°51.522' east intersects Magnetic Island at high water on the western side of the bay;
- (b) the part of Geoffrey Bay that is north of the following line—
 - from where longitude 146°52.332' east intersects Magnetic Island at high water on the eastern side of the bay
 - then south-westerly along a geodesic to where longitude 146°52.224' east intersects Magnetic Island at high water on the western side of the bay;
- (c) the area within the following boundary—
 - from the most northern point where Magnetic Island at low water intersects longitude 146°49.002' east
 - then south along longitude 146°49.002' east to where it intersects Magnetic Island at H.A.T.

- then generally easterly and north-easterly along Magnetic Island at H.A.T. to the most northern point where it intersects longitude 146°49.974' east
- then north along longitude 146°49.974' east to where it intersects Magnetic Island at low water
- then south-westerly along a geodesic to the most northern point where Magnetic Island at low water intersects longitude 146°49.002' east.

13 Part of Hinchinbrook Segment

The area within the following boundary—

- from the most northern point of the coastal 500m line around North Island
- then southerly along the coastal 500m line around North Island on its eastern side to where it intersects the coastal 500m line around Tween Island
- then southerly along the coastal 500m line around Tween Island to where it intersects the coastal 500m line around Middle Island
- then southerly along the coastal 500m line around Middle Island to where it intersects the coastal 500m line around South Island
- then southerly, westerly and northerly along the coastal 500m line around the South Island to where it intersects the coastal 500m line around Middle Island on its western side
- then northerly along the coastal 500m line around Middle Island to where it intersects the coastal 500m line around Tween Island
- then northerly along the coastal 500m line around Tween Island to where it intersects the coastal 500m line around North Island
- then northerly along the coastal 500m line around North Island to its most northern point.

14 Part of Palm Islands Segment

The area within the following boundary—

- from the most western point where latitude 18°36.900' south intersects Orpheus Island at H.A.T.
- then generally northerly, easterly, southerly and south-westerly along Orpheus Island at H.A.T. to its most southern point
- then south along the longitude that passes through the most southern point of Orpheus Island at H.A.T. to where the longitude intersects the coastal 500m line around Orpheus Island
- then generally north-easterly, northerly, westerly and southerly along the coastal 500m line around Orpheus Island to the most western point where it intersects latitude 18°36.900' south
- then east along latitude 18°36.900' south to the most western point where it intersects Orpheus Island at H.A.T.

Division 3 Areas within the Cairns/Cooktown Management Area

15 Parts of Mulgrave-Johnstone Segment

The following areas—

- (a) the area landward of the 500m line around Green Island Reef (reef 16-049);
- (b) the area within the following boundary—
 - from the northern point of the median line between South Barnard Islands Reef (reef 17-046) and King Reef (reef 17-048)
 - then generally south-easterly along the median line between South Barnard Islands Reef (reef 17-046) and King Reef (reef 17-048) to the southern point of the line

- then generally easterly, north-easterly, northerly, westerly, south-westerly and southerly along the 500m line around South Barnard Islands Reef to the northern point of the median line between South Barnard Islands Reef (reef 17-046) and King Reef (reef 17-048);
- (c) the area landward of the seaward edge of the following—
 - the unnamed reef that is around Normanby Island and Mable Island
 - Grange Rock Reef (reef 17-012a);
- (d) the part of Mourilyan Creek that is between the following—
 - latitude 17°38.802' south
 - latitude 17°40.908' south;
- (e) the parts of Maria Creek and North Maria Creek that are—
 - (i) upstream of the eastern boundary of Maria Creek National Park; or
 - (ii) downstream of the most western boundary of Maria Creek National Park.

Note—

The most western point of Maria Creek National Park is on the southern bank of North Maria Creek. Maria Creek National Park is shown as lot 1445 on plan NPW191. See the *Nature Conservation (Protected Areas) Regulation 1994*, schedule 2 (National Parks).

16 Trinity Inlet Segment

- (1) The following areas, but not including the areas mentioned in subsection (2)—
 - (a) the Trinity Inlet fish habitat area;
 - (b) the area that is known as Ellie Point sand reserve and has the following boundary—

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- from latitude 16°51.909' south, longitude 145°46.065' east

Note—

Latitude, 16°51.909' south, longitude 145°46.065' east is on the right bank of the Barron River.

- then easterly along a geodesic to the most northern point of False Cape at L.A.T.

Note—

The most northern point of False Cape at L.A.T. is on the western side of Trinity Inlet.

- then south along the mainland at L.A.T. to where it intersects the latitude that passes through the most eastern point of Ellie Point
- then west along the latitude that passes through the most eastern point of Ellie Point to the most eastern point of Ellie Point
- then north-westerly to the south-eastern corner of lot 51 on plan NR3159
- then north-westerly along the eastern boundary of lot 51 on plan NR3159 to latitude 16°51.909' south, longitude 145°46.065' east;

(c) the following lots—

- lots 1 to 4 on plan C19823
- lot 92 on plan NR3051
- lot 146 on SP129134
- lot 151 on plan NR4172.

(2) The following areas are excluded from the designated area described in subsection (1)—

- the area within 10m either side of the centre-line of the vehicular track that crosses lot 151 on plan NR4172
- the area within 10m either side of the centre-line of the vehicular track from Airport Avenue to the sand stockpile area on lot 1 on RP736304

- the sand stockpile area on lot 1 on RP736304.
- (3) In this section—
- Trinity Inlet fish habitat area*** means the Trinity Inlet fish habitat area—
- (a) declared under the *Fisheries Regulation 2008*; and
 - (b) as it was on 1 April 2008.

Note—

The Trinity Inlet fish habitat area as it was on 1 April 2008 is shown on plan FHA-003 (Revision 2). See the *Fisheries Regulation 2008*, schedule 3, part 2, entry for Trinity Inlet.

17 Parts of Marlin Coast Segment

The following areas—

- (a) the parts of Barron River and Redden Creek within the following boundary—
 - from the most eastern point of the right bank at the mouth of the Barron River at H.A.T.
 - then upstream along the right bank of the Barron River to a point that is 50m downstream from the Cook Highway Bridge
 - then westerly across the Barron River to the left bank of the river
 - then downstream along the left bank of the Barron River to the left bank of Redden Creek
 - then downstream along the left bank of Redden Creek to the mouth of the creek
 - then south across Redden Creek to the right bank of the creek
 - then upstream along the right bank of Redden Creek to where it intersects the left bank of the Barron River
 - then downstream along the left bank of the Barron River to the mouth of the river

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- then south-easterly across the Barron River to the most eastern point of the right bank at the mouth of the river at H.A.T.;
- (b) the part of Barr Creek within the following boundary—
- from the most north-eastern corner of lot 72 on RP714006
- Note—*
- The most north-eastern corner of lot 72 on RP714006 is on the right bank at the mouth of Barr Creek.
- then south-westerly along the northern boundary of lot 72 on RP714006 to where it meets the north-western boundary of lot 2 on SP147290
 - then south-westerly along the north-western boundary of lot 2 on SP147290 to where it meets the eastern boundary of lot 49 on plan N157300
 - then southerly along the eastern boundary of lot 49 on plan N157300 to where it meets the eastern boundary of lot 15 on plan USL9633
 - then southerly along the eastern boundary of lot 15 on plan USL9633 to where it meets the south-eastern boundary of lot 147 on plan NR4789
 - then south-westerly and northerly along the south-western boundary of lot 147 on plan NR4789 to where it meets the western boundary of lot 15 on plan USL9633
 - then northerly along the western boundary of lot 15 on plan USL9633 to where it meets the left bank of Barr Creek at H.A.T.
 - then north-westerly along the left bank of Barr Creek to the mouth of the creek at H.A.T.
 - then southerly across the mouth of Barr Creek to the most north-eastern corner of lot 72 on RP714006;
- (c) the parts of Yorkeys Creek and Richters Creek within the following boundary—

-
- from where the north-eastern corner of lot 105 on AP7001 intersects the mainland at H.A.T.
 - then generally southerly along the seaward boundary of lot 105 on AP7001 to the south-eastern corner of the lot
 - then southerly along the mainland at H.A.T. to where it intersects the right bank at the mouth of Richters Creek
 - then upstream along the right bank of Richters Creek to where it meets the south-western corner of lot 121 on plan NR840892
 - then easterly along the southern boundary of lot 121 on plan NR840892 to where it meets the north-western corner of lot 235 on plan NR5479
 - then south-easterly along the western boundary of lot 235 on plan NR5479 to where it meets the south-western side of Acacia Street at Holloways Beach
 - then generally southerly along the south-western side of Acacia Street at Holloways to where it intersects the western side of Poinsettia Street at Holloways Beach
 - then southerly along the western side of Poinsettia Street at Holloways Beach to where it intersects the western side of Casuarina Street at Holloways Beach
 - then southerly along the western side of Casuarina Street at Holloways Beach to where it meets the south-eastern corner of lot 1 on plan USL9604
 - then westerly and northerly along the boundary of lot 1 on plan USL9604 to where the western boundary of the lot meets the western boundary of lot 120 on CP857579
 - then generally westerly along the northern boundary of lot 120 on CP857579 to where it

meets the eastern boundary of lot 115 on plan NR3359

- then southerly and westerly along the boundary of lot 115 on plan NR3359 to where the southern boundary of the lot meets the right bank of Thomatis Creek
- then north-easterly across Thomatis Creek to where the left bank of the creek meets the most southern corner of lot 16 on plan USL9940
- then north-westerly and easterly along the boundary of lot 16 on plan USL9940 to where the northern boundary of the lot meets the right bank of Richters Creek
- then northerly across Richters Creek to the left bank of the creek
- then downstream along the left bank of Richters Creek to where it meets the northern boundary of lot 12 on plan USL9940
- then easterly along the northern boundary of lot 12 on plan USL9940 to where it meets the left bank of Richters Creek
- then north-easterly along the left bank of Richters Creek to where it meets the most southern corner of lot 139 on plan NR3818
- then north along the western boundary of lot 139 on plan NR3818 to where it meets the south-western corner of lot 105 on AP7001
- then northerly along the western boundary of lot 105 on AP7001 to where it meets the north-western corner of lot 106 on SP137305
- then north-easterly along the southern boundary of lot 106 on SP137305 to where it meets the eastern boundary of lot 105 on AP7001
- then south-easterly and north-easterly along lot 105 on AP7001 to where the north-eastern corner of the lot intersects the mainland at H.A.T.;

(d) the part of Half Moon Creek within the following boundary—

- from the north-eastern corner of lot 50 on plan USL9567

Note—

The north-eastern corner of lot 50 on plan USL9567 is on the right bank at the mouth of Half Moon Creek.

- then southerly along the eastern boundary of lot 50 on plan USL9567 to where it meets the north-eastern corner of lot 34 on SP11364
- then southerly and easterly along the eastern boundary of lot 34 on SP113641 to where it meets the north-eastern corner of lot 3 on plan USL9661
- then southerly along the eastern boundary of lot 3 on plan USL9661 to where it meets the most northern corner of lot 187 on plan NR6708
- then southerly along the eastern boundary of lot 187 on plan NR6708 to where it meets the eastern boundary of lot 3 on plan USL9661
- then southerly and westerly along the boundary of lot 3 on plan USL9661 to where the western boundary of the lot meets the eastern boundary of lot 188 on plan NR6708
- then south-westerly along the eastern boundary of lot 188 on plan NR6708 to where it meets the southern boundary of lot 3 on plan USL9661
- then westerly and northerly along the boundary of lot 3 on plan USL9661 to where the western boundary of the lot meets the south-eastern corner of lot 2 on plan USL9661
- then westerly and northerly along the boundary of lot 2 on plan USL9661 to where the northern boundary of the lot meets the most western corner of lot 27 on plan USL9569
- then northerly and south-easterly along the boundary of lot 27 on plan USL9569 to where the

northern boundary of the lot meets the left bank of Half Moon Creek

- then downstream along the left bank of Half Moon Creek to the mouth of the creek
- then across the mouth of Half Moon Creek to where the mouth meets the north-eastern corner of lot 50 on plan USL9567.

Note—

The north-eastern corner of lot 50 on plan USL9567 is on the right bank at the mouth of Half Moon Creek.

18 Parts of Wonga Beach Segment

The following areas—

- (a) the part of Saltwater Creek within the following boundary—
- from the south-eastern corner of lot 5 on SP159909
 - then generally westerly along the southern boundary of lot 5 on SP159909 to where it meets the right bank of Coop Creek
 - then northerly across Coop Creek to where the left bank of the creek meets the southern boundary of lot 6 on SP159909
 - then westerly and northerly along the boundary of lot 6 on SP159909 to where the northern boundary of the lot meets the western boundary of lot 6 on plan SR412
 - then southerly and easterly along the boundary of lot 6 on plan SR412 to where the southern boundary of the lot meets the south-eastern corner of lot 6 on RP712142
 - then northerly along the eastern boundary of lot 6 on RP712142 to where it intersects the anabranch of Saltwater Creek on the right bank of the creek

-
- then north across the anabranch of Saltwater Creek to the left bank of the creek
 - then downstream along the left bank of Saltwater Creek to where it meets the western boundary of lot 1 on plan USL8767
 - then easterly along the northern boundary of lot 1 on plan USL8767 to where it meets the northern boundary of lot 1 on plan USL8764
 - then westerly along the northern boundary of lot 1 on plan USL8764 to where it intersects longitude 145°24.565' east
 - then north along longitude 145°24.565' east to where it intersects the southern boundary of lot 42 on plan SR6
 - then east and north along the eastern boundary of lot 42 on plan SR6 to the north-eastern corner of the lot
 - then east along the latitude that passes through the north-eastern corner of lot 42 on plan SR6 to where the latitude intersects the mainland at H.A.T.
 - then southerly along the mainland at H.A.T. to where it intersects the left bank at the mouth of Saltwater Creek
 - then southerly across Saltwater Creek to the right bank at the mouth of the creek at H.A.T.
 - then southerly along the mainland at H.A.T. to where it intersects the south-eastern corner of lot 5 on SP159909;
- (b) the part of the Mossman River within the following boundary—
- from the north-eastern corner of lot 5 on plan USL8735

Note—

The north-eastern corner of lot 5 on plan USL8735 is on the right bank at the mouth of the Mossman River at H.A.T.

- then upstream along the right bank of the Mossman River to where it meets the north-western corner of lot 5 on plan USL8735
- then generally southerly along lot 5 on plan USL8735 to where it meets the north-western corner of lot 1 on plan C9641
- then southerly along the western boundaries of lots 1, 3, 4, 5, 6, 7, 8 and 9 on plan C9641 to the south-western corner of lot 9 on plan C9641
- then southerly along a geodesic to the north-eastern corner of lot 1 on RP720137
- then south-westerly along the northern boundary of lot 1 on RP720137 to where it meets the north-eastern corner of lot 11 on RP709171
- then south-westerly along the northern boundary of lot 11 on RP709171 to where it meets the most north-eastern corner of lot 12 on RP709171
- then south-westerly along the northern boundary of lot 12 on RP709171 to the north-western corner of the lot
- then westerly along a geodesic to the most north-eastern corner of lot 265 on plan N15783
- then generally westerly along the northern boundary of lot 265 on plan N15783 to the south-western corner of the lot
- then southerly along a geodesic to the north-eastern corner of lot 1 on plan RL1156

Note—

The north-eastern corner of lot 1 on plan RL1156 meets the south-western corner of lot 4 on plan T4371.

-
- then westerly along the northern boundary of lot 1 on plan RL1156 to the north-western corner of the lot
 - then westerly across the Mossman River to the south-eastern corner of lot 5 on RP711228

Note—

The most south-eastern corner of lot 5 on RP711228 is on the left bank of the Mossman River.

- then northerly along the eastern boundary of lot 5 on RP711228 to where it meets the southern boundary of lot 7 on RP715390
- then easterly and north-easterly along the boundary of lot 7 on RP715390 to where the eastern boundary of the lot meets the south-western corner of lot 3 on AP8350
- then northerly along the eastern boundary of lot 7 on RP715390 to where it meets the south-western corner of lot 275 on plan SR794
- then generally north-easterly along the eastern boundary of lot 275 on plan SR794 to where it meets lot 1 on AP8350
- then generally northerly, westerly, northerly, easterly, southerly and easterly along the boundary of lot 1 on AP8350 to where it meets the south-western corner of lot 382 on plan SR864
- then easterly along the southern boundary of lot 382 on plan SR864 to where it meets the left bank of the Mossman River at H.A.T.
- then downstream along the left bank of the Mossman River at H.A.T. to the mouth of the river at H.A.T.
- then south across the mouth of the Mossman River to the north-eastern corner of lot 5 on plan USL8735.

19 Parts of Daintree Segment

The following areas—

(a) the area landward of the 500m line around Low Islets Reef (reef 16-028);

(b) the area within the following boundary—

- from where latitude 15°45.870' south intersects the mainland at H.A.T.

Note—

Latitude 15°45.870' south intersects the mainland at H.A.T. near Obree Point.

- then generally southerly, easterly, south-easterly and southerly along the mainland at H.A.T. to where it intersects latitude 15°50.862' south

Note—

The mainland at H.A.T. intersects latitude 15°50.862' south near the northern bank of Fritz Creek.

- then east along latitude 15°50.862' south to where it intersects the coastal 500m line around the mainland
- then generally northerly, north-westerly, westerly and northerly along the coastal 500m line around the mainland to where it intersects latitude 15°45.870' south
- then west along latitude 15°45.870' south to where it intersects the mainland at H.A.T.;

(c) the area within the following boundary—

- from where latitude 16°04.902' south intersects the mainland at H.A.T.

Note—

Latitude 16°04.902' south intersects the mainland at H.A.T. just south of Cape Tribulation.

- then generally northerly and north-westerly along the mainland at H.A.T. to where it intersects longitude 145°22.788' east

- then north along longitude 145°22.788' east to where it intersects the coastal 500m line around the mainland
 - then generally southerly along the coastal 500m line around the mainland to the most eastern point where it intersects latitude 16°04.902' south
 - then west along latitude 16°04.902' south to where it intersects the mainland at H.A.T.;
- (d) the part of the Daintree River that is south of latitude 16°17.496' south.

20 Parts of Starcke Segment

The following areas—

- (a) the area landward of the 500m line around Decapolis Reef (reef 14-131);
- (b) the area within the following boundary—
- from the most western point of the 500m line around Pethebridge Islets Reef (reef 14-122b)
 - then north-westerly along the geodesic that passes through the following points—
 - the most western point of the 500m line around Pethebridge Islets Reef (reef 14-122b)
 - the most eastern point of Marched Point at low water
 to where the geodesic intersects the geodesic that passes through the following points—
 - latitude 14°18.179' south, longitude 145°39.064' east
 - latitude 14°39.906' south, longitude 144°56.565' east
 - then south-westerly along the geodesic that passes through the following points to where the geodesic intersects the mainland at low water—

Schedule 8

- latitude 14°18.179' south, longitude 145°39.064' east
 - latitude 14°39.906' south, longitude 144°56.565' east
 - then generally south-easterly along the mainland at low water to where it intersects latitude 14°44.196' south
 - then east along latitude 14°44.196' south to where it intersects the coastal 100m line around the mainland
 - then generally south-easterly and easterly along the coastal 100m line around the mainland to where it intersects the geodesic that passes through the following points—
 - the most northern point on Lookout Point at low water
 - the most western point of the 500m line around Pethebridge Islets Reef (reef 14-112b)
 - then north-westerly along that geodesic to the most western point of the 500m line around Pethebridge Islets Reef (reef 14-122b);
- (c) the area within the following boundary—
- from the most eastern point of Lizard Island at high water
- Note—*
- The most eastern point of Lizard Island is at Lizard Head.
- then easterly along a geodesic to the most eastern point of Lizard Island at low water
 - then south-easterly along the geodesic that passes through the following points to where the geodesic intersects the coastal 500m line around Lizard Island—
 - the most eastern point of Lizard Island at low water

-
- latitude 14°41.328' south, longitude 145°28.518' east
 - then generally south-westerly along the coastal 500m line around Lizard Island to where it intersects the latitude that passes through the most southern point of South Island at low water

Note—

The most southern point of South Island is at the south-eastern end of the Island.

- then west along the latitude that passes through the most southern point of South Island at low water to the most southern point of South Island at low water
- then north-westerly along a geodesic to the most southern point of South Island at high water
- then generally north-easterly, northerly, westerly, south-westerly and southerly along South Island at high water to its most western point
- then westerly along a geodesic to the most western point of South Island at low water
- then north-westerly along a geodesic to the most southern point of Palfrey Island at low water
- then northerly along a geodesic to the most southern point of Palfrey Island at high water
- then generally easterly, north-easterly, northerly, north-westerly, westerly and south-westerly along Palfrey Island at high water to its most western point
- then westerly along a geodesic to the most western point of Palfrey Island at low water
- then northerly along a geodesic to the most western point of Lizard Island at low water

Note—

The most western point of Lizard Island is at South Bay Point.

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- then easterly along a geodesic to the most western point of Lizard Island at high water
 - then generally south-easterly, southerly, easterly, north-easterly, easterly and south-easterly along Lizard Island at high water to its most eastern point;
- (d) the area within the following boundary—
- from the most western point where latitude 14°38.988' south intersects Lizard Island at high water
 - then generally southerly, south-easterly and south-westerly along Lizard Island at high water to its most western point

Note—

The most western point of Lizard Island is adjacent to Chinamans Ridge.

- then north-westerly along a geodesic to the most western point Lizard Island at low water
 - then north-westerly along the geodesic that passes through the following points to where the geodesic intersects the seaward edge of Lizard Island Reef (reef 14-115a)—
 - the most western point Lizard Island at low water
 - latitude 14°39.738' south, longitude 145°26.604' east
 - then generally northerly along the seaward edge of Lizard Island Reef (reef 14-115a) to the most western point where it intersects latitude 14°38.988' south
 - then east along latitude 14°39.077' south to the most western point where it intersects Lizard Island at high water;
- (e) the area within the following boundary—

-
- from the most southern point of the 500m line around Turtle Reef (reef 14-119b)
 - then generally north-westerly, northerly and north-easterly along the 500m line around Turtle Reef (reef 14-119b) to its most northern point
 - then north-easterly along a geodesic to the most northern point of the 500m line around Turtle Reef (reef 14-120e)
 - then generally south-easterly along the 500m line around Turtle Reef (reef 14-120e) to its most eastern point
 - then southerly along a geodesic to the most eastern point of the 500m line around Turtle Reef (reef 14-120i)
 - then generally south-westerly along the 500m line around Turtle Reef (reef 14-120i) to its most southern point
 - then north-westerly along a geodesic to the most southern point of the 500m line around Turtle Reef (reef 14-120a)
 - then north-westerly along a geodesic to the most southern point of the 500m line around Turtle Reef (reef 14-119b);
- (f) the area landward of the 500m line around Eyrie Reef (reef 14-118);
- (g) the area landward of the coastal 500m line around Nymph Island;
- (h) the area landward of the coastal 500m line around South Direction Island;
- (i) the area landward of the coastal 500m line around Rocky Islets;
- (j) the area landward of the coastal 500m line around Three Islands;
- (k) the area within the following boundary—

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- from the most western point of Lizard Island at low water

Note—

The most western point of Lizard Island is at South Bay Point.

- then west along the latitude that passes through the most western point of Lizard Island at low water to the most western point where the longitude intersects the coastal 500m line around Lizard Island
- then generally southerly, south-easterly, easterly and north-easterly along the coastal 500m line around Lizard Island to the most eastern point where it intersects the latitude that passes through the most southern point of South Island at low water

Note—

The most southern point of South Island is on the south-eastern end of the Island.

- then west along the latitude that passes through the most southern point of South Island at low water to the most southern point of South Island at low water
- then north-westerly along a geodesic to the most southern point of the South Island at high water
- then generally westerly and north-westerly along South Island at high water to its most western point
- then westerly along a geodesic to the most western point of South Island at low water
- then north-westerly along a geodesic to the most southern point of Palfrey Island at low water
- then northerly along a geodesic to the most southern point of Palfrey Island at high water
- then generally westerly, north-westerly and northerly along Palfrey Island at high water to its most western point

- then westerly along a geodesic to the most western point of Palfrey Island at low water
- then northerly along a geodesic to the most western point Lizard Island at low water.

Schedule 9 Dictionary

section 3

100m line, for schedule 8, see schedule 8, section 1.

500m line, for schedule 8, see schedule 8, section 1.

Administration, for schedule 3, means the general manager.

analyses, for part 5, division 6, see section 54.

Annex I means Annex I to MARPOL as set out in schedule 1.

Annex II means Annex II to MARPOL as set out in schedule 1.

Annex V means Annex V to MARPOL as set out in schedule 1.

applicant, for part 12, division 1, see section 84.

approval, for part 12, division 1, see section 84.

aquaculture fisheries resources see the *Fisheries Act 1994*, schedule.

authorised officer, for part 3, see section 20.

Editor's note—

See also the schedule to the Act.

boat harbour means a non-State managed boat harbour or a State managed boat harbour under the *Transport Infrastructure (Public Marine Facilities) Regulation 2000*.

canal see the *Coastal Protection and Management Act 1995*, section 9.

category X substance—

- (a) generally, means a noxious liquid substance—
 - (i) in pollution category X under the provisions of the International Bulk Chemical Code, chapters 17 and 18, included in schedule 3; or

- (ii) categorised as a category X substance under the guidelines for the categorisation of noxious liquid substances in Annex II, Appendix I; or
 - (iii) re-categorised as a category X substance under section 34A of the Act; and
- (b) for part 3, division 2, subdivision 1—includes a mixture containing a category X substance.

category Y substance—

- (a) generally, means a noxious liquid substance—
- (i) in pollution category Y under the provisions of the International Bulk Chemical Code, chapters 17 and 18, included in schedule 3; or
 - (ii) means categorised as a category Y substance under the guidelines for the categorisation of noxious liquid substances in Annex II, Appendix I; or
 - (iii) means re-categorised as a category Y substance under section 34A of the Act; and
- (b) for part 3, division 2, subdivision 2—includes a mixture containing a category Y substance.

category Z substance—

- (a) generally, means a noxious liquid substance—
- (i) in pollution category Z under the provisions of the International Bulk Chemical Code, chapters 17 and 18, included in schedule 3; or
 - (ii) categorised as a category Z substance under the guidelines for the categorisation of noxious liquid substances in Annex II, Appendix I; or
 - (iii) re-categorised as a category Z substance under section 34A of the Act; and
- (b) for part 3, division 2, subdivision 2—includes a mixture containing a category Z substance.

coastal 100m line, for schedule 8, see schedule 8, section 1.

coastal 500m line, for schedule 8, see schedule 8, section 1.

Code, for schedule 3, means the International Bulk Chemical Code.

Commonwealth prescribed, for part 2, division 2, subdivision 1, see section 8.

designated area means each of the following areas—

- (a) the marine national park zone under the *Marine Parks (Moreton Bay) Zoning Plan 2008*;
- (b) the Noosa River;
- (c) the marine national park zone, under the *Marine Parks (Great Sandy) Zoning Plan 2006*, located near Burkitt's Reef, Hoffman's Rocks or Barolin Rock, adjacent to the Woongarra Coast;
- (d) an area within the Great Barrier Reef Coast Marine Park mentioned in schedule 8.

disposal facility, for part 5, see section 43.

fishing vessel means a vessel used, or intended to be used, for catching fish, seals, walrus, whales or other living resources of the sea or seabed for profit or reward, but does not include a vessel—

- (a) engaged in harvesting or transporting algae or aquatic plants; or
- (b) that is primarily a carrier or mother ship.

fixed toilet, for part 5, see section 43.

food wastes, for part 6, see section 61.

fringing reef, for schedule 8, see schedule 8, section 1.

geodesic, for schedule 8, see schedule 8, section 1.

grade A treated sewage means treated sewage that may be classified as grade A treated sewage as mentioned in section 57(2).

grade B treated sewage means treated sewage that may be classified as grade B treated sewage as mentioned in section 57(3).

grade C treated sewage means treated sewage that may be classified as grade C treated sewage as mentioned in section 57(4).

Great Barrier Reef Coast Marine Park means the marine park described in the *Marine Parks (Declaration) Regulation 2006*, schedule 2.

gt, of a ship, for part 2, see section 7.

H.A.T., for schedule 8, see schedule 8, section 1.

Hervey Bay waters means the waters of Hervey Bay, other than prohibited discharge waters, within a boundary drawn—

- from Burrum Point on the mainland to the Fairway Beacon, Hervey Bay
- to Rooney Point, Fraser Island
- along the western shore of Fraser Island to latitude 25°22.90' south
- to latitude 25°24.90' south, longitude 152°58.06' east
- due west to the mainland at latitude 25°24.90' south.

highest astronomical tide, for schedule 8, see schedule 8, section 1.

high water, for schedule 8, see schedule 8, section 1.

IBC Code, for schedule 3, means the International Bulk Chemical Code.

independent testing entity, for part 5, division 6, see section 54.

island 500m line, for schedule 8, see schedule 8, section 1.

L.A.T., for schedule 8, see schedule 8, section 1.

levels of sewage quality characteristics see schedule 7.

lowest astronomical tide, for schedule 8, see schedule 8, section 1.

low water, for schedule 8, see schedule 8, section 1.

macerator, for part 5, see section 43.

marina means a buoy mooring, jetty or pile mooring or combination of them where, for a fee or reward, a ship is, or may be, anchored, berthed or moored.

median line, for schedule 8, see schedule 8, section 1.

mother ship means a ship proceeding on the main ocean leg of a voyage attended by smaller ships.

NATA, for part 5, division 6, see section 54.

northern Moreton Bay waters means the waters of Moreton Bay, other than prohibited discharge waters, within a boundary drawn—

- from latitude 27°06' south on the mainland to South Point, Bribie Island
- along the southern shore of Bribie Island to Skirmish Point
- to Comboyuro Point, Moreton Island
- along the western shore of Moreton Island to Reeders Point
- to Amity Point, North Stradbroke Island
- to Cleveland Point on the mainland.

open waters means coastal waters, other than Hervey Bay waters, northern Moreton Bay waters, prohibited discharge waters and smooth waters.

prohibited discharge waters means waters of any of the following—

- (a) a boat harbour;
- (b) a canal;
- (c) a marina;
- (d) a designated area.

recreational ship means a recreational ship as defined under the *Transport Operations (Marine Safety) Act 1994*, section 10A.

reef includes the following—

- (a) bommie fields;
- (b) moats;
- (c) ramparts;
- (d) reef slopes;
- (e) underwater and intertidal rocky areas.

relevant level, for schedule 7, see schedule 7, section 1.

relevant platform, for part 6, see section 61.

reportable incident see section 67(1) of the Act.

rock 500m line, for schedule 8, see schedule 8, section 1.

sewage disposal record book see section 51.

smooth waters means the waters defined as *smooth waters* under the *Transport Operations (Marine Safety) Regulation 2004*, schedule 15, but not including—

- (a) the waters described in schedule 12 of that regulation that are within 0.5n miles from land; and
- (b) prohibited discharge waters.

system documentation, for part 5, division 6, see section 54.

system service manual, for part 5, division 6, see section 54.

system's performance specifications include a statement of the levels of sewage quality characteristics remaining in sewage after it has been treated in the system.

tank, for part 3, division 2, subdivision 1, see section 21.

the mainland, for schedule 8, see schedule 8, section 1.

Tonnage Measurement Convention, for part 2, see section 7.

trading ship—

- (a) means a ship, other than a Commonwealth ship under the Commonwealth Navigation Act or a fishing vessel, that is used for or in connection with any business or commercial activity; and
- (b) includes a vessel that is used wholly or principally for—

Schedule 9

- (i) the carriage of passengers or cargo for hire or reward; or
- (ii) the provision of services to ships or shipping whether for reward or otherwise.

Endnotes

1 Index to endnotes

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2 Date to which amendments incorporated

This is the reprint date mentioned in the Reprints Act 1992, section 5(c). Accordingly, this reprint includes all amendments that commenced operation on or before 1 July 2009. Future amendments of the Transport Operations (Marine Pollution) Regulation 2008 may be made in accordance with this reprint under the Reprints Act 1992, section 49.

3 Key

Key to abbreviations in list of legislation and annotations

Key	Explanation	Key	Explanation
AIA	= Acts Interpretation Act 1954	(prev)	= previously
amd	= amended	proc	= proclamation
amdt	= amendment	prov	= provision
ch	= chapter	pt	= part
def	= definition	pubd	= published
div	= division	R[X]	= Reprint No. [X]
exp	= expires/expired	RA	= Reprints Act 1992
gaz	= gazette	reloc	= relocated
hdg	= heading	renum	= renumbered
ins	= inserted	rep	= repealed
lap	= lapsed	(retro)	= retrospectively
notfd	= notified	rv	= revised edition
num	= numbered	s	= section
o in c	= order in council	sch	= schedule
om	= omitted	sdiv	= subdivision
orig	= original	SIA	= Statutory Instruments Act 1992
p	= page	SIR	= Statutory Instruments Regulation 2002
para	= paragraph	SL	= subordinate legislation
prec	= preceding	sub	= substituted
pres	= present	unnum	= unnumbered
prev	= previous		

4 Table of reprints

Reprints are issued for both future and past effective dates. For the most up-to-date table of reprints, see the reprint with the latest effective date.

If a reprint number includes a letter of the alphabet, the reprint was released in unauthorised, electronic form only.

Reprint No.	Amendments included	Effective	Notes
0A	none	1 September 2008	
0B	2008 SL No. 344	1 March 2009	
0C	—	2 March 2009	provs exp 1 March 2009
0D	2009 SL No. 64	1 July 2009	

5 List of legislation

Transport Operations (Marine Pollution) Regulation 2008 SL No. 254

made by the Governor in Council on 7 August 2008

notfd gaz 8 August 2008 pp 2108–9

ss 1–2 commenced on date of notification

remaining provisions commenced 1 September 2008 (see s 2)

exp 1 September 2018 (see SIA s 54)

Notes—(1) The expiry date may have changed since this reprint was published. See the latest reprint of the SIR for any change.

(2) A regulatory impact statement and explanatory note were prepared.

amending legislation—

Marine Parks and Other Legislation Amendment Regulation (No. 1) 2008 SL No. 344 pts 1, 5

notfd gaz 20 October 2008 pp 973–4

ss 1–2 commenced on date of notification

remaining provisions commenced 1 March 2009 (see s 2)

Note— An explanatory note was prepared

Transport Legislation (Fees) Amendment Regulation (No. 1) 2009 SL No. 64 pts 1, 8

notfd gaz 22 May 2009 pp 331–3

ss 1–2 commenced on date of notification

remaining provisions commenced 1 July 2009 (see s 2)

Queensland Civil and Administrative Tribunal (Jurisdiction Provisions) Amendment Act 2009 No. 24 ss 1–2, ch 13 pt 10

date of assent 26 June 2009

ss 1–2 commenced on date of assent

remaining provisions not yet proclaimed into force (see s 2)

6 List of annotations

Shipboard oil pollution emergency plan

s 13 amd 2009 SL No. 64 s 16

Application of s 53 for 6 months after commencement

s 99 exp 1 March 2009 (see s 99(4))

Application of s 56 for 6 months after commencement

s 100 exp 1 March 2009 (see s 100(3))

SCHEDULE 9—DICTIONARY

def “**designated area**” amd 2008 SL No. 344 s 12

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