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CONSOLIDATED EDITION 2006

Articles, Protocols, Annexes, Unified Interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto

INTERNATIONAL MARITIME ORGANIZATION

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Introduction

The International Convention for the Prevention of Pollution from Ships, 1973, was adopted by the International Conference on Marine Pollution convened by IMO from 8 October to 2 November 1973. Protocol I (Provisions concerning Reports on Incidents involving Harmful Substances) and Protocol II (Arbitration) were adopted at the same Conference. This Convention was subsequently modified by the Protocol of 1978 relating thereto, which was adopted by the International Conference on Tanker Safety and Pollution Prevention (TSPP Conference) convened by IMO from 6 to 17 February 1978. The Convention, as modified by the 1978 Protocol, is known as the "International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto", or, in short form, "MARPOL 73/78". Regulations covering the various sources of ship-generated pollution are contained in the five Annexes of the Convention. The Convention has also been modified by the Protocol of 1997, whereby a sixth Annex was added.

The Marine Environment Protection Committee (MEPC), since its inception in 1974, has reviewed various provisions of the MARPOL Convention that have been found to require clarification or have given rise to difficulties in implementation. In order to resolve such ambiguities and difficulties in a uniform manner, the MEPC agreed that it was desirable to develop unified interpretations. In certain cases, the MEPC recognized that there was a need to amend existing regulations or to introduce new regulations with the aim of reducing even further operational and accidental pollution from ships. These activities by the MEPC have resulted in a number of unified interpretations and amendments to the Convention.

The purpose of this publication is to provide an easy reference to the up-to-date provisions and unified interpretations of the articles, protocols and Annexes of the MARPOL Convention, including the incorporation of all of the amendments that have been adopted by the MEPC and have entered into force, up to and including the 2005 amendments (as adopted by resolution MEPC.132(53)). It should be noted, however, that the Secretariat has no intention of changing the authentic texts editorially or otherwise. For legal purposes, the authentic texts of the provisions of the MARPOL Convention should always be consulted.

In addition, amendments to Annex I and to Annex IV adopted on 24 March 2006 by resolutions MEPC.141(54) and MEPC.143(54), respectively, have been included in the Additional Information section. The date for tacit acceptance of these amendments is 1 February 2007, and if they are accepted on that date they will enter into force on 1 August 2007. As of the date of publication of this edition, the criteria for entry into force of these

amendments have not been met. It was felt, however, that the amendments might enter into force before the next revision of the present consolidated edition. Therefore, the text of resolution MEPC.141(54) is reproduced as item 6 of the Additional Information section and that of resolution MEPC. 143(54) is item 8 of the same section.

For consistency in providing information, guidelines which are not made mandatory by the applicable Annex, and which are contained in another IMO publication, are omitted from the 2006 Consolidated Edition.

Protocol I - Provisions concerning Reports on Incidents Involving Harmful Substances

This Protocol was adopted on 2 November 1973 and subsequently amended by:

1985 amendments (resolution MEPC.21(22)) by which the Protocol was replaced by a revised text: entered into force on 6 April 1987; and

- 1996 amendments (resolution MEPC.68(38)) on amendments to article 11(1): entered into force on 1 January 1998.

Annex I - Regulations for the Prevention of Pollution by Oil

Annex I entered into force on 2 October 1983 and, as between the Parties to MAPJ[3]OL 73/78, supersedes the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended in 1962 and 1969, which was then in force. A number of amendments to Annex I have been adopted by the MEPC and have entered into force as summarized below:

1984 amendments (resolution MEPC. 14(20)) on control of discharge of oil; retention of oil on board; pumping, piping and discharge arrangements of oil tankers; subdivision and stability: entered into force on 7 January 1986;

1987 amendments (resolution MEPC.29(25)) on designation of the Gulf of Aden as a special area: entered into force on 1 April 1989;

1990 amendments (resolution MEPC.39(29)) on the introduction of the harmonized system of survey and certification: entered into force on 3 February 2000;

1990 amendments (resolution MEPC.42(30)) on designation of the Antarctic area as a special area: entered into force on 17 March 1992;

- 1991 amendments (resolution MEPC.47(31)) on new regulation 26, Shipboard Oil Pollution Emergency Plan, and other amendments to Annex I: entered into force on 4 April 1993;

1992 amendments (resolution MEPC.51(32)) on discharge criteria of Annex I: entered into force on 6 July 1993;

- 1992 amendments (resolution MEPC.52(32)) on new regulations 13F and 13G and related amendments to Annex I: entered into force on 6July 1993;

- 1994 amendments (resolution 1 adopted on 2 November 1994 by the Conference of Parties to MARPOL 73/78) on port State control on operational requirements: entered into force on 3 March 1996;

- 1997 amendments (resolution MEPC.75(40)) on designation of North West European waters as a special area and new regulation 25A; entered into force on 1 February 1999;

- 1999 amendments (resolution MEPC.78(43)) on amendments to regulations 13G and 26 and the IOPP Certificate: entered into force on 1 January 2001;

- 2001 amendments (resolution MEPC.95(46)) on amendments to regulation 13G: entered into force on 1 September 2002;

- 2003 amendments (resolution MEPC. I1l (50)) on amendments to regulation 13G, new regulation 13H and related amendments to Annex I: entered into force on 5 April 2005;

2004 amendments (resolution MEPCl 17(52)) on the revised Annex I: will enter into force on 1 January 2007; and

- 2006 amendments (resolution MEPC.141(54)) on amendments to regulations 1 and 21, addition of regulation 12A and related amendments to Annex I: if they are accepted on 1 February 2007, they will enter into force on 1 August 2007.

Annex II - Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk

To facilitate implementation of the Annex, the original text underwent amendments in 1985, by resolution MEPC16(22), in respect of pumping, piping and control requirements. At its twenty-second session, the MEPC also decided that, in accordance with article II of the 1978 Protocol, "Parties shall be bound by the provisions of Annex II of MARPOL 73/78 as amended from 6 April 1987" (resolution MEPC 17(22)). Subsequent amendments have been adopted by the MEPC and have entered into force as summarized below:

1489 amendments (resolution MEPC.34(27)), which updated appendices II and III to make them compatible with chapters 17/ VI and 18/VII of the IBC Code and BCH Code, respectively: entered into force on 13 October 1990;

1990 amendments (resolution MEPC.39(29)) on the introduction of the harmonized system of survey and certification: entered into force on 3 February 2000;

— 1992 amendments (resolution MEPC.57(33)) on designation of the Antarctic area as a special area and lists of liquid substances in appendices to Annex II: entered into force on 1 July 1994;

— 1994 amendments (resolution 1 adopted on 2 November 1994 by the Conference of Parties to MARPOL 73/78) on port State control on operational requirements: entered into force on 3 March 1996;

1999 amendments (resolution MEPC.78(43)) on addition of new regulation 16: entered into force on 1 January 2001; and

2004 amendments (resolution MEPC118(52)) on the revised Annex II: will enter into force on 1 January 2007.

Annex III - Regulations for the Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form

Annex III entered into force on 1 July 1992. However, long before this entry into force date, the MEPC, with the concurrence of the Maritime Safety Committee (MSC), agreed that the Annex should be implemented through the IMDG Code. The IMDG Code had amendments covering marine pollution prepared by the MSC (Amendment 25-89) and these amendments were implemented from 1 January 1991. Subsequent amendments have been adopted by the MEPC and have entered into force as summarized below:

1992 amendments (resolution MEPC.58(33)), which totally revised Annex III as a clarification of the requirements in the original version of Annex HI rather than a change of substance, and incorporated the reference to the IMDG Code: entered into force on 28 February 1994;

— 1994 amendments (resolution 2 adopted on 2 November 1994 by the Conference of Parties to MAPvPOL 73/78) on port State control on operational requirements: entered into force on 3 March 1996; and

2000 amendments (MEPC.84(44)), deleting a clause relating to tainting of seafood: entered into force on 1 January 2002.

Annex IV - Regulations for the Prevention of Pollution by Sewage from Ships

Annex IV entered into force on 27 September 2003. Subsequent amendments have been adopted by the MEPC and have entered into force as summarized below:

2004 amendments (resolution MEPC.115(51)) on the revised Annex IV: entered into force on 1 August 2005; and

— 2006 amendments (resolution MEPC. 143(54)) on new regulation 13 concerning port State control on operational requirements: if they are accepted on 1 February 2007 they will enter into force on 1 August 2007.

Annex V - Regulations for the Prevention of Pollution by Garbage from Ships

Annex V entered into force on 31 December 1988. Subsequent amendments have been adopted by the MEPC and have entered into force as summarized below:

- 1989 amendments (resolution MEPC.36(28)) on designation of the North Sea as a special area and amendment of regulation 6, Exceptions: entered into force on 18 February 1991;
- 1990 amendments (resolution MEPC.42(30)) on designation of the Antarctic area as a special area: entered into force on 17 March 1992;
- 1991 amendments (resolution MEPC.48(31)) on designation of the Wider Caribbean area as a special area: entered into force on 4 April 1993;
- 1994 amendments (resolution 3 adopted on 2 November 1994 by the Conference of Parties to MARPOL 73/78) on port State control on operational requirements: entered into force on 3 March 1996;
- 1995 amendments (resolution MEPC.65(37)) on amendment of regulation 2 and the addition of a new regulation 9 of Annex V: entered into force on 1 July 1997;

  2000 amendments (resolution MEPC.89(45)) on amendments to regulations 1, 3, 5 and 9 and to the Record of Garbage Discharge: entered into force on 1 March 2002;
- 2004 amendments (resolution MEPC116(51) on amendments to the appendix to Annex V: entered into force on 1 August 2005; and

2004 amendments (resolution MEPQ116(51)) concerning the appendix: entered into force on 1 August 2005.

Annex VI - Regulations for the Prevention of Air Pollution from Ships

Annex VI is appended to 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, which was adopted by the International Conference of Parties to the MARPOL Convention in September 1997. Annex VI entered into force on 19 May 2005. Subsequent amendments have been adopted by the MEPC as summarized below:

2005 amendments (resolution MEPC. 132(53)) on introducing the Harmonized System of Survey and Certification to the Annex and on designation of the North Sea as a new SO$_x$ Emission Control Area (SECA): will enter into force on 22 November 2006.

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International Convention for the Prevention of Pollution from Ships, 1973

THE PARTIES TO THE CONVENTION,

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

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

!RECOGNIZING ALSO the importance of the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as being the first multilateral instrument to be concluded with the prime objective of protecting the environment, and appreciating the significant contribution which 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 2

Definitions

For the purposes of the present Convention, unless expressly provided otherwise:

(1) *Regulation* means the regulations contained in the Annexes to the present Convention.

(2) *Harmful substance* means any substance which, if introduced into the sea, is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea, and includes any substance subject to control by the present Convention.

(3) (a) *Discharge*, in relation to harmful substances or effluents containing such substances, means any release howsoever caused from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying;

(b) *Discharge* does not include:

(i) dumping within the meaning of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, done at London on 13 November 1972; or

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

(iii) release of harmful substances for purposes of legitimate scientific research into pollution abatement or control.

(4) *Ship* means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms.

(5) *Administration* means the Government of the State under whose authority the ship is operating. With respect to a ship entitled to fly a flag of any State, the Administration is the Government of that State. With respect to fixed or floating platforms engaged in exploration and exploitation of the sea-bed and subsoil thereof adjacent to the coast over which the coastal State exercises sovereign rights for the purposes of exploration and exploitation of their natural resources, the Administration is the Government of the coastal State concerned.

(6) *Incident* means an event involving the actual or probable discharge into the sea of a harmful substance, or effluents containing such a substance.

(7) *Organization* means the Inter-Governmental Maritime Consultative Organization.*

Article 3

Application

(1) The present Convention shall apply to:

(a) ships entitled to fly the flag of a Party to the Convention; and

(b) ships not entitled to fly the flag of a Party but which operate under the authority of a Party.

(2) Nothing in the present article shall be construed as derogating from or extending the sovereign rights of the Parties under international law over the sea-bed and subsoil thereof adjacent to their coasts for the purposes of exploration and exploitation of their natural resources.

(3) The present *Convention* shall not apply to any warship, naval auxiliary or other ship owned or operated by a State and used, for the time being, only on government non-commercial service. However, each Party shall ensure by the adoption of appropriate measures not impairing the operations or operational capabilities of such ships owned or operated by it, that such ships act in a manner consistent, so far as is reasonable and practicable, with the present Convention.

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

* The name of the Organization was changed to "International Maritime Organization" by virtue of amendments to the Organization's Convention which entered into force on 22 May

(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 trie 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 6

Detection of violations and enforcement of the Convention

(1) Parties to the Convention shall co-operate in the detection of violations and the enforcement of the provisions of the present Convention, 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 Convention 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 discharged any harmful substances in violation of the provisions of the regulations. If an inspection indicates a violation of the Convention, 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 discharged harmful substances or effluents containing such substances in violation of the provisions of the regulations. 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 the present Convention 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 discharged harmful substances or effluents containing such substances in any place. The

report of such investigation shall be sent to the l'arty requesting it and to the Administration so that the appropriate action may be taken under the present Convention.

Article 7

Undue delay to ships

(1) All possible efforts shall be made to avoid a ship being unduly detained or delayed under articles 4, 5 or 6 of the present Convention.

(2) When a ship is unduly detained or delayed under articles 4, 5 or 6 of the present Convention, it shall be entitled to compensation for any loss or damage suffered.

Article 8

Reports on incidents involving harmful substances

(1) A report of an incident shall be made without delay to the fullest extent possible in accordance with the provisions of Protocol I to the present Convention.

(2) Each Party to the Convention shall:

(a) make all arrangements necessary for an appropriate officer or agency to receive and process all reports on incidents; and

(b) notify the Organization with complete details of such arrangements for circulation to other Parties and Member States of the Organization.

(3) Whenever a Party receives a report under the provisions of the present article, that Party shall relay the report without delay to:

(a) the Administration of the ship involved; and -

(b) any other State which may be affected.

(4) Each Party to the Convention undertakes to issue instructions to its maritime inspection vessels and aircraft and to other appropriate services, to report to its authorities any incident referred to in Protocol I to the present Convention. That Party shall, if it considers it appropriate, report accordingly to the Organization and to any other Party concerned.

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 harmful substances in accordance with the provisions of the regulations;*

(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

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

(f) an annual statistical report, in a form standardized by the Organization, of penalties actually imposed for infringement of the present Convention.

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 (l)(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.

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;

(g) the amendment shall enter into force under the following

(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 witli 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.

(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 co-ordination 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 undersigned* being duly authorized by their respective Governments for that purpose have signed the present Convention.

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

Protocol of 1978 relating to the 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

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,

CONSIDERING that these objectives may best be achieved by the conclusion of a Protocol relating to the International Convention for the Prevention of Pollution from Ships, 1973,

HAVE AGREED as follows:

Article I
General obligations

1 The Parties to me present Protocol undertake to give effect to the provisions of:

(a) the present Protocol and the Annex hereto which shall constitute an integral part of the present Protocol; and

(b) the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as "the Convention"), subject to the modifications and additions set out in the present Protocol.

2 The provisions of the Convention and the present Protocol shall be read and interpreted together as one single instrument.

3 Every reference to the present Protocol constitutes at the same time a reference to the Annex hereto.

Article II
Implementation of Annex II of the Convention

1 Notwithstanding the provisions of article 14(1) of the Convention, the Parties to the present Protocol agree that they shall not be bound by the provisions of Annex II of the Convention for a period of three years from the date of entry into force of the present Protocol or for such longer period as may be decided by a two-thirds majority of the Parties to the present Protocol in the Marine Environment Protection Committee (hereinafter referred to as "the Committee") of the Inter-Governmental Maritime Consultative Organization (hereinafter referred to as "the Organization").*

2 During the period specified in paragraph 1 of this article, the Parties to the present Protocol shall not be under any obligations nor entitled to claim any privileges under the Convention in respect of matters relating to Annex II of the Convention and all reference to Parties in the Convention shall not include the Parties to the present Protocol in so far as matters relating to that Annex are concerned.

Article III
Communication of information

The text of article 1l(1)(b) of the Convention is replaced by the following:

> "a list of nominated surveyors or recognized organizations which are authorized to act on their behalf in the administration of matters relating to the design, construction, equipment and operation of ships carrying harmful substances in accordance with the provisions of the regulations for circulation to the Parries for information of their officers. The Administration shall therefore notify the Organization of the specific responsibilities and conditions of the authority delegated to nominated surveyors or recognized organizations."

* The name of the Organization was changed to "International Maritime Organization" by virtue of amendments to the Organization's Convention which entered into force on 22 May 1982.

Article IV
Signature, ratification, acceptance, approval and accession

1 The present Protocol shall be open for signature at the Headquarters of the Organization from 1 June 1978 to 31 May 1979 and shall thereafter remain open for accession. States may become Parties to the present Protocol 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.

Article V
I in try into force

1 The present Protocol 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 IV of llie present Protocol.

2 Any instrument of ratification, acceptance, approval or accession deposited after the date on which the present Protocol enters into force shall take effect three months after the date of deposit.

3 After the date on which an amendment to the present Protocol is deemed to have been accepted in accordance with article 16 of the Convention, any instrument of ratification, acceptance, approval or accession deposited shall apply to the present Protocol as amended.

Article VI
Amendments

The procedures set out in article 16 of the Convention in respect of amendments to the articles, an Annex and an appendix to an Annex of the Convention shall apply respectively to amendments to the articles, the Annex and an appendix to the Annex of the present Protocol.

Article VII

Denunciation

1 The present Protocol may be denounced by any Party to the present Protocol at any time after the expiry of five years from the date on which the Protocol enters into force for that Party.

2 Denunciation shall be effected by the deposit of an instrument of denunciation with the Secretary-General of the Organization.

3 A denunciation shall take effect 12 months after receipt of the notification by the Secretary-General of the Organization or after the expiry of any other longer period which may be indicated in the notification.

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 11(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

'Tlie 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 undersigned* 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.

* Signatures omitted.

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

(b) a discharge or probable discharge of harmful substances in packaged form, including those in freight containers, portable tanks, road and rail vehicles and shipbome barges; or

(c) damage, failure or breakdown of a ship of 15 metres in length or above which:

(i) affects the safety of the ship; including but not limited to collision, grounding, fire, explosion, structural failure, flooding and cargo shifting; or

(ii) results in impairment of the safety of navigation; including but not limited to, failure or breakdown of steering gear, propulsion plant, electrical generating system, and essential shipborne navigational aids; or

(d) a discharge during the operation of the ship of oil or noxious liquid substances in excess of the quantity or instantaneous rate permitted under the present Convention.

(2) For the purposes of this Protocol:

(a) *Oil* referred to in subparagraph 1 (a) of this article means oil as defined in regulation 1(1) of Annex I of the Convention.

(b) *Noxious liquid substances* referred to in subparagraph 1 (a) of this article means noxious liquid substances as defined in regulation 1 (6) of Annex II of the Convention.

(c) *Harmful substances* in packaged form referred to in subparagraph 1(b) of this article means substances which are identified as marine pollutants in the International Maritime Dangerous Goods Code (IMDG Code).

Article III

Contents of report

Reports shall in any case include:

(a) identity of ships involved;

(b) time, type and location of incident;

(c) quantity and type of harmful substance involved;

(d) assistance and salvage measures.

Article IV

Supplementary report

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

(a) supplement the initial report, as necessary, and provide information concerning further developments; and

(b) comply as fully as possible with requests from affected States for additional information.

Article V

Reporting procedures

(1) Reports shall be made by the fastest telecommunications channels available with the highest possible priority to the nearest coastal State.

(2) In order to implement the provisions of this Protocol, Parties to the present Convention shall issue, or cause to be issued, regulations or instructions on the procedures to be followed in reporting incidents involving harmful substances, based on guidelines developed by the Organization.*

Reter to the General Principles for Ship Reporting Systems and Ship Reporting kcijiiiremcnts, including Guidelines for Reporting Incidents Involving Dangerous Goods, I l.mnlul Substances and/or Marine Pollutants adopted by the Organization by resolution A.H5I(2(I); see IMO sales publication IA516E.

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,

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

PvECALLlNG 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 open for accession. Only Contracting States to the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1978 Protocol") may become Parties to the present Protocol 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 (hereinafter referred to as the "Secretary-General").

Article 6

Lintry into force

1 The present Protocol shall enter into force twelve months after the date on which not less than fifteen 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 5 of the present Protocol.

2 Any instrument of ratification, acceptance, approval or accession deposited after the date on which the present Protocol enters into force shall take effect three months after the date of deposit.

3 After the date on which an amendment to the present Protocol is deemed to have been accepted in accordance with article 16 of the Convention, any instrument of ratification, acceptance, approval or accession deposited shall apply to the present Protocol as amended.

Article 7

Denunciation

1 The present Protocol may be denounced by any Party to the present Protocol at any time after the expiry of five years from the date on which the Protocol enters into force for that Party.

2 Denunciation shall be effected by the deposit of an instrument of denunciation with the Secretary-General.

3 A denunciation shall take effect twelve months after receipt of the notification by the Secretary-General or after the expiry of any other longer period which may be indicated in the notification.

4 A denunciation of the 1978 Protocol in accordance with article VII thereof shall be deemed to include a denunciation of the present Protoi nl in accordance with this article. Such denunciation shall take effect on the date on which denunciation of the 1978 Protocol takes effect in accordance with article VII of that Protocol.

Article 8

Depositary

1 The present Protocol shall be deposited with the Secretary-General (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; and

(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; and

(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 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 signed* the present Protocol.

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

MARPOL Annex I

Regulations for the Prevention of Pollution by Oil

MARPOL 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 whicli 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

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 "NI.S 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* moans 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

.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 6JuIy 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 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 *H)" 4 V* S, longitude 145' (K)' E,
thence to a point latitude 13()()' S, longitude 145()()' E,
thence to a point latitude 15"(K)' S, longitude 146"()()' E,
thence to a point latitude 17°30' S, longitude 147°W 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 .it (he meridian of 005°36' W;

.2 *the Baltic Sea area* means the Baltic Sea proper with the (Uilf 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'.K 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 Ane (12°28'.5 N, 043" 19'.6 H) 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 bast 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

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

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 a 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 adjacent to 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 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 lo 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 HS 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.

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 1919* 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.

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

.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 !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 winch 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;

.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.

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:

.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 !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:

.4.1 for which the contract is placed on or after 1 January 2007;

.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.

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 arc 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 tin-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 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

.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.

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.

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 N 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

.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 docs 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 INTERPRETATIONS 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.

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.

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.

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 pcrioil 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

(iovcrmnent 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 requirements**

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.

* 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 IAdSOE.

Chapter 3 — Requirements for machinery spaces of all ships

Part A - Construction

Regulation 12

'iattks for oil residues (sludge)

1 Kvery 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 1.2H.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 standard discharge connection in accordance with the following table:

Standard dimensions of flanges for discharge connections

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

Part B — Equipment

Regulation 14
Oil filtering equipment

SEE INTERPRETATION 18

1 Except as specified in paragraph 3 of this regulation, any ship of 400 gross tonnage and above but less than 10,000 gross tonnage shall be fitted with oil filtering equipment complying with paragraph 6 of this regulation. Any such ship which may discharge into the sea ballast water retained in oil fuel tanks in accordance with regulation 16.2 shall comply with paragraph 2 of this regulation.

SEE INTERPRETATIONS 19.1 AND 19.2 **AND** 20

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 arc 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 tins 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

.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;

.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

.3.4 the International Oil Pollution Prevention Certificate, when required, is endorsed to the effect that the ship ij 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 arc 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.*

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 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.*

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;

* 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).

.4 the oily mixture docs 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.

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 wild *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 inforepeak 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 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 Ul 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 tli.it all entries in the book appropriate to that operation are completed. Kat h 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 Hook 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 .ilicr 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 (i_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 ($i/_m$) as specified in paragraph 2.1 of this regulation, in assoi iution with the trim by the stern of not greater than ().015/.; and

.3 in any case the draught at the after perpendicular shall not he 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 cirry 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).

.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.*

SEE INTERPRETATION 30

.4 Every product carrier operating with dedicated clean ballast tanks shall be provided with a Dedicated Clean Ballast lank 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 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.

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.

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). Tor 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 arc at a similar stage of construction, on or after 1 January 2005, refer to the Revised (luidelincs and specifications adopted by the Organization by resolution MEPC. 108(49).

[1] See resolution A.495(XII) for the standard format of the Manual.

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.

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 proce-

.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 3 December 1979, as defined in regulation 1.28.2, shall be provided wit segregated ballast tanks and shall comply with paragraphs 2, 3 and 4 (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 ,ire 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 .л measure of protection against oil outflow in the event of grounding oi collision.

SEE INTERPRETATIONS 31.1 TO 31.3

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

$$7LPA_C + ZPA_S \ \hat{}J[L_f(B + 2D)]$$

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,

L_c = 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:

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

Jreduced = \J- [a——T Q — -) | or 0.2 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 *Bj* 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_y

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.(), 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:

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

w = 2.0 m, whichever is the lesser.

The minimum value of w = 1.0 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 (m) or

h = 2.0 m, whichever is the lesser.

The minimum value of ft = 1.0 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 1.5ft above the baseline as shown in figure 1.

SEE INTERPRETATION 33

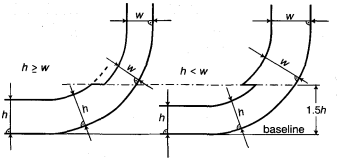

Figure 1 - Cargo tank boundary lines for the purpose of paragraph 3

A 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 iti cargo tanks*

Suction wells in cargo tanks may protrude into the double bottom below the boundary line defined by the distance /i provided that such wells are as small as practicable ami the distance between the well bottom and bottom shell plating is not less than 0.5¾.

.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 .V2 of this regulation may be dispensed with, provided tli.it the ili-мш of the tanker is such that the cargo and vapour pressure eseitetl 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:

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

where:

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

p_c = maximum cargo density in kg/m

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

p_s = density of seawater in kg/m

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 *BfG* or *(i* in, 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 1.5*h* 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

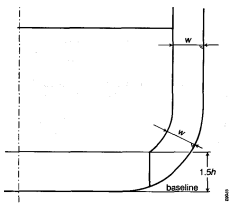

Figure 2 — Cargo tank boundary lines for the purpose of paragraph 4

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.*

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 (m)

with a minimum value of h = 0.76 m;

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).

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 m^3 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

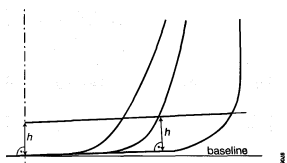

Figure 3 — Cargo tank boundary lines for the purpose of paragraph 6

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.*

.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 equivalent to the specification acceptable to the Organization.[1,]

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 docs 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 I 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 200Ii or the anniversary of the date of delivery of the ship on the date or in the **year** specified in the following table:

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 sucli a ship beyond the date specified in paragraph 4 of this regulation, provided that:

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

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

.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.

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. t

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 tuik 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^{0}C higher than 900 kg/m\

.2 fuel oils* having either a density at 15°C higher than 900 kg/m^3 or a kinematic viscosity at 50°C higher than 180 mm /s; or

SEE INTERPRETATION 39

.3 bitumen, tar and their emulsions.

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

* MHI'C.54 amended this definition by resolution MEPC.141 (54) (see item 6 of the Additional

regulation 19.3.1 and complying widi 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.

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/m^3 but lower than 945 kg/m^3, 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.

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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 l'arty 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 forthwitli 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 sliip-tn-slnp transfer of heavy grade oil in areas under its jurisdiction except when iln\ is necessary for the purpose of securing the safety of a ship or saving life .и мм. In such cases, that Party shall communicate to the Organization Im circulation to the Parties to the present Convention particulars thereof lot 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:

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

$h = 2$ m, whichever is the lesser.

The minimum value of $h = 1$ 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.

A *Breadth (B_B)* is the greatest moulded breadth of the ship, in metres, at or below the waterline rf_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:

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

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

$O_M \leqslant 0.012$ for $C \geqslant 400{,}000\ m^3$

for combination carriers between 5,000 tonnes deadweight (DWT) and 200,000 m^3 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 $O_M \leqslant 0.015$.

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

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

where:

O_M = mean oil outflow parameter

C = total volume of cargo oil, in m^3, 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:

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

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

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

.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 $\frac{b_i}{B} \geqslant 0.2L$: $0.2L$

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

.2.3.2.2.1 where no centreline longitudinal bulkhead is provided:

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

.2.3.2.2.2 where a centreline longitudinal bulkhead is provided:

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

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 Tlic 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 (p_n) shall be calculated as follows:

$$p_n = 1000(\mathrm{DWT})/C \ (\mathrm{kg/m^3})$$

.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 0.5¾, 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_u, as follows:

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

where:

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

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

.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:

OMB(O) = mean outflow for 0 m tide condition; and

$0_{m}(2.5)$ = 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:

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

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

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

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:

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

where:

h_c = the height of the cargo oil above Z_l, in metres;

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

Z_l = 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/m^3;

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

g = the acceleration of gravity, to be taken as 9.81 m/s^2; 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;

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;*

* 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).

.3 Tables of probabilities for side damage

X_a/L	P_{Sa}
0.00	0.000
0.05	0.023
0.10	0.068
0.15	0.117
0.20	0.167
0.25	0.217
0.30	0.267
0.35	0.317
0.40	0.367
0.45	0.417
0.50	0.467
0.55	0.517
0.60	0.567
0.65	0.617
0.70	0.667
0.75	0.717
0.80	0.767
0.85	0.817
0.90	0.867
0.95	0.917
1.00	0.967

X_f/L	P_{Sf}
0.00	0.967
0.05	0.917
0.10	0.867
0.15	0.817
0.20	0.767
0.25	0.717
0.30	0.667
0.35	0.617
0.40	0.567
0.45	0.517
0.50	0.467
0.55	0.417
0.60	0.367
0.65	0.317
0.70	0.267
0.75	0.217
0.80	0.167
0.85	0.117
0.90	0.068
0.95	0.023
1.00	0.000

Z_l/D_S	P_{Sl}
0.00	0.000
0.05	0.000
0.10	0.001
0.15	0.003
0.20	0.007
0.25	0.013
0.30	0.021
0.35	0.034
0.40	0.055
0.45	0.085
0.50	0.123
0.55	0.172
0.60	0.226
0.65	0.285
0.70	0.347
0.75	0.413
0.80	0.482
0.85	0.553
0.90	0.626
0.95	0.700
1.00	0.775

Z_u/D_S	P_{Su}
0.00	0.968
0.05	0.952
0.10	0.931
0.15	0.905
0.20	0.873
0.25	0.836
0.30	0.789
0.35	0.733
0.40	0.670
0.45	0.599
0.50	0.525
0.55	0.452
0.60	0.383
0.65	0.317
0.70	0.255
0.75	0.197
0.80	0.143
0.85	0.092
0.90	0.046
0.95	0.013
1.00	0.000

P_{Sy} shall be calculated as follows:

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

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

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

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:

$P_{BL} = 1 - P_{Bf} - P_{Ba}$ = 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 the transverse zone bounded by Y_p and Y_s; and

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

.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}
0.00	0.000
0.05	0.002
0.10	0.008
0.15	0.017
0.20	0.029
0.25	0.042
0.30	0.058
0.35	0.076
0.40	0.096
0.45	0.119
0.50	0.143
0.55	0.171
0.60	0.203
0.65	0.242
0.70	0.289
0.75	0.344
0.80	0.409
0.85	0.482
0.90	0.565
0.95	0.658
1.00	0.761

X_f/L	P_{Bf}
0.00	0.969
0.05	0.953
0.10	0.936
0.15	0.916
0.20	0.894
0.25	0.870
0.30	0.842
0.35	0.810
0.40	0.775
0.45	0.734
0.50	0.687
0.55	0.630
0.60	0.563
0.65	0.489
0.70	0.413
0.75	0.333
0.80	0.252
0.85	0.170
0.90	0.089
0.95	0.026
1.00	0.000

Y_p/B_B	P_{Bp}
0.00	0.844
0.05	0.794
0.10	0.744
0.15	0.694
0.20	0.644
0.25	0.594
0.30	0.544
0.35	0.494
0.40	0.444
0.45	0.394
0.50	0.344
0.55	0.297
0.60	0.253
0.65	0.211
0.70	0.171
0.75	0.133
0.80	0.097
0.85	0.063
0.90	0.032
0.95	0.009
1.00	0.000

Y_s/B_B	P_{Bs}
0.00	0.000
0.05	0.009
0.10	0.032
0.15	0.063
0.20	0.097
0.25	0.133
0.30	0.171
0.35	0.211
0.40	0.253
0.45	0.297
0.50	0.344
0.55	0.394
0.60	0.444
0.65	0.494
0.70	0.544
0.75	0.594
0.80	0.644
0.85	0.694
0.90	0.744
0.95	0.794
1.00	0.844

P_{Bz} shall be calculated as follows:

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

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

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

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 sub-compartments.*

.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 minimize oil outflow in the event of an accident may be taken into account only after the effectiveness and safety aspects of the system are approved by the 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

* 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.

.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
.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:

$$O_c = \Sigma W_i + \Sigma K_i C_i \qquad \text{(I)}$$

.2 For bottom damages:

$$O_s = \tfrac{1}{3}(\Sigma Z_i W_i + \Sigma Z_i C_i) \qquad \text{(II)}$$

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.

$$S_i = 1 - l_i/l_c$$

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:

$$O_s = \tfrac{1}{4}(\Sigma Z_i W_i + \Sigma Z_i C_i) \qquad \text{(III)}$$

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 $400\sqrt[3]{DW}$, 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:

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

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

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

.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:

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

.3.2.2.2 where a centreline longitudinal bulkhead is provided:

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

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_o, 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 $\theta = 30°$ angle of heel and not less than 0.09 m-rad up to $\theta = 40°$ or other angle of flooding θ_f* if this angle is less than 40°. Additionally, the area under the righting lever curve (GZ curve) between the angles of heel of 30° and 40° or between 30° and θ_f, if this angle is less than 40°, shall be not less than 0.03 m-rad;

.2.2 the righting lever GZ shall be at least 0.20 m at an angle of heel equal to or greater than 30°;

.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_o, 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;

* 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.

.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:	$\frac{1}{3}(L^{\frac{2}{3}})$ or 14.5 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):	$\frac{B}{5}$ or 11.5 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:	$\frac{1}{3}(L^{\frac{2}{3}})$ or 14.5 m, whichever is less	$\frac{1}{4}(L^{\frac{1}{4}})$ or 5 m, whichever is less
.2.2	Transverse extent:	$\frac{B}{6}$ or 10 m, whichever is less	$\frac{B}{6}$ 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

.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 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 duraetcmlint ol the ship, the arrangements, configuration and contents ol tin* llUlK....it compartments; and the distribution, relative densities and the free мШ.ис 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 ol 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.S5
Voids	*OM*
Intended for consumable liquids	0 to *OM**
Intended for other liquids	0 to *OM**

.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.

* The permeability of partially filled compartments shall be consistent with the amount of li

assumed that the contents are completely lost from that compartment and replaced by salt wa up to the level of the final plane of eclJiilibrium.

.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:

.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 anil 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, when applicable, for providing the driving fluid for ediutors, without the introduction of additional water into the system;

.2 2% where segregated ballast tanks or dedicated clean IuIIaM tanks are provided in accordance with regulation IK *of* (Im 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, I hi» water is sufficient for tank washing and, where applicable, lor 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

.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 1)-1.1 of the International Convention for the Control and Мамапеше1Ш ol Ships' Ballast Water and Sediments,

provided that the surface of the ballast water lias been examined either visually or by other means immediately bed не Ihr discharge to ensure that no contamination with oil has uket\ place.

.2 Oil tankers delivered on or before 31 December I<>7V, a» 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 visually observed during the discharge operation; and

.5.2 such part flow arrangements comply with the requirements established by the Administration, which shall contain at least all the provisions of the Specifications for the Design, Installation and Operation of a Part Flow System for Control of Overboard Discharges adopted by the Organization.*

SEE INTERPRETATION 51

7 Every oil tanker of 150 gross tonnage and above delivered on or after 1 January 2010, as defined in regulation 1.28.8, which has installed a sea chest that is permanently connected to the cargo pipeline system, shall be equipped with both a sea chest valve and an inboard isolation valve. In addition to these valves, the sea chest shall be capable of isolation from the cargo piping system whilst the tanker is loading, transporting, or discharging cargo by use of a positive means that is to the satisfaction of the Administration. Such a positive means is a facility that is installed in the pipeline system in order to prevent, under all circumstances, the section of pipeline between the sea chest valve and the inboard valve being filled with cargo.

SEE INTERPRETATION 52

Part B — Equipment

Regulation 31

Oil discharge monitoring and control system

1 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 equipped with an oil discharge monitoring and control system approved by the Administration.

* See appendix 4 to Unified Interpretations.

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.* 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 anil 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 diluent 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 Stale authority, a tanker with a defective oil discharge monitoring and ioiiiml system may undertake one ballast voyage before proceeding to *a* repair pull,

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 systems for oil tankers developed by tlic Organization†. 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.

* 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).

† 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.

Regulation 32
*Oil/water interface detector**

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 fully complies with the requirements of this regulation within one year after the tanker was first engaged in the trade of carrying crude oil or by the end of the third voyage carrying crude oil suitable for crude oil washing, whichever occurs later.

2 Crude oil washing installation and associated equipment and arrangements shall comply with the requirements established by the Administration. Such requirements shall contain at least all the provisions of the Specifications for the Design, Operation and Control of Crude Oil Washing Systems adopted by the Organization[1]. When a ship is not required, in accordance with paragraph 1 of this regulation, to be, but is equipped with crude oil washing equipment, it shall comply with the safety aspects of the above-mentioned Specifications.

3 Every crude oil washing system required to be provided in accordance with regulation 18.7 of this Annex shall comply with the requirements of this regulation.

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

[1] Refer to the revised Specifications for the design, operation and control of crude oil washing systems adopted by the Organization by resolution A.446(XI) and amended by the Organization by resolution A.497(XII) and as further amended by resolution A.897(21).

Regulation 34
Control of discharge of oil

A Discharges outside special areas

1 Subject to the provisions of regulation 4 of this Annex and paragraph 2 of this regulation, any discharge into the sea of oil or oily mixtures from the cargo area of an oil tanker shall be prohibited except when all the following conditions are satisfied:

.1 the tanker is not within a special area;

.2 the tanker is more than 50 nautical miles from the nearest land;

.3 the tanker is proceeding *en route;*

.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 docs 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.*

4 The provisions of paragraph 3 of this regulation shall not apply to the discharge of clean or segregated ballast.

' Refer to regulation 38.6.

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 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 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 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 tanki 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.

* 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).

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;

.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 in 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 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 .1 shipboard oil pollution emergency plan approved by the Administration.

SEE INTERPRETATION 54

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

.1 the procedure to be followed by the master or other perwmi having charge of the ship to report an oil pollution ии itlciil, U required in article 8 and Protocol I of the present (!onvenlinii, based on the guidelines developed by the Organization;'

.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 co-ordinating 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.

Refer to the Guidelines for the development of shipboard oil pollution emergency plan» adopted by the Organization by resolution MEPC.54(32) as amended by resolution MH1'C.86(44).

* Refer to the General principles for ship reporting systems and ship reporting requirement*, and/or marine pollutants adopted by the Organization by resolution A.«51(20).

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 adequate* 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

.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.

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

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 he 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 para^i aph 2.4 of this regulation shall be sufficient to receive all icMdur* retained according to regulation 12 of this Annex from all ship* 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 (he 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 .iml tank washing water from oil tankers. In addition, all ports within the special area shall be provided with adequate* reception facilities for other residues and oily mixtures from all ships. Such facilities shall have adequate capacity to meet the needs of the ships using them without causing undue delay.

5 The Government of each Party to the present Convention having under its jurisdiction entrances to seawater courses with low depth contour

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

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 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 rales 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 arc 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.

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.*

* 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 oils*

Asphalt solutions
Blending stocks
Roofers flux
Straight run residue

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

Distillates
Straight run
Flashed feed stocks

Gas oil
Cracked

Gasoline blending stocks
Alkylates – fuel
Reformates
Polymer – fuel

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

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

Naphtha
Solvent
Petroleum
Heartcut distillate oil

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

Appendix II

Form of IOPP Certificate and Supplements*

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 ship†

Name of ship .....

Distinctive number or letters .....

Port of registry .....

Gross tonnage .....

Deadweight of ship (tonnes)‡ .....

IMO Number§ .....

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* 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.

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

‡ For oil tankers.

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

Type of ship:*

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): . . . . . +
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)

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

(Signature of duty authorized official issuing the certificate)

(Seal or stamp of the authority, as appropriate)

* Delete as appropriate.

\+ 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.

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/Intermediate* survey:

Signed: . . . . . .
(Signature of duly ***authoiuad oftiviel)***

Place: . . . . . .

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

(Seal or stamp of the authority, as appropriate)

Annual/Intermediate* survey:

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

Place: . . . . . .

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

(Seal or stamp of the authority, as appropriate)

Annual survey:

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

Place: . . . . . .

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

(Seal or stamp of the authority, as appropriate)

* Delete as appropriate.

ANNUAL/INTERMEDIATE SURVEY IN ACCORDANCE WITH REGULATION 10.8.3

THIS IS TO CERTIFY that, at an annual/intermediate* survey in accordance with regulation 10.8.3 of Annex 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)

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)

* Delete 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** I of the Convention, be accepted as valid until (dd/mm/yyyy): . . . . . .

. u^ 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 I of the Convention, the now 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** n«w anniversary date is (dd/mm/yyyy): . . . . . .

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

Place: . . . . . .

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

(Seal or stamp of the authority, as appropriate)

' Delete as appropriate.

Appendix

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 19 79" under regulation 1.28.1 due to unforeseen delay in dolivory U

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 D

2.2 Type of oil filtering equipment fitted:

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

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

2.3 Approval standards:*

2.3.1 The separating/filtering equipment:

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

.2 has been approved in accordance with resolution MEPC.6O(33); **U**

* 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). lurthc reference is made to the Guidelines and specifications for pollution prevention equipment to machinery space bilges adopted by the Marine Environment Protection Committee ot the Organization by resolution MEPC.6O(33), which, effective on 6 July 1993, superseded resolutions A.393(X) and A.444(XI) and the revised Guidelines and specifications for pollutio prevention equipment for machinery spaces of ships adopted by the Marine KnvironmcniU Protection Committee of the Organization by resolution MF.I'C.K>7(49) which, effective fro 1 January 2005, superseded resolutions MIID>C.(>0(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 is.....m^3/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

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:.....m^3	

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

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	
			m^3

3.2 Means for the disposal of residues in addition to the provision* <>/ sludge tanks:

3.2.1 Incinerator for oil residues, capacity.....l/h

3.2.2 Auxiliary boiler suitable for burning oil residues

3.2.3 Tank for mixing oil residues with fuel oil, capacity.....m^3*

3.2.4 Other acceptable means:.....

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 volum	m^3

* Hilge water holding t.nik(s) are not required by the Convention, entries in the table under paragraph 3.3 are voluntary.

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 ' . E K ,

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 D

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 D

7 **Equivalents** (regulation 5)

7.1 Equivalents have been approved by the Administration for certain requirements of Annex I on those items listed under paragraph(s). . . . . of this Record •

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)

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 undor rofjuhition 2.2 of Annex I of the Convention". For the third typo ol ships at categorized in the IOPP Certificate. Form A shall be usocJ.

2 This Record shall be permanently attached to Hm 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. . . . . (m^3)

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 delwered, or\ or before 31 December 1979" under regulation 1.28.1 due to unforeseen delay in delivery D

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 Q

1.11 Type of ship:

1.11.1 Crude oil tanker D

1.1 1.2 Product carrier D

1.1 1.3 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 D

1.1 1.6 Ship, other than an oil tanker, with cargo tanks coming under regulation 2.2 of Annex I of the Convention Π

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 [J

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 D

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 wnW in oil fuel tanks Π

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:*

2.3.1 The separating/filtering equipment:

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

.2 has been approved in accordance with resolution MEPC.6O(33) D

.3 has been approved in accordance with resolution MEPC. 107(49)

.4 has been approved in accordance with resolution A.233(VII); Π

* Refer to the Recommendation on international performance and test specifications of oil 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). Kurth reference is made to the Guidelines and specifications for pollution prevention equipment fc machinery space bilges adopted by the Marine Environment Protection Conimitti'O oil Ilm- Organization by resolution MEPC.6O(33), which, effective on 6 July 1993, superseded

Protection (.'.ommittee of the Organization by resolution M HC"_ 107(49) which, ctiective I January 2005. superseded resolutions MKK:.60(33), A.393(X) and A.444(Xl).

.5 has been approved in accordance with national standards not based upon resolution A.393(X) or A.233(VII) ☐

.6 has not been approved ☐

2.3.2 The process unit has been approved in accordance with resolution A.444(XI) ☐

2.3.3 The oil content meter:

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

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

.3 has been approved in accordance with resolution MEPC.107(49)

2.4 Maximum throughput of the system is ..... m^3/h.

2.5 Waiver of 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: ..... m^3	

2.5.3 In lieu of the holding tank(s) the ship is provided with arrangements to transfer bilge water to the slop tank. ☐

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

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: ..... m^3	

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

3.2.1 Incinerator for oil residues, capacity ..... l/h ☐

3.2.2 Auxiliary boiler suitable for burning oil residues ☐

3.2.3 Tank for mixing oil residues with fuel oil, capacity ..... m^3 ☐

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: ..... m^3	

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 ☐

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

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: . . . . . m^3	

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)) ☐

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 ☐

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)* *(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 ☐

* 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)* *(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 ..... m^3, 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 ☐

6.3 Oil/water interface detectors:

6.3.1 The ship is provided with oil/water interface detectors approved under the terms of resolution MEPC.5(XIII)† ☐

6.4 Exemptions from 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 ☐

* 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).

† Refer to the Specification for oil/water interface detectors adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.5(XIII).

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: .....
.....
..... ☐

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:*

7.2.1 Above the waterline ☐

7.2.2 Below the waterline ☐

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

7.3.1 Above the waterline ☐

7.3.2 Below the waterline in conjunction with the part flow arrangements in compliance with regulation 30.6.5 ☐

7.3.3 Below the waterline ☐

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

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 ☐

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 Equivalents (regulation 5)

10.1 Equivalents 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 1 7 of Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78). The items have been grouped into operational sections, each of which is denoted by a letter Code.

When making entries in the Oil Record Book Part I, the date, operational code and item number shall be inserted in the appropriate columns and the required particulars shall be recorded chronologically in the blank spaces.

Each completed operation shall be signed for and dated by the officer or officers in charge. The master of the ship shall sign each completed page.

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

In the event of accidental or other exceptional discharge of oil, statement shall be made in the Oil Record Book Part I of the circumstances of, and the reasons for, the discharge.

Any failure of the oil filtering equipment shall be noted in the Oil Record Book Part I.

The entries in the Oil Record Book Part I, for ships holding an IOPP Certificate, shall be at least in English, French or Spanish. Where entries in official language of the State whose flag the ship is entitled to fly are also used, this shall prevail in case of a dispute or discrepancy.

The Oil Record Book Part I shall be kept in such a place as to be readily available for inspection at all reasonable times and, except in the case of unmanned ships under tow, shall be kept on board the ship. It shall be preserved for a period of three years after the last entry has been made.

The competent authority of the Government of a Party to the Convention may inspect the Oil Record Book Part I on board any ship to which this Annex applies while the ship is in its port or offshore terminals and may make a copy of any entry in that book and may require the master of the ship to certify that the copy is a true copy of such entry. Any copy so made which has been certified by the master of the ship as a true copy of an entry in the Oil Record Book Part I shall be made admissible in any juridicial 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, typo 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 chomi cals; type and quantity of chemicals used, in cubic molros),
- .3 identity of tank(s) into which cleaning water was trunslomid

4 Ballasting:
- .1 position of ship and time at start and end of hnllnntlnQ;
- .2 quantity of ballast if tanks are not cleaned, in cubit m«ti<

(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)

1 1 Collection of oil residues.

Quantities of oil residues (sludge and other oil residues) retained on board. The quantity should be recorded weekly:* (This means that the quantity must be recorded once a week even if tho voyage lasts more than one week)

* Tanks listed in item 3.1 of forms A and B of the Supplement in the IOPP Certificate used lot sludge.

.1 identity of tank(s).....

.2 capacity of tank(s).....m^3

.3 total quantity of retention.....m^3.

12 Methods of disposal of residue.

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);*

.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.[1]

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);*

.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.

* 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.**

[1] 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.**

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.*

20 Time when system has been made operational.

21 Reasons for failure.

(G) Accidental or other exceptional discharges of oil

22 Time of occurrence.

23 Place or position of ship at time of occurrence.

24 Approximate quantity and type of oil.

25 Circumstances of discharge or escape, the reasons therefor and general remarks.

(H) Bunkering of fuel or bulk lubricating oil

26 Bunkering:

.1 Place of bunkering.

.2 Time of bunkering.

.3 Type and quantity of fuel oil and identity of tank(s) (state quantity added, in tonnes, and total content of tank(s)).

.4 Type and quantity of lubricating oil and identity of tank(s) (state quantity added, in tonnes, and total content of tank(s)).

*** The condition of the oil filtering equipment covers also the alarm and automatic stopping devices, if applicable.**

(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

Signature of master

OIL RECORD BOOK

PART II - Cargo/ballast operations
(Oil tankers)

Name of ship:

Distinctive number or letters:

Gross tonnage:

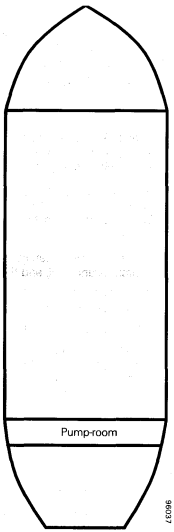
Period from:

Note: Every oil tanker of 150 gross tonnage and above shall be providod 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.

Name of ship. . . . . .

Distinctive number or letters .

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



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 tho International Convention for the Prevention of Pollution from Ships. 19/3, us modified by the Protocol of 1978 relating thereto (MARPOL 73//8) Nut items have been grouped into operational sections, each of which is donotod by a code letter.

When making entries in the Oil Record Book Part II, the date, operation;il 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 tho officer or officers in charge. Each completed page shall be countorsiynod by tho master of the ship.

In respect of the oil tankers engaged in specific trades in acnordnnrn with regulation 2.5 of Annex I of MARPOL 73/78. appropnoto onliy in tlin OH Record Book Part II shall be endorsed by the competent port Stnto nutliunty *

The Oil Record Book Part II contains many references to oil quantity IIm 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 dicharge 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 «in official language of the State whose flag the ship is entitled to fly nro nlao 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 bo rondily available for inspection at all reasonable times and, except in tho c.iso of unmanned ships under tow, shall be kept on board the ship. It shall bo 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

This sentence should only he inserted for the Oil Record Hook of a tanker engaged in a specific trade.

a copy of any entry in that book and may require the master of the ship to certify that the copy is a true copy of such entry. Any copy so made which has been certified by the master of the ship as a true copy of an entry in the Oil Record Book Part II shal be made admissible in any juridicial 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 motro at 1 5°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), i cubic metres).

5 Was (were) the tank(s) in 4.1 emptied? **(If not, stain qtinntlt** 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, i 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 carried out between two discharge ports.

10 Identity of tank(s) washed.*

1 1 Number of machines in use.

12 Time of start of washing.

13 Washing pattern employed^

14 Washing line pressure.

* When an individual tank has more machines than can be operated simultaneously, *e.* described in the Operations and Equipment Manual, then the section being crude oil washe should be identified, e.g. No. 2 centre, forward section.

^ In accordance with the Operations and Equipment Manual, enter whether single-stage or mull stage method of washing is employed. If multi-stage method is used, give the vertical *m* covered by the machines and the number of times that arc is covered for that particular stugo { the programme.

15 Time washing was completed or stopped. - - - - -

16 State method of establishing that tank(s) was (were) dry.

17 Remarks.*

(E) Ballasting of cargo tanks

18 Position of ship at start and end of ballasting.

19 Ballasting process:

.1 identity of tank(s) ballasted;

.2 time of start and end;

.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 o1 ship when water intended 1or flushing, oт port baiiast 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.

* If the programmes given in the Operations and Equipment Manual are not followed, then the reasons must be given under Remarks.

30 Method of cleaning.*

31 Tank washings transferred to:

.1 reception facilities (state port and quantity, in cubic metres)*;

.2 slop tank(s) or cargo tank(s) designated as slop tiink(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 optiiiituin during the discharge?

38 Was a regular check kept on the effluent and the surface ot 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).[1]*

(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.

* Hand-hosing, machine washing and/or chemical cleaning. Where chemically cleaned, the chemical concerned and amount used should be stated.

[1] 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 bnllnst. residues or oily mixtures transferred, together with the time and date of the transfer This ro<<i]<l or certificate, if attached to the Oil Record Book Part II. may aid the master of the ship in provnu that his ship was not involved in an alliigod pollution incident. The receipt or certificate should Ui kept together with the Oil Record Book Part II.

47 Bulk quantity discharged in cubic metres and rate of discharge in m^3/hour.

48 Final quantity discharged in cubic metres and rate of discharge in m^3/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);*

.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?

* 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.

Position of ship on completion if different from 58.

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;

.1 into the sea; or

.2 to reception facility (identify port).*

67 Was there any indication of oil contamination of tho bnllust wnlnr 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.

* Ships' masters should obtain from the operator of the reception facilities, which includes bargos and tank trucks, a receipt or certificate detailing the quantity of tank washings, dirty bnllnst, residues or oily mixtures transferred, together with the time and date of the transfer This rocoipt or certificate, if attached to the Oil Record Book Part II, may aid the master of the ship in ptovinu 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.

75 Approximate quantity, in cubic metres, and type of oil.

76 Circumstances of discharge or escape, the reasons therefor and general remarks.

(O) Additional operational procedures and general remarks

TANKERS ENGAGED IN ***SPECIFIC TRADES***

(P) Loading of ballast water

77 Identity of tank(s) ballasted.

78 Position of ship when ballasted.

79 Total quantity of ballast loaded in cubic metres.

80 Remarks.

(Q) Re-allocation of ballast water within the ship

81 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

Signature of master . . . . . .

Unified Interpretations of Annex I

Notes: For the purposes of the Unified Interpretations, the following abbreviations ate

MARPOL 73/78	The 1973 MARPOL Convention as modified hy 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 systom
IGS	Inert gas systems
PL	Protective location of segregated hnllnot lnnki
CAS	Condition Assessment Schome

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 bn uMiri for the transport of oil except that, with the specific agroomnnl hy the flag and relevant coastal States on a voyage basis, produced oil may be transported to port in abnormal and rore 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.

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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 1 982 as defined in regulation 1.28.3 satisfying the requirements of COW changes its trade for the carriage of product oil* 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.

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.

* "Product oil" means any oil other than crude oil as defined in regulation 1.2.

4 Unforeseen delay in delivery of ships

Reg. **1.28**

4.1 For the purpose of defining the category of a ship undfi regulation 1.28, a ship for which the building contract (or knH laying) and delivery were scheduled before the dates spociliod m these regulations, but which has been subject to delay in dolivory beyond the specific date due to unforeseen circumstancos btiyuml the control of the builder and the owner, may be accepted by tlm Administration as a ship of the category related to the estutuitod date of delivery. The treatment of such ships should be considomd 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 dolivory by **the** Administration should also be accepted as such by port Stntos In order to ensure this, the following prnclioo is mcommnndnd lo Administrations when considering an application lor mich *n* ohiJi

.1 the Administration should Ihoroii(|hly cofmnlni H I[1] I tions on a case-by-caso busts, homing, in i « particular circumstances In doing so in the • 4 ship built in a foreign country, tho Admini'.ii.iiidii >y require a formal report from tho uuthonium <•! "'« country in which the ship was built, suiting tlmt **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 **roflilntioni** 1.28.2, 1.28.4, 1.28.6, 1.28.7, 1.28.8, a ship which falls into tiny one of the categories listed in subparagraphs 1, 2, 3, *A* 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)*. 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 information to the Parties. The Party objecting to the equivalency should specify whether the objection pertains to ships entering its ports.

11 Survey and inspection

Regs. 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

* 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).

"crude oil/product carrier" Furthermore, the requirements contained in regulation 1 9 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.

1 2.2 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.

1 2.3 *Oil tankers delivered after 1 June 1982 as defined in regulation 128.4 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*

12.4.1 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".

1 2.6 *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 shortoning »f lhe validity of the ship's IOPP Certificate, the existing form of the certificate or supplement which is current whon tho iimnndmtint enters into force may remain valid until tho oxpiry ol thnt cwtifn nln, provided that, at the first survey after the diito of nntry into loi< • • nf the amendment, necessary changes are indicntiid in tlm n>" ' >ij certificate or supplement by means of suitable) conectniiiih. и y striking over the invalid entry and typing the new untry,

14 Revalidation of an IOPP Certificate

Reg. 10 Where an annual or an intermediate survey required in regulation б 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 iidoqunie capacity of sludge tanks, the following criteria may be usml ai guidance. These criteria should not be construed as dotorminino thfl amount of oily residues which will be produced by the mnchirmry installation in a given period of time. The capacity of sludge tunkl 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 (*Vy)* should be calculated by the following formula:

$$Vy - \mathbf{KyCD}\ (m^3)$$

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 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,

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:

$$V_1 = K_1CD \ (m^3)$$

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

4, 15 Regulation 15.3.2 includes a reference to regulation 14.7 which requires both a 1 5 ppm bilge alarm and a stopping device which will ensure that the discharge is automatically stopped when the oil content of the effluent exceeds 1 5 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 1 5ppm bilge alarm and an automatic stopping device is a contravention of the Convention even if the oil content of the effluent is below 1 5 ppm.

19 Control of discharge of ballast water from oil fuel tanks

• 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 1 5 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.

1 9.2 The above equipment should be of adequate capacity to deal with the quantities of effluent to be discharged.

20 Oil filtering equipment

H, 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 1 5 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 Hm ship complies with the waiver conditions regarding the phrase "rostrictotl voyages as determined by the Administration". This may inclutiti ti list of ports, the maximum duration of the voyage between ports having reception facilities, or similar conditions as established by Hm 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 bo in compliance with regulation 34.

22.1.2 The above interpretation should not be constrimri *m* relaxing any existing prohibition of piping arrangements conntn linu the engine-room and slop tanks which may permit cargo lo (inltii ihtt machinery spaces. Any arrangements provided for machinery spnce bilge discharges into slop tanks should incorporate adequate mtnins to prevent any backflow of liquid cargo and gases into lhe 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 lo fill their empty oil fuel tanks with water ballast in order to mumtnin sufficient stability and safe navigation conditions.

23.1.2 Such ships may include *inter alia* certain large lishing vessels or ocean-going tugs. Certain other types of ships which ltи 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 1 6.4, ballast water may be carried in oil fuel tanks, provided that such ballast water is discharged into the sea in compliance with regulations 1 5.2, 1 5.3, 1 5.5 and 1 5.6 or into reception facilities in compliance with regulation 1 5.9.

25 Oil tankers used for the storage of dirty ballast

)s. 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

). 18.3.2

26.1 *Capacity of SBT*

For the purpose of application of regulation 1 8.3.2, 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

· **18-5**

27.1 In determining the minimum draught and trim of oil tankers less than 1 50 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

5. **18.7,** 8-8

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 chcinc|novnr between COW and CBT modes on tankers with common or :,141,unto independent piping and pump arrangements for cargo and (CHt) ballast handling should be continuously acceptable as long at 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 aftor ponk tnnks. providtid Um! they are exclusively used for tho cmnngtt (if ь illctnl water and are connected with ptttmunonl рм ·· u lo ballast water pumps.

30 CBT oil content meter

Reg. 18.8.3

j ,, discharge of ballast from the dedicated clean ballast tanks should be continuously monitored (but not necessarily rocordod) 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

egs. 18.12 to 18.15

3 1 1 j ,, measurement of the minimum width of wing tanks find ol ,,,,= j ,, j ,, vertical depth of double bottom tanks should ltd mken and values of protective areas *(PA,* and *PA,)* should be calculnlml in accordance with the "Interim recommendation lor и unilimJ interpretation of regulations 18.12-18.15 - Protective locution ol 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 1 980 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

Э- 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 1 9.

33 Width of wing tanks and height of double bottom tanks at turn of the bilge area

j. **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

). **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 1 9.3.4, 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).

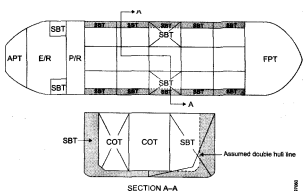


Figure 1

.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).

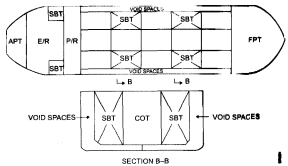


Figure 2

35 Definition of double side wing tanks

Reg. 19.6.2 35.1 Wing tanks required for the protection of the enliio < "<> tniit-length by regulation 19.6.2, for the purpose of comph.i". n wild regulation 21.4.2, can be used as cargo tanks for tho cminiu" "• <•l other than heavy grade oils when the ship is provided with < **nigo** tanks so arranged that the capacity of each cargo tank **uous not** exceed 700 m^3.

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 tho fore-body, including the entire cargo carrying section, (he mn|or conversion completion date of the oil tanker shall bo dnmnoH In be the date of delivery of the ship referred to in regulation ***20A*** of MARPOL Annex I, provided that:

.1 the oil tanker conversion was completed before б 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 щ 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

3. 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"

j. 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/m^3 or a kinematic viscosity at 50°C greater than 180 mm^2/s.

40 Requirements for the Condition Assessment Scheme (CAS)

|. 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

. **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

.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, 0.3Z from the forward perpendicular should be the aftermost point of the extent of damage.

43 Hypothetical oil outflow for combination carriers

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 line, no deduction should be made for the volume ol intern, ii

44 Calculation of hypothetical oil outflow

ig. 25.1.2 In a case where the width *b,* is not constant along the length ol 11 particular wing tank, the smallest *b,* value in the tank should be used *b»* the purposes of assessing the hypothetical outflows of oil O_c and 0_s.

45 Intact stability

зд. 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" hool, for each individual tank. Cargo density should correspond to the available cargo deadweight at the displacement ol which Imnsvnr.r KM reaches a minimum value, assuming full departure ооп.чилмыМ» and 1% of the total water ballast capacity Пш miiximiim I<>4 surface moment should be assumed in all ballast condition!. I c :им purpose of calculating GM_o, liquid free surface corrections nhoulil IM based on the appropriate upright free surface inertia momtiht Ihn righting lever curve may be corrected on the basis ot hi|uid tmii'.tni

45.2 For proving compliance with regulation 27 of Annex I to MARPOL 73/78, as an alternative to the loading case descnbed 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 bo 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 Iree surface effects. Operational limits on the number of tanks considered to be simultaneously slack

"" " " :--• 'h " and exclusion of specific tanks should not be permitted. All ballast tanks should have at least

.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

g. **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

g. **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

g. 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

3.30.2 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:

.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 it:, ballast voyages, having regard to the type and trade of the ship The discharge outlet located above the waterline in the following bollltf.i condition will be accepted as complying with this requirement

.1 on oil tankers not provided with SBT or CBT, the biillitst 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 pipinn flrrnnnements which are led to the ship's side discharge outlet Incnted nhovn the departure ballast waterline but not abovo the wiitnihntt In the deepest ballast condition, if such armngomonts havti lmen liited before 1 January 1981.

49.1.4 Although regulation 30.2 does not preclude thn *ии* <(Ht* facility referred to in 49.1.1.2 for the discharge ol tuilljint writer M m recognized that the use of this facility is not desirable, mid it is strongly recommended that ships be provided with either the side discharge outlets referred to in 49.1.1.1 or the part How 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 lor oil tankers delivered on or before 1 June 1 982, as Helmed 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(2 1)).

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 dischargerd, 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(3XbMii)

56.2 There are five categories of discharges that may bn associated with the operation of fixed or floating platforms covomd 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 seawator from npnialionul puipii-i • ми h as produced oil tank cleaning wiitoi, pmriiu <•ч . .i lank hydrostatic testing water, water from lmllnMmU »• produced oil tank to carry out inspiction liy inltmu

Only the discharge of machinery space drainage) and. . . . Лшишы ballast should be subject to MARPOL 73/78 (see **iimuium alwwm m** 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 com fining minimum draught requirements for segregated ballast tankers bolow H)O m in • nilh

2 The formulations are based both on the theoretical research ;ind surveys ul actual practice on tankers of differing configuration reflecting varying dogmas ot 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 gonnrnl guidance for Administrations. With regard to the unique operating requimmnnts ol и particular vessel, the Administration should be satisfied that the tanker lms sullu innl ballast capacity for safe operation. In any case the stability should be exnininml independently.

5 *Formulation A*

.1 mean draught (m) = 0.200 + 0.032Z.

.2 maximum trim =(0.024-6 x 10"¾/.

6 These expressions were derived from a study of 26 tankers ranging in length from 50 to 1 50 m. The draughts, in some cases, were abstracted from ship's trim unci 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 + 0.01 7OZ.

.2 minimum draught at stern (m) = 2.300 + 0.030Z !

.3 minimum mean draught (m) = 1.550 + 0.023Z.

.4 maximum trim = 1.600 + 0.013Z.

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 + 0.0275Z

.2 minimum draught forward (m) = 0.5000 + 0.0225Z

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"

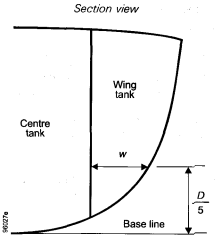
1 Regulation 18.15 of Annex I of MARPOL 73/78 relating to the measurement of the 2 m minimum width of wing tanks and the measurement of the minimum vertical depth of double bottom tanks of 2 m or $B/15$ in respect of tanks at the ends of the ship where no identifiable bilge area exists should be interpreted 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.

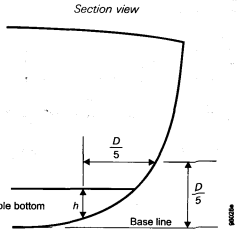
4 Projected dimensions should be used as shown in examples of figures 3 to 8 Figures 7 and 8 represent measurement of the height for the calculation of PA_s for double bottom tanks with sloping tank top. Figures 9 and 10 represent the cases where credit is given in calculation of PA_s to part or the whole of a double bottom tank.

Figure 1 – **Measurement of minimum width of wing ballast tank at ends of ship**



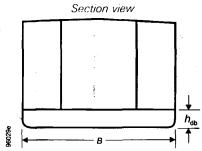
w must be at least 2 metres along the entire length of the tank for the tank to be used in the calculation of PA_c

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,

$PA_c = h_{db} \times$ double bottom tank length $\times 2$

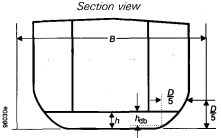
$PA_s = B \times$ double bottom tank length

If h_{db} is less than 2 metres or $\frac{B}{15}$, whichever is less,

$PA_c = h_{db} \times$ 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,

$PA_c = h \times$ double bottom tank length $\times 2$

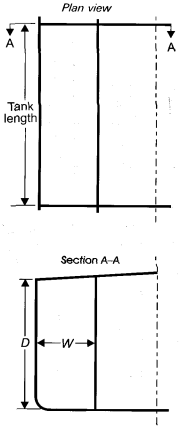
$PA_s = B \times$ double bottom tank length

If h_{db} is less than 2 metres or $\frac{B}{15}$, whichever is less,

$PA_c = h \times$ double bottom tank length $\times 2$

$PA_s = 0$

Figure 5 - Calculation of PA_c and PA_s for wing tank amidships



If W is 2 metres or more,

$PA_c = D \times$ tank length $\times 2^*$

$PA_s = W \times$ tank length $\times 2^*$

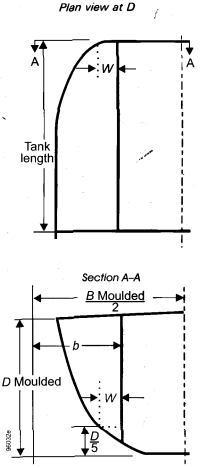
If W is less than 2 metres,

$PA_c = 0$

$PA_s = W \times$ tank length $\times 2^*$

* To include port and starboard.

Figure 6 - Calculation of PA_c and PA_s for wing tank at end of ship



If W is 2 metres or more,

$PA_c = D \times$ tank length $\times 2^*$

$PA_s = b \times$ tank length $\times 2^*$

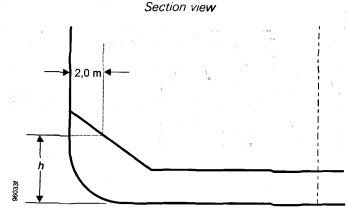
If W is less than 2 metres,

$PA_c = 0$

$PA_s = b \times$ tank length $\times 2^*$

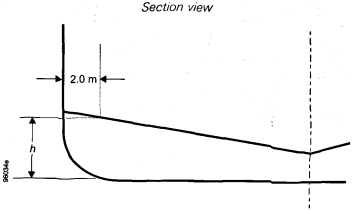
* To include port and starboard.

Figure 7 – Measurement of h for calculation of PA_c for double bottom tanks with sloping tank tops (1)



$PA_c = h \times$ double bottom tank length $\times 2^*$

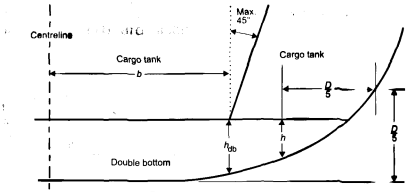
Figure 8 – Measurement of h for calculation of PA_c for double bottom tanks with sloping tank tops (2)



$PA_c = h \times$ double bottom tank length $\times 2^*$

* To include port and starboard.

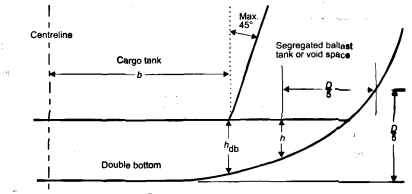
Figure 9 – Calculation of PA_s for double bottom tank without clearly defined turn of bilge area – when wing tank is cargo tank



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

$PA_s = 2b \times$ 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

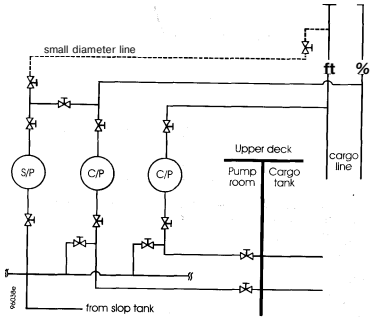


If h is less than 2 metres or $\frac{B}{15}$, whichever is less, anywhere along the tank length, but h_{db} is at least 2 metres or $\frac{B}{15}$, whichever is less, along the entire tank length within the width of $2b$, then:

$PA_s = B \times$ cargo tank length

мрреп о/х J

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 delinm) in rngtilntioM 1.28.1. may. in accordance with regulation 30.6.5 of Annex I of MAHPOI *1Л/1b,* discharge dirty ballast water and oil-contaminated water from cargo tiink iimn-i lwlow the waterline. provided that a part of the flow is led through permanoni 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 (or an oil discharge monitoring and control system but shall have pumping and piping arrangements separate from such a system, or combined equivalent arrangomitnti 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.

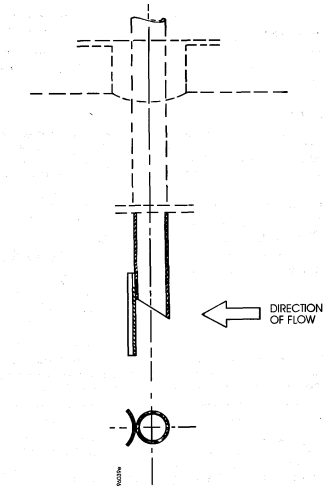
.6 Sampling probes shall have the same nominal bore as the sample piping.

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**



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.

The sample piping should be of corrosion-resistant and **oil-resistant** material, of adequate strength, properly jointed and supported.

Where several sampling points are installed, the piping shall be connected to a valve chest at the suction side of the sample feed pump.

4.3 Sample feed pump

. **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 arrange-

.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.

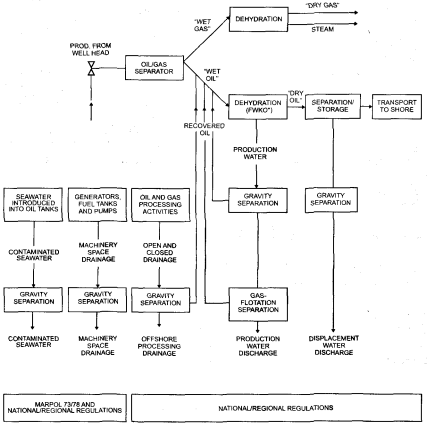
5.2 The sample water should be observed particularly during those phases of the discharge operation when the greatest possibility of oil contamination occurs. The discharge shall be stopped whenever any traces of oil are visible in the flow and when the oil content meter reading indicates that the oil 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, **thosn** manuals required for crude oil washing systems or dedicated clean ballast tnnks operation shall clearly describe the use of the part flow system in conjunction with **tho** ballast discharge and the slop tank decanting procedures.

Appendix 5

Discharges from fixed or floating platforms



* FWKO means "free-water knock out".

MARPOL Annex II

Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk

MARPOL 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* arc 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 2Γ00' 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 2442' 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 m//m".

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

.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 it» 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 hulk of any liquid product listed in chapter 17 of the International Ikilk 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 mPas 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
lixvmptions

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 Hnlk Chemical ("ode and Bulk Chemical Code involves changes to tin-structure or equipment and fittings due to the upgrading ol 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 ()tgani;M-tion a report giving details of the ship or ships concerned, the cargoes certified to carry, the trade in which each ship is en *wy*<\ and the justification for the relaxation, for circulation i> ihc 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 IHC 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 IHC Code except for cargo tank location;

.3.2 under this regulation, cargo tanks shall be located at tin-following distances inboard. The entire cargo tank length shall be protected by ballast tanks or spaces other tluu 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 tin-cargo tanks and the moulded line of the bottom shell plating measured at right angles to the bottom shell plating is not less than H/15 (in) or 2.0 in 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

.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

.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 carnage ol 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 anil 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 Io the Parties to the Convention, particulars thereof, for their information .mil 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.

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 mm the sea from tank cleaning or deballasting operations, .ne deemed to present a hazard to either marine resources or lium.m health or cause harm to amenities or other legitimate uses of (IH-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 IH 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, lumi.ui health, amenities or other legitimate uses of the sea when discharged into the sea from tank cleaning or dehallasting 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 arc 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.

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 (In- 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 ?ame 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, system», fittings, arrangements and material fully comply with applii able 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.

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 ofharm 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 tin* 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 th.it (he 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 conipleleiiess of its equipment covered by this Annex, the master or owner of the ship shall report at the earliest opportunity to the Administration, the recoiui/a! 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 Hulk 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.

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.

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 S 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 X.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 ciiinoi be issued or placed on board the ship before the expiry date of (lie exIstiu Certificate, the person or organization authorized by the AdiiiiiiiiMuiion may endorse the existing Certificate and such a Certificate shall be .u i cptrd as valid for a further period which shall not exceed 5 months Iroin (he 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 S 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 he 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 witli the following provisions to minimize the uncontrolled discharge into the sea of such substances:

.1 the International Bulk Chemical Code when the ilieinit.il tanker is constructed on or after 1 July 1 9HC>; or

.2 the Bulk Chemical Code as referred to in paragraph 1.7.2 ol lli.it Code for:

.2.1 ships for which the building contract is plated on or .itici .' November 1973 but constructed before 1 July 1'K(.. .mil which are engaged on voyages to ports or terminals umlet 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 State» 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 Guidelines* developed by the Organization in order to ensure that the provisions shall be such as to minimize the uncontrolled discharge into the sea of such substances.

* Reference is made to resolutions A.673(16), as may be further amended, and MEPC.148(54).

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 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 (m^3/h).

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

11 *Slop tanks*

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

Chapter 5 - Operational discharges of residues of noxious liquid substances

Regulation 13

Control of discharges of residues of noxious liquid substances

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

1 *Discharge provisions*

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

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

1.3 The carriage of substances which have not been categorized, provisionally assessed or evaluated as referred to in regulation 6 of this Annex or of ballast water, tank washings or other mixtures containing such residues shall be 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 oudet(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 set 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 Hy 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.ni 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 linihti 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 oi 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 tin-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 $\kappa = 1.0$.

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 LK unduly delayed.

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.*

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 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.

* 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.

7 An exemption referred to in paragrapli 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 lias been granted. (In-appropriate entry made in the Cargo Record Book shall be endorsed by ilie surveyor referred to in paragraph 1 of this regulation.

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

9 *Port State control on operational requirements**

9.1 A ship when in a port of another Party is subject to inspection by officers duly authorized by such Party concerning operational requirement* 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.

Refer to the Procedures for port State control adopted by the Organization by resolution A.787(19) as amended by resolution JI.882(21) and as may be further amended.

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.

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

.1 the procedure to be followed by the master or other persons having charge of the ship to report a noxious liquid substances pollution incident, as required in article 8 and Protocol 1 of the present Convention, based on the Guidelines developed by the Organization;[+]

.2 the list of authorities or persons to be contacted in the event of a noxious liquid substances pollution incident;

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

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

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

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

[+] Refer to General principles for ship reporting systems and ship reporting requirements, including guidelines for reporting incidents involving dangerous goods, harmful substances and/or marine pollutants, adopted by the Organization by resolution A.851I20), 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 Unships involved.

.2 ship repair ports undertaking repairs to NLS tankers slull provide facilities adequate for the reception of residues ,iiitt 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 ol 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 arc alleged to be inadequate.

Appendices to Annex II

Appendix 1

Guidelines for the categorization of noxious liquid substances*

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

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

* Reference is made to MEPC.1/Circ. 512 on the Revised Guidelines for the provisional assessment of liquid substances transported in bulk.

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 P_{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	⩽0.001
5	⩾5 – <ca. 7	⩾4000		>0.01 – ⩽0.1	
6				⩽0.01	

* These columns are used to define pollution categories.

Abbreviated legend to the revised GESAMP Hazard Evaluation Procedure *(continued)*

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	Fp: Persistent floater F: Floater S: Sinking substances	0	no interference no warning
		1	slightly objectionable warning, no closure of amenity
		2	moderately objectionable possible closure of amenity
		3	highly objectionable closure of amenity

* 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 .....

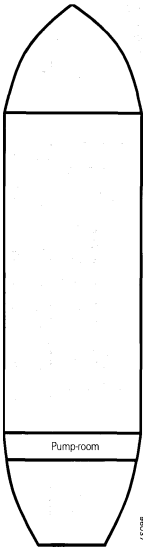
Period from ..... to .....

Name of ship . . . . . .

Distinctive number or letters .

PLAN VIEW OF CARGO AND SLOP TANKS

(to be completed on board)



Identification of the tanks	Capacity

(Give the capacity of each tank in cubic metres)

Introduction

The following pages show a comprehensive list of items of cargo and hnlluut operations which are, when appropriate, to be recorded in the Cargo Rocord Book on a tank-to-tank basis in accordance with regulation 1 5.2 of Annox II of the International Convention for the Prevention of Pollution from Ship:. 1973, as modified by the Protocol of 1978 relating thereto, as amendod The items have been grouped into operational sections, each of which r denoted by a letter.

When making entries in the Cargo Record Book, the date, operational cod' and item number shall be inserted in the appropriate) columns .ind tin required particulars shall be recorded chronologically in tho blnnk :.|м<:ин

Each completed operation shall be signed for and datod by the officer ш officers in charge and, if applicable, by a survoyor milhon/oH by the competent authority of the State in which the ship is unkHiiling. INCII 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?

1 1 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).

K 13 Washing method: \
.1 number of cleaning machines per tank;
.2 duration of wash/washing cycles;
.3 hot/cold wash.

14 Prewash slops transferred to:
.1 reception facility in unloading port (identify port)*;
.2 reception facility otherwise (identify port).

(E) Cleaning of cargo tanks except mandatory prewasi i (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 quantitios),
.3 ventilation procedure used (state number of funs used, duration of ventilation).

1 6 Tank washings transferred:
. 1 into the sea;
.2 to reception facility (identify port)*;
.3 to slops collecting tank (identify tank).

(F) Discharge into the sea of tank washings

1 7 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.

1 8 Time pumping commenced and stopped.

1 9 Ship's speed during discharge.

(G) Ballasting of cargo tanks

20 Identity of tank(s) ballasted.

21 Time at start of ballasting.

* Ship's masters should obtain from the operator of the reception facilities, which include bwgel and tank trucks, a receipt or certificate specifying the quantity of tank washings transformd, together with tho timo ;ind date of tho transfer Tho rocoipt or certificate should bo knpt togother 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)*.

24 Time ballast discharge commenced and stopped.

25 Ship's speed during discharge.

(I) Accidental or other exceptional discharge

26 Time of occurrence.

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

28 Circumstances of discharge or escape and general remarks.

(J) Control by authorized surveyors

29 Identify port.

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

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

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

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

34 An exemption has been granted from mandatory prewash.

35 Reasons for exemption.

36 Name and signature of authorized surveyor.

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

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

(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 officor 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 Bulk*

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

Issued under the provisions of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, 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 Number† .....

Port of registry .....

Gross tonnage .....

---

* 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.

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

THIS IS TO CERTIFY:

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

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

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)

(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/Intermediate* survey:

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

Place: .....

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

(Seal or stamp of the authority, as appropriate)

Annual/Intermediate* survey:

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

Place: .....

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

(Seal or stamp of the authority, as appropriate)

Annual survey:

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

Place: .....

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

(Seal or stamp of the authority, as appropriate)

* Delete as appropriate.

ANNUAL/INTERMEDIATE SURVEY IN ACCORDANCE WITH REGULATION 10.8.3

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

Signed: . . . . . .
(Signature of 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): . . . . . .

(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)

" Delete 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 Annox 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 DAIE WHERE REGULATION 10.8 APPLIES

In accordance with regulation 10.8 of Annex II of the Convention, the now 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 i: The format consists of a standardized introduction and index ol the leading paragraphs to each section. This standardized part shall ЫI reproduced in the Manual of each ship. It shall be followc-d 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 p.ii.i|'.i.ipl)s of tin-standard format are printed in *italics,* the required information shall *W* described for that particular ship. The contents will vary It inn ship to tlup because of design, trade and intended cargoes. Where the text i» not in italics, that text of the standard format shall be copied into the М.ИШЙ1 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 (hominnltor referred to as MARPOL 73/78) was established in order to provont the pollution of the marine environment by discharges into the sea from ships <>t harmful substances or effluents containing such substances. In order In achieve its aim, MARPOL 73/78 contains six Annexes in which detailed regulations are given with respect to the handling on board ships and tin discharge into the sea or release into the atmosphere of six main groups <>t 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 (Au pollution).

2 Regulation 13 of Annex II of MARPOL 73/78 (hereinafter referred lc as "Annex II") prohibits the discharge into tho son ol noxinim Im I substances of categories X, Y or Z or of ballast wator. Innk wnshinyn or i < i residues or mixtures containing such substances, oxcept in compliance n specified conditions including procedures and arrangements II.IMKI ИГ-Ц standards developed by the International Maritime Oigani/ation (IMO) 19 ensure that the criteria specified for each category will bo mot.

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 he made to other publications specifically to evaluate safety hazards.

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

6 In addition, this Manual, together with the ship's Cargo Record Book and the Certificate issued under Annex II*. will be used by Administrations for

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 htneM for the Carriage of Dangerous Chomicals in Bulk.

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.

Index of sections

Section 1 - Main features of MARPOL 73/78, Annex II

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

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

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

.2 the speed of the ship during the discharge;

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

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

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

1.3 For certain sea areas identified as "special area" more stringent discharge criteria apply. Under Annex II the special area is the Antarctic area.

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

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

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

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

Section 2 - Description of the ship's equipment and arrangements

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

2.2 General arrangement of ship and description of cargo tanks

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

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

2.3 Description of cargo pumping and piping arrangements and stripping system

This section shall contain a description of the cargo pumping and />\/""V arrangements and of the stripping system. Line or schematic drawing <м// be provided showing the following and he 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 \f 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:

. / 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 lank;

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

. 6 the method of ventilating the cargo pipeline system, pumps, filters, ett, and

.7 means for ensuring that the tank is dry.

2.9 Description of tank washing arrangements and wash water heating system

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

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

. 1 arrangements of piping dedicated for tank washing with pipelin, diameters;

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

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

.4 position of deck openings for cargo tank washing;

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

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

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

Section 3 - Cargo unloading procedures and tank stripping

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

3.2 Cargo unloading

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

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

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

3.3 Cargo tank stripping

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

The procedures shall include the following:

. 1 operation of stripping system;

.2 list and trim requirements;

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

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

3.4 Cargo temperature

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

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

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

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

. 1 failure of cargo tank stripping system; and

.2 failure of cargo tank heating system.

3.6 Cargo Record Book

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

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

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

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

4.3 [Dclctcd|

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

.1 Category of substance

The category of the substance should be obtained from **the** relevant Certificate.

.2 Stripping efficiency of tank pumping system

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

.3 Vessel within or outside special area

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

No discharges into the sea of residues of noxious liquid substances, or mixtures containing such substances, are allowed within the Antarctic area (the sea area south of latitude 60" S).

.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 mm-permissible mixing of cargo slops. Reference should he made to compatibility guides.

.7 Discharge to reception facility

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

.8 Discharging into the sea

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

.9 Use of cleaning agents or additives

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

.10 Use of ventilation procedures for tank cleaning

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

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

Section 5 - Information and procedures

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

Information relating to melting point and viscosity, for those substances which have a melting point equal to or greater than 0^{0}C or a viscosity equal or greater than 50 mPa·s at 20^{0}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.*	Capacity (m^3)	Stripping quantity (litres)

* Tank numbers should be identical to those in the ship's Certificate of Fitness.

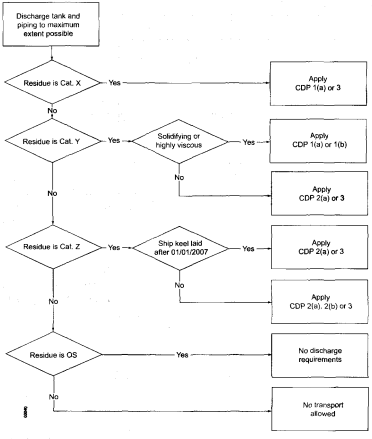
Addendum A

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.



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 where marked)

No.	Operation	Procedure number				
		Ka)	Kb)	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 1 994)		X			
4	Apply ventilation procedure in accord-ance with addendum C of this Manual					X
5	Ballast tanks or wash tank to commercial standards	X		X	X	X
6	Ballast added to tank		X			
7	Conditions for discharge of ballast/ residue/water mixtures other than prewash:					
	.1 distance from land > 1 2 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 appetidix 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 ami 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

7¾w addendum to the Manual shall contain ventilation procedures bused 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 .1 toil ill accordance with the procedure set out in section 3 of" this appendix. The quantity measured is termed the "stripping quantity". The stnppiiig quantity of each tank shall be recorded in the ship's Manual.

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

2 *Design criteria and performance test*

2.1 The cargo pumping systems should be designed to meet the required maximum amount of residue per tank and associated piping as specified ill 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 U 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

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."

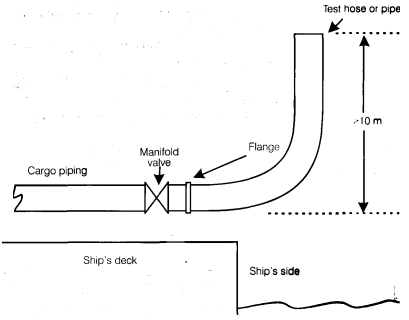


Figure 5-1

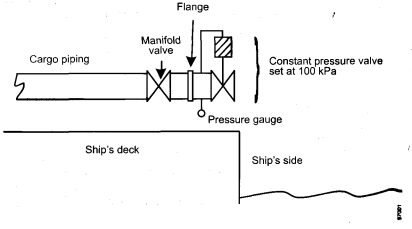


Figure 5-2

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 Il requirements. This appendix explains how these prewash procedures shall be performed.

I'rcwash procedures for non-solidifying substances

1 Tanks shall be washed by means of a rotary water jet, opei.iicil .it sufficiently high water pressure. In the case of category X suhsl.iin еч, cleaning machines shall be operated in such locations that all tank ми I.» е» are washed. In the case of category Y substances, only one location need IH? used.

2 During washing, the amount of water in the tank shall be miniini/ed 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 SO ml'as at 2()"C shall be washed with hot water (temperature at least (>(>"(.), unless the properties of such substances make the washing less effective.

4 The number of cycles of the cleaning machine used shall not be let! ., than that specified in table 6-1. A cleaning machine cycle is defined as I he * period between two consecutive identical orientations of the tank скмшиц machine (rotation through 360°).

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

I'rcwash 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 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	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 substance», cleaning machines shall be operated in such locations that all tank surfaces arc 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 minimi/cd 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 he less than Отче чhч ilicd 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 recyi ling

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 uiiuiini/cd by pumping out slops continuously and promoting flow to the suction point. If this condition cannot be met, the washing procedure shall *bI* repeated three times with thorough stripping of the tank between washing», K) Tanks shall be washed with hot water (temperature at least 60"C), unless the properties of such substances make the washing less eilcitivo.

11 The quantities of wash water used shall not be less than those spccitied *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 tank»

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 m^3 for a tank volume of 500 m^3 and above and 0.040 m^3 for a tank volume of 100 m^3 and below. For tank sizes between 100 m^3 and 500 m^3 the minimum value ofr allowed to be used in the calculations is obtained by linear interpolation.

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

V = tank volume in cubic metres

κ = a factor having values as follows:

Category X, non-solidifying, low-viscosity substance, κ 1.2

Category X, solidifying or high-viscosity substance, κ - 2.4

Category Y, non-solidifying, low-viscosity substance, κ = 0.5

Category Y, solidifying or high-viscosity substance, κ = 1.0

The table below is calculated using the formula with a κ 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 kl'a at 20^0C may be removed from a cargo tank by ventilation.

2 Before residues of noxious liquid substances arc ventilated from л tank, the safety hazards relating to cargo flammability and toxicity shall In- considered. With regard to safety aspects, the operational requirements Kr openings in cargo tanks in SOLAS 74, as amended, the International Hulk Chemical Code, the Bulk Chemical Code, and the ventilation procedures in the International Chamber of Shipping (ICS) *Tanker Safety Cnide (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 .ire Al 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 ami L 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.

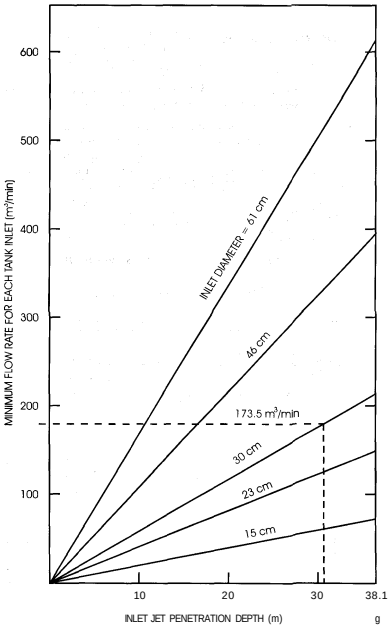


Figure 7-1 Minimum flow rate as a function of jet penetration depth. Jet penetration depth shall be compared against tank height.

MARPOL Annex III
(including amendments)

Regulations for the Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form

MARPOL 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 ol tins Лмпсь apply to all ships carrying harmful substances in packaged lbrm.

(1.1) For the purpose of this Annex, "harmful substances" are those substances which arc identified as marine pollutants in tin- International Maritime Dangerous Goods Code (IMl)G Code).*

(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 an 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 cull 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.*

* Refer to the IM1)C Cock- adopted by the OrnaniiMtion by resolution A.716(17), as it lias be or may be amended by the Maritime Safety (!ommittec; see IMO sales y>ublieations IF.21HII'. ar IH210E.

(4) For the purposes of this Annex, empty packagings which have been used previously for the carriage of harmful substances 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.*

Regulation 4t
Documentation

(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

* Refer to the specific exemptions provided for in the IMDG Code; see IMO sales publications IE200E and IE210E.

/ 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.

substance further identified by **the** addition of the words "MAKINE 1'C)LLUTANT".

(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 *M* 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 lnu-riMtion.il 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.

Regulation 5
Stowage

Harmful substances shall be properly stowed and secured so as to minimi/e the hazards to the marine environment without impairing the safety of tin* 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 requirements**

(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.

(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.

* 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.

Appendix to Annex III

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 A*); 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 Pvating "Z" in column A*); or
- highly toxic to aquatic life, defined by a LC_{5},)/% liour' less lli.in 1 ppm (Hazard Rating "4" in column Ii*).

' Refer to the Composite List of Hazard Profiles prepared by the IMO/FAO/UNKSCO/ WMO/WHO/IAF.A/UN/UNEP Joint Group of Experts on the Scientific- Aspects of Marine Pollution (CiKSAMI'), which is circulated annually by the Organization by means 11ГШО circulars to all IMO Member States.

' The concentration of a substance which will, within the specified time (generally % hour»), kill 50% of the exposed group of test organisms. Also referred to as "96 h LC_{5o}". LC_{5o} is oft specified in milligrams per litre (nig//) or purls per million (ppm).

Unified Interpretation of Annex III

Reg. 4(3)

1.0 At any stopover, where any loading or unloading operntioni, even partial, are carried out, a revision of the documents listing Hn harmful substances taken on board, indicating their loc.ition on board or showing a detailed stowage plan, shall be made uvuihihle before departure to the person or organization designated by the port State authority.

MARPOL 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

.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 uriiulv

.2 drainage from medical premises (dispensary, sick bay, etc.) via wash basins, wash tubs and scuppers located in such premise»;

.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 purpose» 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

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1 Regulation 11 of this Annex shall not apply to:

.1 the discharge of sewage from a ship necessary for the purpose of *I* the safety of a ship and those on board or saving life at

the discharge of sewage resulting from damage to a ship or id 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.

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.

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

.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 U 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 sliall in due course noiily 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 ol the Port State shall also be notified immediately. When an officer ol* 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

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.

0 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 organization* duly authorized by it. In every case, the Administration assumes full responsibility for the Certificate.

Regulation 6

Issue or endorsement of a Certificate by another Government

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

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

3 A Certificate so issued shall contain a statement to the effect that it has been issued at the request of the Administration and it shall have the same

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

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.

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 tin date of expiry of the existing Certificate.

2.3 When the renewal survey is completed more than three inoiillii before the expiry date of the existing Certificate, the new Certificate shall In valid from the date of completion of the renewal survey to .1 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,* 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 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:

* 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.

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; ami

.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 State», 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 Annexe» shall be complied with in addition to the requirements of this Annex.

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

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, 1 973, as modified by the Protocol of 1978 relating thereto, as amended, (hereinafter referred to as "the Convention") under the authority of the Government of:

(full designation of the country)

by. . . . . .

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

Particulars of ship[1]

Name of ship. . . . . .

Distinctive number or letters. . . . . .

Port of registry. . . . . .

Gross tonnage. . . . . .

Number of persons which the ship is certified to carry. . . . . .

IMO Number[2]. . . . . .

New/existing ship*

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

* Delete as appropriate.

[1] Alternatively, the particulars of the ship may he placed horizontally in boxes.

[2] kcter to the IMO Ship Identification Number Scheme adopted by the Organization by resolution A.MH)(LS).

THIS IS TO CERTIFY:

1 That the ship is equipped with a sewage treatment plant/comminuter/holding tank* and a discharge pipeline in compliance with regulations 9 and 10 of Annex IV of the Convention as follows:

*1.1 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).

*1.2 Description of comminuter:
Type of comminuter. . . . . .
Name of manufacturer. . . . . ."
Standard of sewage after disinfection . . . . . .

*1.3 Description of holding tank:
Total capacity of the holding tank. . . . . .m[3]
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. . . . . [3] 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)

* Delete as appropriate.
[3] 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 Convontion, find **thil** 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 8.6* of Annex IV ol the Convention, be accepted as valid until (dd/mm/yyyy): . . . . . .

Signed:. . . . . '
*(signature of **authorized official**)*

Place: . . . . . .

Date: . . . . . .

(Seal or stamp of the authority, as appropriate)

' Delete as appropriate.

MARJOL Annex V
(including amendments)

Regulations for the Prevention of Pollution by Garbage from Ships

MARPOL 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 WJMI* excluding fresh fish and parts thereof, generated during the tioint.il operation of the ship and liable to be disposed of continuously nr 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 1Γ00' S, longitude 142°08' E
to a point in latitude 10°35' S, longitude 141 "55' F,
thence to a point latitude 10°00' S, longitude 14200' K,
thence to a point latitude 09°10' S, longitude I4.V52' R,
thence to a point latitude 09°00' S, longitude 144 3(V H,
thence to a point latitude 10°4Γ S, longitude 145 (K)' K_1
thence to a point latitude 13°00' S, longitude 145 ()()' R,
thence to a point latitude 15°00' S, longitude 146' ()()' E,
thence to a point latitude 17°30' S, longitude 147 ()()' E,
thence to a point latitude 21^0OO' S, longitude 152"55' E,
thence to a point latitude 24°30' S, longitude 154"(X)' 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;

(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 sca-bed mineral resources, and from all other ships when alongside or within 500 in 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 .ill 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 "(inlfl area", the North Sea area, the Antarctic area ami the Wider (:inl>!>e.iri Region, including the Gulf of Mexico and the Caribbean SeJ, wliuli 4 ft 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" M 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 Uallic Sea bounded by the parallel of the Skaw in the Skagerrak *i%* 57°44.8' N.

(c) The *Black Sea area* means the Black Sea proper witli 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 Gulfl of Suez and Aqaba bounded at the soutli by the rhumb line between Ras si Ane (12°28.5' N, 4349.6' H) and I liisn Mm JiI (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 KaJ 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 witli 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 requirement* 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, nilei, apply to the Antarctic area:

(a) The Government of each Party to the Convention at wh"•<• ports ships depart *en route* to or arrive from the Anuntii .и- ,i undertakes to ensure that as soon as practicable аИеши.ие facilities are provided for the reception of all garbage from .til ships, without causing undue delay, and according to the need* 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 requirements**

(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.

(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.

* 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.

(b) The placards shall be written in the working language of the ship's personnel and, for ships engaged in voyages to ports or ollshorc 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 lor 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 Organization* 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 .ind every fixed and floating platform engaged in exploration and exploitation of the sea-bed shall be provided with a Garbage Record Hook. The Ctiluge Record Book, whether as a part of the ship's official log-book or otlierwlne, 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 entided 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 ami the estimated amount incinerated or discharged;

(c) the Garbage Record Book shall be kept on board the ship aiul Mt such a place as to be available for inspection in a reasonable time, This document shall be preserved for a period of two years alier 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 (larbagc Record Book of the circumstances of, and the reasons for, the loss.

* Refer to the Guidelines for the development of garbage management plans adopted by tin Marine Environment Protection Commilloe of (ho Organization by resolution MK1'C:.71(3H). see MKPC/Circ.317 and IMO sales publication IAoSoH.

(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

Form of Garbage Record Book

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 Internntinrml Convnnlion for the Prevention of Pollution from Ships, 1973, as modifiod by tint I'mini o| of 1978 (MARPOL 73/78), a record is to be kept of onch dE.« II.HU* *operation or completed incineration.* This includes discharges at sou IO 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 73/78* 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.

* Refer to the Guidelines for the Implementation of Annex V of MARPOL 73/78, as amended by resolutions MEPC.59(33) and M1.PC.9VI6).

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

(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 metros, If possible separately according to category. The Garbage Record Book contains many references to estimated amount of garbage. It is recogni7od that the accuracy of estimating amounts of garbage is left to interpretation. Volume estimates will differ before and after processing. Somn processing procedures may not allow for a usable estimate of volume o.g. the continuous processing of food waste. Such factors should bn tnknn **into** consideration when making and interpreting entries mado in u rocoid

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: _____

MARPOL Annex VI
(including amendments)

Regulations for the Prevention of Air Pollution from Ships

MARPOL 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 cu|ieu»1y provided otherwise in regulations 3, 5, 6, 13, 15, 18 and 1У of tins 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 SO tonnes or one per cent of the estimated mass of all stria liiidl 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 nomal 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) Mw *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, c 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 11 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.

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 (l)(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 tin 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 cither to surveyors nominated for the purpose or to organizations recognized by it. Such organizations shall comply witli the guidelines adopted by the Organization.*

(b) The survey of engines and equipment for compliance with; regulation 13 of this Annex shall be conducted in acTotdaiu c! with the NO_x Technical Code.

(c) When a nominated surveyor or recognized oriaui/лНоп determines that the condition of the equipment docs not correspond substantially with the particulars of the icrtilii ate, they shall ensure that corrective action is taken and shall in due course notify the Administration. If such corrective action is not taken, the certificate should be withdrawn 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 s\|.\|\| undertake to ensure the necessary arrangements to satiity tin» 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

* 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 Specifualion

Administration, adopted by the Organization by resolution A.7HV(Iy).

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 cntided 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 (he мннпц country is also used, this shall prevail in case of a dispute or dist repaiuy.

Regulation 9

Duration and validity of Certificate

(Y) 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 ix< ceding five years from the date of expiry of the existing certilu ate,

(c) When the renewal survey is completed more than three month* 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 arc 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 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:

(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, arc 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(l)(c) or 5(l)(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 (lovernnicnt of the Party whose flag the ship was formerly entitled to (ly shall, as soon as possible, transmit to the Administration copies of the certificate carried by the ship before the transfer and. il 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 (he situation has been brought to order in accordance with the requirement» of this Annex.

(3) Procedures relating to the port State control prescribed in article S 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 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 NO_2) 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

When vising fuel composed of blends from hydrocarbon» 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 11 to this Annex.

Notwithstanding the provisions of sub-paragraph (a) ol tlii* 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 spei ilieil 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.*

Requirements within SO_x emission control areas

(3) For the purpose of this regulation, SO_x emission control areas nlull include:

(a) the Baltic Sea area as defined in regulation 1()(I)(b) of Annex I, the North Sea area as defined in regulation 5(1)(1) of Annex Vi and

(b) any other sea area, including port areas, designated by the Organization in accordance with criteria and procedures tor designation of SO_x emission control areas with respect to the prevention of air pollution from ships contained in appendix Ul 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,* is applied to reduce the total emission of sulphur oxides from ships, including both auxiliary and main propulsion engines, to 6.0 g SOx/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.

(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.

Refer to resolution MEPC.130(53), Guidelines for on-board exhaust gas-SO_x cleaning systems.

Regulation 15

\ 'olatilc 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 tcriniiuU 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 .ire Io be regulated shall ensure that vapour emission control systems, approved by that Government taking into account the safety standards developed by the Organization,* are provided in ports and terminals designated, .nut arc 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) AU 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

(I) Hxcept as provided in paragraph (5), shipboard incineration shall be allowed only in a shipboard incinerator.

* Refer u> MSC:/Circ.5H5, Stamford» for vapour emission control systems.

(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 taking into account the standard specifications for shipboard incinerators developed by the Organization.*

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.

(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

* Refer to resolution MEPC.76(40), Standard specification for shipboard incinerators, and resolution MEPC.93(45), Amendments to the standard specification for shipboard incinerators.

(7) All ships with incinerators subject to this regulation shall possess .i 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'! 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 inciner.itnrs, the unit shall be designed so that the temperature in the combustion dumber «lull 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 o/oiie-depleting substances and equipment containing such subsUiu e» when removed from ships;

(b) needs of ships using its ports, terminals or repair ports lor the reception of exhaust gas cleaning residues from an approved exhaust gas cleaning system when discharge into the Murine 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 ami 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) exeed 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 tin information specified in appendix V to this Annex.

(4) The bunker delivery note shall be kept on board the ship in such .i 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 authority* of the Government of a Party to the Protocol of 1997 may inspect the bunker delivery 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 I he note was issued.

(b) The inspection of the bunker delivery notes .ind the taking of certified copies by the competent authority under this paiagiaplt 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 scaled 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 liiel oil supplier that the fuel oil meets the requirements of regulation! 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;

' Refer to resolution A.7H7(1<>). Procedures for port State control, as amended by A.HH2(21); »«• IMO sales publication IA(}SOb.

(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;

(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) Tlic requirements of regulation 18 of this Annex shall not apply to the use of hydrocarbons which are produced and subsequently used on site a> 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 Internaitional Convention for the Prevention of Pollution from Ships, 1973, ;is modifiod hy the Protocol of 1978 relating thereto, and as amended by resolution Ml PC 1 IW(liM)$_1$ (hereinafter referred to as "the Convention") under the authority ol the Government of:

(Full designation of the country)

by. . . . . .

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

Particulars of ship*

Name of ship. . . . . .

Distinctive number or letters

Port of registry. . . . . .

Gross tonnage. . . . . .

IMO Numbert . . . . . .

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

[f] In accordance with IMO ship identification number scheme adopted by the **Organisation by resolution A.600(1 5).**

Type of ship:

tanker D

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 until . . . . . * subject to surveys in accordance with regulation 5 of Annex VI of the Convention.

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)

* 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.

Endorsement for annual and intermediate surveys

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

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

Annual/Intermediate* survey: Signed: . . . . . .
(signature of authorized official)
Place: . . . . . .
Date (dd/mm/yyyy): . . . . . .
(Seal or stamp of the authority, as appropriate)

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

‘ Delete as appropriate.

Annual/intermediate survey in accordance with regulation 9(8)(c)

THIS IS TO CERTIFY that, at an annual/intermediate* 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)

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)

* Delete 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)* 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 for advancement of anniversary date where regulation 9(8) applies

In accordance with regulation 9(8) of Annex VI of the Convention. the tww 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)

' Delete 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, 1 973, as modified by the Protocol of 1 978 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.

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)

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 $NC)_x$ 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.

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

.4 For constant-speed auxiliary engines test cycle 1)2 should be applied.

.5 For variable-speed, variable-load auxiliary engines, not iiu ludcd above, test cycle Cl 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%	25^1K_1
	Weighting factor	0.2	0.5	0.15	0.15

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

Test cycle type E3	Speed	100%	91%	8(Wi	63%
	Power	100%	75%	5(Wi	25%
	Weighting factor	0.2	0.5	0.15	0.15

Test cycle for *constant-speed auxiliary engine* application

Test cycle typeD2	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 Cl	Speed	Rated				Intermediate			Idle
	Torque	100%	I 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_4 emission control areas is to prevent, reduce, and control air pollution lioin SO_x emissions from ships and their attendant adverse impact* on laud .iud 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, rcdme, ,mil control air pollution from SO_x emissions from ships.

2 *Proposal criteria for designation of a SO_x emission control* ***are***

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 I'rotocol 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 control* on *SO_x emissions from* ships, along with *a reference ch.trt <III* which the area is marked;

.2 a description of the land and sea areas at risk from the impact» 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 arc contributing to ait pollution from SO_x, including $SO_„$ 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 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 oudined 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.

In assessing the proposal, the Organization shall take into account the a which are to be included in each proposal for adoption as set forth in section 2 above, and the relative costs of reducing sulphur depositions from ships when compared with land-based controls. The economic impacts on shipping engaged in international trade should also be taken into account.

4 *Operation of SO_x emission control areas*

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

Appendix IV

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

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

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

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

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

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/m^3)* '..

Sulphur content (% m/m)t

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) anil regulation 18(1) of this Annex.

* Fuel oil should be tested in accordance with ISO 3675.

† Fuel oil should be tested in accordance with ISO 8754.

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 contrnctunl dHivnry date to the ship on or after 1 9 May ?00f> or, in tht> nli••• « of a contractual delivery date, tlm iicliml dnlivmy ol HiC equipment to the ship on or after 1 9 May 200t>

The same interpretation should apply with regard lo now MMG installations but with the substitution of '1 January 2020' in plm.ti of 1 9 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 c<
not given elsewhere within the Annex. In order tc
regulation 13(1)(a)(i) & (ii) this should be read as "or enyino which undergoes a major conversion".

Reg. 13(2)(a)(iii)

1 3.3 For application of this regulation in the case ol н1шж Ittiill before 1 January 2000 the term "by more than 10%" should 1ш interpreted as applicable to the pre 1 January 2000 mnximum 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) 1 6.5 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*
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

* 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
– 2000 Amendments	MEPC 44/20, annex **3**
Annex IV	
– Annex IV of MARPOL 73/78	MEPC 51/22, annex **5**
– 2006 Amendments	MEPC 54/21, annex **4**

Annex V

- 1989 Amendments — MEPC 28/4, annex 2
- 1994 Amendments — MP/CONF.2/8
- 1995 Amendments — MEPC 37/22/Add.1, annex 13
- 2000 Amendments — MEPC 45/20, annex 3
- 2004 Amendments — MEPC 51/22, annex 6

Annex VI

- 2005 Amendments — MEPC 53/24, annex 16

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	
– 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
– Provisions concerning the reporting of incidents involving harmful substances under MARPOL 73/78 (1999 edition)	IA516E
Annex I	
– Guidelines for surveys under Annex I of MARPOL 73/78	
– Guidelines for the development of shipboard marine pollution emergency plans (2001 edition)	IA586E
– Crude oil washing systems (2000 edition)	IA617E
– Dedicated clean ballast tanks (1982 edition)	I619E
– Inert gas systems (1990 edition)	I860E
– Guidelines on enhanced programme of inspections during surveys of bulk carriers and oil tankers (2001 edition)	I265E
– CAS (Condition Assessment Scheme)	I530E

Annex II

- Guidelines for the provisional assessment of liquids transported in bulk — I653E
  - Annex 1 – Flow chart for provisional assessment of liquids transported in bulk
  - *Annex 2 is included within this publication*
  - 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
  - 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
- International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) (1998 edition) — IB100E
- Guidelines for surveys under Annex II of MARPOL 73/78 (1987 edition) — I508E
- Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH Code) (2005 edition) — IB772E

- Guidelines for the development of shipboard marine pollution emergency plans (2001 edition) — IA586E

Annex III

- International Maritime Dangerous Goods Code (IMDG Code) (2004 edition) — IE200E

Annex V

- Guidelines for the implementation of Annex V — IA656E
  - Appendix 1 – Form for reporting alleged inadequacy of port reception facilities for garbage
  - Appendix 2 – Standard specification for shipboard incinerators (MEPC.59(33))

General

- Procedures for port State control (2000 edition) — IA650E
- Comprehensive manual on port reception facilities (1999 edition) — IA597E
- Pollution prevention equipment required under MARPOL 73/78 (2006 edition) — IA646E
- MARPOL – How to do it — IA636E

3
List of MEPC resolutions

		IMO publication sales number
MEPC.1(II)*	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	–

* 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.

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	–
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	–
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)	1508E
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	–
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	–
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) –

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) –

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)	-
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.6O(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	
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	
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	–
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

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)	–
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	–
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)	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	–
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 deeptanks 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	–
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)	–
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)

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

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 deeptanks or in independent tanks specially designed for the carriage of such vegetable oils in general dry cargo shipsce

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*
Annex II	6 April 1987*
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
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† 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

* 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.

† These amendments were to the text of Annex I before it was amended in October 2004.

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*, II*, 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

* These amendments were to the texts of Annexes I and II before they were amended in October 2004.

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*]
2006 (Annex IV) amendments (MEPC.143(54)) (new regulation 13)	[1 August 2007*]
2006 (BCH Code) amendments (MEPC.144(54))	[1 August 2007*]

* 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 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.	New Reg.
Number of regulation in original* Annex I	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
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
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
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
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

* "Original" means the Annex I that was adopted in 1973, as later amended.

Old Reg.	New Reg.
Number of regulation in original Annex I	Number of regulation in the revised Annex I
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
10(8)	38.7
11(a)	4.1

Old Reg.	New Reg.
Number of regulation in original Annex I	Number of regulation in the revised Annex I
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

Old Reg.	New Reg.
Number of regulation in original Annex I	Number of regulation in the revised Annex I
13B(5)	35.1
13C(1)	2.5
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

Old Reg.	New Reg.
Number of regulation in original Annex I	Number of regulation in the revised Annex I
13F(5)	19.5
13F(6)	28.6
13F(7)	19.6
13F(8)	19.7
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

Old Reg.	New Reg.
Number of regulation in original Annex I	Number of regulation in the revised Annex I
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
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

Old Reg.	New Reg.
Number of regulation in original Annex I	Number of regulation in the revised Annex I
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)(aa)	3.5.2.2.1
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

Old Reg.	New Reg.
Number of regulation in original Annex I	Number of regulation in the revised Annex I
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
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

Old Reg.	New Reg.
Number of regulation in original Annex I	Number of regulation in the revised Annex I
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)
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

Old Reg.	New Reg.
Number of regulation in original Annex I	Number of regulation in the revised Annex I
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
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

Old Reg.	New Reg.
Number of regulation in original Annex I	Number of regulation in the revised Annex I
25A(4)	27.3
26(1)	37.1
26(2)	37.2
26(3)	37.3
26(4)	37.4

Table B: "New" versus "old" regulations

New Reg.	Old Reg.
Number of regulation in the revised Annex I	Number of regulation in original* 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)
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)

New Reg.	Old Reg.
Number of regulation in the revised Annex I	Number of regulation in original* Annex I
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)
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)

* "Original" means the Annex I that was adopted in 1973, as later amended.

New Reg.	Old Reg.
Number of regulation in the revised Annex I	Number of regulation in original* Annex I
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)
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)
10.3	8(3)
10.4	8(4)
10.5	8(5)
10.6	8(6)
10.7	8(7)

New Reg.	Old Reg.
Number of regulation in the revised Annex I	Number of regulation in original* Annex I
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)
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)

New Reg.	Old Reg.
Number of regulation in the revised Annex I	Number of regulation in original* 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)

New Reg.	Old Reg.
Number of regulation in the revised Annex I	Number of regulation in original* Annex I
18.10.1.1	13D(1)(a)
18.10.1.2	13D(1)(b)
18.10.1.3	13D(1)(c)
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)

New Reg.	Old Reg.
Number of regulation in the revised Annex I	Number of regulation in original* Annex I
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)
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)

New Reg.	Old Reg.
Number of regulation in the revised Annex I	Number of regulation in original* Annex I
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)
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)

New Reg.	Old Reg.
Number of regulation in the revised Annex I	Number of regulation in original* Annex I
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)
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)(e)

New Reg.	Old Reg.
Number of regulation in the revised Annex I	Number of regulation in original* Annex I
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)
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)

New Reg.	Old Reg.
Number of regulation in the revised Annex I	Number of regulation in original* Annex I
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)
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)

New Reg.	Old Reg.
Number of regulation in the revised Annex I	Number of regulation in original* Annex I
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)
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)

New Reg.	Old Reg.
Number of regulation in the revised Annex I	Number of regulation in original* Annex I
38.8	12(5)
39	21

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)*

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),

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,

* Expected to come into force 1 August 2007 upon acceptance on 1 February 2007.

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;

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 to the Members of the Organization which are not Parties to MARPOL 73/78 copies of the present resolution and its annex.

Annex

Amendments to the revised MARPOL Annex I

1 Addition of new paragraph 28.9 of regulation 1

The following new paragraph 28.9 is added after the existing paragraph 28.8 of regulation 1:

"28.9 *ship delivered on or after 1 August 2010* means a ship:

.1 for which the building contract is placed on or after 1 August 2007; or

.2 in the absence of a building contract, the keels of which are laid or which are at a similar stage of construction on or after 1 February 2008; or

.3 the delivery of which is on or after 1 August 2010; or

.4 which have undergone a major conversion:

.4.1 for which the contract is placed after 1 August 2007; or

.4.2 in the absence of contract, the construction work of which is begun after 1 February 2008; or

.4.3 which is completed after 1 August 2010."

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 m^3 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 (lie propulsion and auxiliary machinery of the ship in which such oil is carried.

.2 *Load line draught (d)* is the vertical distance, in inctres, Inmi (he moulded baseline at mid-length to the waterline correspond!^ 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_x)* is the light ship draught plus 60'Ki of the difference between the light ship draught and the load line draught *(d)*. The partial load line draught (d_x) shall be measured in metres.

.5 *Waterline d_s* 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_{12} is the greatest moulded breadth of the ship, in metres, at or below the waterline d_{12}.

.8 *Depth (D_s)* is the moulded depth, in metres, measured at mid-length to the upper deck at side. For the purpose ol (he 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 K5% of the least moulded depth measured from the top ot the keel, or the length from the forcside 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 m^3.

.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 m^3.

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

6 For ships, other than self-elevating drilling units, having an aggregate oil fuel capacity of 600 m^3 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:

$h = B/20$ (m) or

$h = 2.0$ m, whichever is the lesser.

The minimum value of $h = 0.76$ m

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

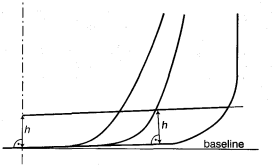

Figure 1 – Oil fuel tank boundary lines for the purpose of paragraph 6

7 For ships having an aggregate oil fuel capacity of 600 m^3 or more but less than 5,000 m^3, 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 $w = 1.0$ m; however, for individual tanks with an oil fuel capacity of less than 500 m^3 the minimum value is 0.76 m.

8 For ships having an aggregate oil fuel capacity of 5,000 m^3 and over, oil fuel tanks shall be located inboard of the moulded line of the side shell plating, nowhere less than the distance w which, as shown in figure 2, is measured at any cross-section at right angles to the side shell, as specified below:

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

$w = 2.0$ m, whichever is the lesser.

The minimum value of $w = 1.0$ m.

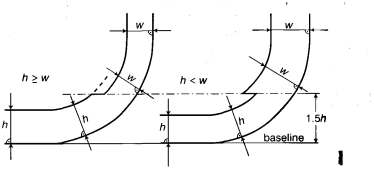

Figure 2 – Oil fuel tank boundary lines for the purpose of paragraphs 7 and 8

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.

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:

$$O_M \leqslant 0.0157 - 1.14E - 6C \text{ for } 600 \text{ m}^3 \leqslant C < 5{,}000 \text{ m}^3$$
$$O_M \leqslant 0.010 \qquad \text{for } C \geqslant 5{,}000 \text{ m}^3$$

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 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:

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

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;

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

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

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:

$$h_F = \{(d_P + t_C - Z_l)\rho_S\}/\rho_n$$

where:

h_F = the height of the oil fuel surface above Z_l, in metres;

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

Z_l = 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/m^3; 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 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.

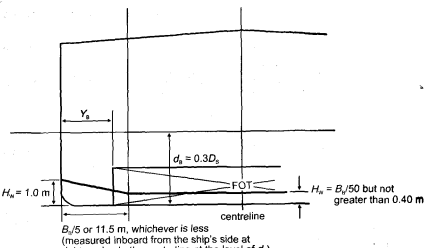

Figure 3 – Dimensions for calculation of the minimum oil outflow for the purpose of sub-paragraph 11.5.3.3

.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_l 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;

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*.

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}
0.00	0.000
0.05	0.023
0.10	0.068
0.15	0.117
0.20	0.167
0.25	0.217
0.30	0.267
0.35	0.317
0.40	0.367
0.45	0.417
0.50	0.467
0.55	0.517
0.60	0.567
0.65	0.617
0.70	0.667
0.75	0.717
0.80	0.767
0.85	0.817
0.90	0.867
0.95	0.917
1.00	0.967

X_f/L	P_{Sf}
0.00	0.967
0.05	0.917
0.10	0.867
0.15	0.817
0.20	0.767
0.25	0.717
0.30	0.667
0.35	0.617
0.40	0.567
0.45	0.517
0.50	0.467
0.55	0.417
0.60	0.367
0.65	0.317
0.70	0.267
0.75	0.217
0.80	0.167
0.85	0.117
0.90	0.068
0.95	0.023
1.00	0.000

Z_l/D_S	P_{Sl}
0.00	0.000
0.05	0.000
0.10	0.001
0.15	0.003
0.20	0.007
0.25	0.013
0.30	0.021
0.35	0.034
0.40	0.055
0.45	0.085
0.50	0.123
0.55	0.172
0.60	0.226
0.65	0.285
0.70	0.347
0.75	0.413
0.80	0.482
0.85	0.553
0.90	0.626
0.95	0.700
1.00	0.775

Z_u/D_S	P_{Su}
0.00	0.968
0.05	0.952
0.10	0.931
0.15	0.905
0.20	0.873
0.25	0.836
0.30	0.789
0.35	0.733
0.40	0.670
0.45	0.599
0.50	0.525
0.55	0.452
0.60	0.383
0.65	0.317
0.70	0.255
0.75	0.197
0.80	0.143
0.85	0.092
0.90	0.046
0.95	0.013
1.00	0.000

* 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).

P_{Sy} shall be calculated as follows:

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

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

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

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}
0.00	0.000
0.05	0.002
0.10	0.008
0.15	0.017
0.20	0.029
0.25	0.042
0.30	0.058
0.35	0.076
0.40	0.096
0.45	0.119
0.50	0.143
0.55	0.171
0.60	0.203
0.65	0.242
0.70	0.289
0.75	0.344
0.80	0.409
0.85	0.482
0.90	0.565
0.95	0.658
1.00	0.761

X_f/L	P_{Bf}
0.00	0.969
0.05	0.953
0.10	0.936
0.15	0.916
0.20	0.894
0.25	0.870
0.30	0.842
0.35	0.810
0.40	0.775
0.45	0.734
0.50	0.687
0.55	0.630
0.60	0.563
0.65	0.489
0.70	0.413
0.75	0.333
0.80	0.252
0.85	0.170
0.90	0.089
0.95	0.026
1.00	0.000

Y_p/B_B	P_{Bp}
0.00	0.844
0.05	0.794
0.10	0.744
0.15	0.694
0.20	0.644
0.25	0.594
0.30	0.544
0.35	0.494
0.40	0.444
0.45	0.394
0.50	0.344
0.55	0.297
0.60	0.253
0.65	0.211
0.70	0.171
0.75	0.133
0.80	0.097
0.85	0.063
0.90	0.032
0.95	0.009
1.00	0.000

Y_s/B_B	P_{Bs}
0.00	0.000
0.05	0.009
0.10	0.032
0.15	0.063
0.20	0.097
0.25	0.133
0.30	0.171
0.35	0.211
0.40	0.253
0.45	0.297
0.50	0.344
0.55	0.394
0.60	0.444
0.65	0.494
0.70	0.544
0.75	0.594
0.80	0.644
0.85	0.694
0.90	0.744
0.95	0.794
1.00	0.844

P_{Bz} shall be calculated as follows:

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

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

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

.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/m^3 or a kinematic viscosity at 50°C higher than 180 mm^2/s; or"

7
Unified Interpretation to regulation 12A 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 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.

* Expected to come into force 1 August 2007 upon acceptance on 1 February 2007.

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 requirements**

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.

* 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.

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."

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)

Table of Contents

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 SO_2 (ppm)/CO_2 (%) 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 SO_2 (ppm)/CO_2 (%) 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 clcaning-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 <I the EGCS-SO_x unit for compliance with regulation 14(4)(b) of Annex Vl

1.3 Definitions

ppm means "parts per million". It is assumed that ppm is measured by g.is analysers on a molar basis, assuming ideal micro-moles of substance pet mole of total amount (/miol/mol), but ppm is used in order to be consisteni with units in the NO_x Technical Code.

Fuel oil combustion unit means any engine, boiler, gas turbine, or other lui'l 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 Vl. EGCS-SO_x units may also be subject to inspection by 1>SC 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 SO_x/kWh 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.

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;

(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 ol tin EGCS-SO_x unit relevant to achieving a maximum emission value no higher than 6.0 g SO_x/kW-li;

(c) any requirements or restrictions applicable to the ECCS-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 thai the EGCS-SO_x unit can continue to achieve a maximum emission value no higher than 6.0 g SO_x/kWh;

(e) the means by which the EGCS-SO_x unit is to be surveyed l.. 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 character- istics;

(g) design requirements of the wash water system; and

(h) the SCC.

2.3.2 The ETM should be approved by the Administration.

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 survey» an required.

2.3.4 Additions, deletions or amendments to the F.TM should lv? approved by the Administration. Where additions, deletions or amend- ments 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, SO_x (ppm)/$C0_2$ (%) 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 SOJkWh at any load point when operated in accordance

with the criteria as given within 2.3.1(b), as specified in paragraplis 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

3.5 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 ± 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 SO_2 emission concentration (ppm) at standardized O_2 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 SO_2 (ppm)/CO_2 (%) ratio, at any load point when operated in accordance with the criteria as given within 2.3.1(b) and 2.3.4.

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4 *Approval of an BGCS-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. Tlu- minimum sulplnir content of the fuel oil used in one test should not be less than 2.0% iii/in sulphur. The other fuel oil should have a sulphur content of at least 1.(fMi m/m sulphur above that of the lower sulphur content fuel oil. The Γ< ./I S-SO_x unit manufacturer should justify, on the basis of the above considerations and other testing as may be required, that the *Ui* JCIS-SC V, unit would meet the required limit of 6.0 g SOJkW-Ii 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/kWh.

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 IXJCS-SO_x unit has an emission value of not more than 6.0 g SOJkWh 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 SO_2 (ppm)/$C0_2$ (%) 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.

5.2 CO_2, O_2 and SO_2 should be measured. CO_2 and O_2 as % to a precision of 2 decimal places. SO_2 to a precision of + 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 SO_2 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 SO_2 should be obtained from a representative sampling point downstream of the EGCS-SO_x unit.

5.5 SO_2 should be monitored on-line, using either cross-duct or extractive sample systems.

5.6 Extractive exhaust gas samples for SO_2 determination should be maintained at a sufficient temperature to avoid condensed water in the sampling system and hence loss of SO_2.

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 lll loss of SO_2 in the sample as analysed.

5.8 Where SO_2 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 (GHXI IW) 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-b.isis SOj concentration should be converted to a wet-basis value using the dry/wet correction factor applicable to the exhaust gas at entry into the HGCS-SO_x* unit (NO_x Technical Code, equation 11, CO = O):

w = 0.002855, u = w/exhaust gas density in g/m^3 at 0"C and 101.3 kl'a

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 g/kW-h.

5.14 The determined emission value at each test point should be Ct)IuI to, or less than, 6.0 g SO_2/kW-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 01SO2 and CO_2 concentration in the exhaust gas downstream of the ECiCS-SO_x unit and demonstrating that the SO_2 (ppm)/$C0_2$ ('Ki) ratio, at each test point, is 65 or below.

5.16 Should the SO_2 (ppm)/$C0_2$ (%) ratio method be used:

(a) The conditions stipulated in 5.4 and 5.5 should also apply to the measurement of CO-. (%) and it is recommended that SO_2 and CO_2 samples should be obtained at the same location.

(b) 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 (%).

(c) The carbon and hydrogen content of the test fuel as stipulated in 5.11 need not be determined.

(d) 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 ECiCS-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 ECiCS-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 r. recommended that a daily spot check of the exhaust gas quality, in terms of SO_2 (ppm)/$C0_2$ (%) 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 tin EGCS-SO_x unit will meet the limit value of 6 g SO_2/kWli or S().. (ppni)/CO_2 (%) 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 ua-. monitoring of each EGCS-SO_x unit be used to assure ship operators ol, 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 Ii, 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 SO_2 (ppm)/$C0_2$ (%) 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 (SO_2 plus CO_2) 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 SO_2 (ppm) and CO_2 (%) 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 $S0_2/C0_2$ ratio, these should be tuned to have similar sampling and measurement times and the data outputs aligned so that the $S0_2/C0_2$ 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 ami reports should be available to the Administration or port State authority u» 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 FGCS 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 SO_2 (ppm)/$C0_2$ (%) 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 S(\/kWh or SO_2 (ppm)/$C0_2$ (%) ratio of 65 or below against that of equipment, potentially not fitted with FGCS-SO_x units, which does not meet that requirement. These cases should be subject to special consideration by the Administration. In particular the SCF 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 SOx/kW-h or SO_2 (ppm)/$CC)_2$ (^{2}Ki) 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/kWh) ofth.it equipment is capable of determination on a real-time basis (calibration requirements of such equipment to comply with those as given in the NO_4 Technical Code).

15.9 At no time during operation in a SECA should the total shin, emissions, as described in paragraph 15.5, exceed the requirement of6.lt g SOx/kW-h or exceed the SO_2 (ppm)/$C0_2$ (%) 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 Hook as specified under that Scheme. Alternatively, this information is to he 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 lor the FGC$-$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 EGC-S-SO_x unit inlet connections, pH of the wash water at the EGCS-SO_x unit's inlet ami 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 Orga • •

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

SO_2 over CO_2 monitoring method

1 Correspondence between 65 (*ppm/%) SO_2/CO_2 and 15[5]Ki 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. Those ratios were used to solve for the corresponding SO_2 and CO_2 coiuentrations 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 CO_2 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 SO_2 concentration changes, but the SO_2/CO_2 ratio does not. This indicates that the SO_2/CO_2 ratio is independent of fuel-to-air ratios. Therefore, SO_2/CO_2 ratio can be used robustly at any point of operation, including operation where no brake power is produced.

Note that the SO_2/CO_2 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 $SO_2/C()$.. 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
	g/g	g/g	g/g	g/g	mol/mol	g/g
Distillate†	86.20%	13.60%	0.17%	0.03%	1.880	0.00197
Residual†	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	0.01764
Residual 1.5% S	87.17%	11.03%	1.50%	0.30%	1.509	0.01721

† Based on properties in the IMO NO_x Monitoring Guidelines, MEPC.103(49).

* *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 (umol/inol), but ppm is used in order to be consistent will) units in the NO^Tcchnical Code.

Table 2: Emissions calculations corresponding to 1.5% fuel sulphur

	CO_2	SO_2	Exh SO_2/CO_2	Exh S/C
	%	ppm	ppm/%	g/g
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	66.1	0.01764
Residual 1.5% S	8	515.7	64.5	0.01721
Distillate 1.5% S	0.5	33.0	66.1	0.01764
Residual 1.5% S	0.5	32.2	64.5	0.01721

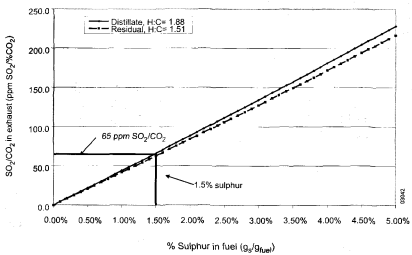

Figure 1 – SO_2/CO_2 versus % sulphur in fuel

2 Correspondence between 65 (ppm/%) SO_2/CO_2 and 6.0 g of SO_2/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:

$$\frac{S}{C_{fuel}} = \frac{\text{brake-specific } SO_2 \times \left(\frac{MW_S}{MW_{SO_2}}\right)}{BSFC \times \left(\frac{\%\text{ carbon in fuel}}{100}\right)}$$

brake-specific SO_2 = 6.0 g/kW·h

MW_S = 32.065 g/mol

MW_{SO_2} = 64.064 g/mol

BSFC = 200 g/kW·h

% carbon in 1.5% S fuel (from table 1) = 85.05% (distillate) & 87.17% (residual)

$$\frac{S}{C_{residual\ fuel}} = \frac{6.0 \times \left(\frac{32.065}{64.064}\right)}{200 \times \left(\frac{87.17\%}{100}\right)}$$

$$\frac{S}{C_{residual\ fuel}} = 0.01723$$

$$\frac{S}{C_{distillate\ fuel}} = \frac{6.0 \times \left(\frac{32.065}{64.064}\right)}{200 \times \left(\frac{85.05\%}{100}\right)}$$

$$\frac{S}{C_{distillate\ fuel}} = 0.01765$$

Note that the S/C mass ratios calculated above, based on 6.0 g SO_2/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/% SO_2/CO_2 corresponds well to 6.0 g SO_x/kW·h in regulation 14(4)(b).

3 Thus, the working formulae are as follows:

$$\text{For complete combustion} = \frac{SO_2(ppm^*)}{CO_2(\%^*)} \leqslant 65$$

$$\text{For incomplete combustion} = \frac{SO_2(ppm^*)}{CO_2(\%^*) + \left(\frac{CO(ppm)^*}{10000}\right) + \left(\frac{THC(ppm^*)}{10000}\right)} \leqslant 65$$

4 The following is the basis of using the 65 (ppm/%) SO_2/CO_2 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.

*Note: gas concentrations must be sampled or converted to the same residual water content (e.g., fully wet, fully dry).

(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 ships**

(Note: All certificates to be carried on board must be originals)

	Reference
1 All ships	
International Tonnage Certificate (1969) 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
International Load Line Certificate 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
International Load Line Exemption Certificate 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

* 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).

	Reference
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.	SOLAS 1974, regulations II-1/22 and II-1/25-8;1988 LL Protocol, regulation 10
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.	SOLAS 1974, regulations II-1/23, 23-1, 25-8; MSC/Circ.919
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.	SOLAS 1974 (2000 amendments), regulation V/14.2
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

	Reference
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.	SOLAS 1974 (2000 amendments), regulation II-2/16.2

	Reference
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.	STCW 1978, article VI, regulation I/2; STCW Code, section A-I/2
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

	Reference
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
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.	SOLAS 1974, regulation IX/4; ISM Code, paragraph 13

	Reference
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.	SOLAS 1974, regulation IX/4; ISM Code, paragraph 13
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.	SOLAS 1974 (2002 amendments), regulation XI-2/9.1.1; ISPS Code part A, section 19 and appendices.

	Reference
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.	SOLAS 1974 (2002 amendments), regulation XI-2/9; ISPS Code part A, sections 9 and 10

	Reference
Continuous Synopsis Record (CSR) Every ship to which chapter I of the Convention applies shall be issued with a Continuous Synopsis Record. The Continuous Synopsis Record provides an on-board record of the history of the ship with respect to the information recorded therein.	SOLAS 1974 (2002 amendments), regulation XI-1/5
2 In addition to the certificates listed in section 1 above, passenger ships shall carry:	
*Passenger Ship Safety Certificate** 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.	SOLAS 1974, regulation I/12, as amended by the GMDSS amendments; 1988 SOLAS Protocol, regulation I/12, (2000 amendments), appendix
Exemption Certificate† 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
Special Trade Passenger Ship Safety Certificate, Special Trade Passenger Ship Space Certificate A Special Trade Passenger Ship Safety Certificate issued under the provisions of the Special Trade Passenger Ships Agreement, 1971.	STP 71, rule 5
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.	SSTP 73, rule 5

* The form of the Certificate and its Record of Equipment may be found in the GMDSS amendments to SOLAS 1974.

† SLS.14/Circ.115 and Add.1 refers to the issue of exemption certificates.

	Reference
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.	SOLAS 1974 (2000 amendments), regulation V/7.3
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.	SOLAS 1974 (2000 amendments), regulation V/30
Decision support system for masters In all passenger ships, a decision support system for emergency management shall be provided on the navigation bridge.	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** 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 regula-tion 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.	SOLAS 1974, regulation I/12, as amended by the GMDSS amendments; 1988 SOLAS Protocol, regulation I/12

* The form of the Certificate may be found in the GMDSS amendments to SOLAS 1974.

	Reference
*Cargo Ship Safety Equipment Certificate** 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.	SOLAS 1974, regulation I/12, as amended by the GMDSS amendments; 1988 SOLAS Protocol, regulation I/12 (2000 amendments), appendix
*Cargo Ship Safety Radio Certificate** 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

* The form of the Certificate and its Record of Equipment may be found in the GMDSS amendments to SOLAS 1974.

	Reference
Exemption Certificate[*] 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.	SOLAS 1974, regulation VI/9; International Code for the Safe Carriage of Grain in Bulk, section 3
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.	CLC 1969, article VII

[*] SLS.14/Circ.115 and Add.1 refers to the issue of exemption certificates.

	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.	MARPOL 73/78, Annex I, regulation 15(3)(a)

	Reference
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.	SOLAS 1974, regulations VI/2 and XII/10; MSC/Circ.663
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.	SOLAS 1974, regulations VI/7 and XII/8; Code of Practice for the Safe Loading and Unloading of Bulk Carriers (BLU Code)
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)
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

	Reference
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.	MARPOL 73/78, Annex II, regulation 9
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.	Resolution MEPC.18(22), chapter 2; MARPOL 73/78, Annex II, regulations 5, 5A and 8

	Reference
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.	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.	BCH Code, section 1.6; BCH Code as modified by resolution MSC.18(58), section 1.6
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. **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.	IBC Code, section 1.5; IBC Code as modified by resolutions MSC.16(58) and MEPC.40(29), section 1.5

Reference

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.

SOLAS 1974, regulation X/3; 1994 HSC Code, section 1.8; 2000 HSC Code, section 1.8

Reference

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.

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.

Resolution A.536(13), section 1.6

	Reference
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.	Resolution A.373(X), section 1.6
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.	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.	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

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