Translation: Only the Danish document has legal validity.

Executive Order No. 886 of 25/06/2025

issued by the Danish Maritime Authority

Executive Order on the Prevention of Pollution from Ships

Pursuant to Section 1(2), Section 3(1) and (3), Section 4(1) and (2), Section 5 and Section 32(9) of the Maritime Safety Act, cf. Consolidated Act No. 221 of 11 February 2022, as amended by Act No. 1773 of 28 December 2023, and Section 1(2), Section 3(1) and (2), Section 4(1) and (2), Section 5 and Section 32(2) of the Order on the entry into force for Greenland of the Maritime Safety Act, cf. Order No. 1674 of 16 December 2015, shall be determined after authorisation in accordance with Section 1(1)(No. 3), in Order No. 261 of 23 March 2020 on the transfer of certain powers to the Danish Maritime Authority and on the right of appeal, etc., and Section 1(1)(No. 2), in Order No. 279 of 23 March 2020 for Greenland on the transfer of certain powers to the Danish Maritime Authority and on the right of appeal, etc.:

Section 1. The Executive Order applies to all ships in international and national trade, regardless of size and use, and to recreational craft with a hull length of more than 24 metres, unless otherwise stated in the Annexes.

Section 2. The Annexes are based on the International Convention for the prevention of pollution from Ships (MARPOL) with subsequent amendments and associated protocols and Annex IV, Regulations 4 and 5 of the Helsinki Convention.
Subsection 2. The Annexes contain a number of provisions implementing those parts of the International Convention for the prevention of pollution from ships, MARPOL 73/78 and its 1997 Protocol, which fall within the scope of the Act on Safety at Sea. These provisions are marked with an "S". The Annexes also include a translation of the part of the Convention that pertains solely to the Marine Environment Protection Act. This translation is marked with an "M" for the individual regulations and is included for information purposes only. The regulations that implement these parts of the Convention in Danish law are issued by the Minister of Environment and Gender Equality within the framework of the Marine Environment Protection Act. Some of the rules of the Convention relate to matters that fall under both the Act on Safety at Sea and the Marine Environment Protection Act. These provisions are marked with "S/M".
Subsection 3. Danish regulations that supplement or expand MARPOL, as well as Danish regulations specifically aimed at small cargo ships and recreational craft, are printed in italics.

Section 3. As far as the Ministry of Environment and Gender Equality is concerned, the MARPOL Convention is implemented solely by the Ministry of Environment and Gender Equality's legislation, which must also be followed.

Section 4. The shipping company must ensure that the crew is familiar with the parts of this Order and associated Annexes that are relevant to the performance of their work on board.

Penalties and measures

Section 5. Violation of this Order is punishable by a fine or imprisonment for up to 1 year.
Subsection 2. The penalty may increase to imprisonment for up to two years if
1) The infringement, including in connection with causing an accident at sea or sailing in breach of good seamanship, has caused injury to life or health or has created a danger thereof;
2) A prohibition or an order has previously been issued in respect of the same or a similar matter; or

3) The infringement has resulted in or is intended to result in a financial benefit for the person concerned or for others.
Subsection 3. Where no confiscation of the proceeds of the infringement is ordered, the amount of any financial advantage obtained or intended shall be taken into account, in particular, in the assessment of any fine, including any additional fine.
Subsection 4. Criminal liability may be imposed on companies or other legal persons in accordance with the rules laid down in Chapter 5 of the Criminal Code.

Section 6. If the matter is covered by an order on the entry into force for Greenland of the Act on Safety at Sea, and other legal consequences of a crime, measures may be taken in accordance with the Criminal Code for Greenland.
Subsection 2. The circumstances mentioned in Section 5(2) shall be regarded as aggravating circumstances.
Subsection 3. If no confiscation of proceeds is made, cf. Section 37 of the Criminal Code for Greenland, the amount of any financial benefit obtained or intended shall be taken into account, in particular, when imposing a fine, including an additional fine.
Subsection 4. Where an infringement is committed by companies or other legal persons, the legal person as such may be held liable to pay a fine. If the infringement is committed by the State, the Government of Greenland, a municipality, or a settlement board, the public authority as such may be held liable to pay a fine.
Subsection 5. If a person is not resident in Greenland, or if the person's connection with Greenlandic society is of such a loose nature that the conditions for the application of measures and other legal consequences of a crime are not met, the case may be brought or referred for prosecution in Denmark, cf. Section 7 of the Greenland Criminal Code.

Entry into force, etc.

Section 7. The Executive Order entered into force on 1 July 2025
Subsection 2. Executive Order No. 1508 of 8 December 2023 on the Prevention of Pollution from Ships is repealed.
Subsection 3. The technical requirements regarding oil pollution from ships in the previous regulations continue to apply to existing ships, unless otherwise specified in this Executive Order and its associated Annexes.
Subsection 4. The design requirements regarding control of harmful liquid substances in bulk in the previous provisions continue to apply to existing ships unless otherwise specified in this Executive Order and associated Annexes.
Subsection 5. The design requirements concerning pollution with harmful substances transported at sea in the previous provisions continue to apply to existing ships, unless otherwise specified in this Executive Order and associated Annexes.
Subsection 6. The design requirements regarding sewage pollution in the previous provisions continue to apply to existing ships, unless otherwise specified in this Executive Order and associated Annexes.
Subsection 7. The design requirements regarding pollution with waste from ships in the previous provisions continue to apply to existing ships, unless otherwise specified in this Executive Order and associated Annexes.
Subsection 8. The design requirements concerning the prevention of air pollution from ships in the previous provisions still apply to existing ships, unless otherwise specified in this Executive Order and its associated Annexes.

Section 8. Annexes 4 and 6 do not apply to ships registered in Greenland.

The Danish Maritime Authority, 25 June 2025
Martin Hvid John

/ Malene Loftager Mundt

Annex 1

Prevention of oil pollution from ships

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This Annex contains the provisions of Annex I of the International Convention for the Prevention of Pollution from Ships - MARPOL 73/78 and subsequent amendments.

The administration of the regulations is distributed as follows: the Danish Environmental Protection Agency is responsible for the regulations on emissions, and the Danish Maritime Authority is responsible for the regulations on the technical installations on board the ships, including certificates, logs, and plans. This division of responsibility is indicated next to each regulation with an "M" for the Environmental Protection Agency and an "S" for the Danish Maritime Authority.

Regarding the implementation of the MARPOL Convention in Denmark, in addition to the Executive Orders issued by the Danish Maritime Authority, there are also Executive Orders issued by the Ministry of Environment and Gender Equality that must also be followed.

Section I General provisions

Regulation 1 Definitions

For the purposes of this Annex:
1 "Oil" - any mineral oil, including crude oil, fuel oil, oil sludge, waste oil and refined products, with the exception of petrochemicals covered by the provisions of Annex II of the MARPOL Convention. The definition also includes the substances listed in Appendix 1 without prejudice to the scope of this definition.

2 "Crude oil" means any liquid hydrocarbon mixture occurring naturally in the earth, whether or not it has been treated to render it suitable for transport, and includes:

2.1 crude oil from which certain distillates may have been removed; and

2.2 crude oil to which certain distillates may have been added.

3 "Oily mixture" - a mixture containing oil.

4 "Fuel oil" - any oil used as fuel for propulsion and auxiliary machinery on board the ship.

5 "Oil tanker" - a ship built or adapted for carrying oil in bulk in its holds, including combination carriers, and chemical tankers as defined in Annex 2 and gas carriers as defined in Chapter II-1 of SOLAS when carrying a cargo or part load of oil in bulk.

6 "Crude oil tanker" - an oil tanker engaged in the transport of crude oil.

7 "Product tanker" - an oil tanker engaged in the transport of oil other than crude oil.

8 "Combination ship" - a ship built to carry either oil or solid cargoes in bulk.

9 "Major conversion":

9.1 a conversion of an existing ship which:

9.1.1 substantially alters the dimensions or carrying capacity of the ship; or

9.1.2 changes the type of the ship; or

9.1.3 in the opinion of the Administration, serves the purpose of significantly extending the life of the ship; or

9.1.4 otherwise modifies the ship so that, if it were a new ship, it would be subject to the provisions of this Annex, which do not apply to existing ships.
9.2 Regardless of the provisions of this definition:

9.2.1 a conversion of an oil tanker of 20,000 tonnes deadweight and above, as defined in Regulation 1.28.3, which is delivered on or after 1 June 1982 and which is undertaken to comply with the requirements of Regulation 18, shall not be considered to be a major conversion for the purpose of this Annex;

9.2.2 a conversion of an oil tanker, as defined in Regulation 1.28.5, delivered before 6 July 1996 and carried out to comply with the requirements of Regulation 19 or 20 shall not be considered a major conversion for the purpose of this Annex;

10 "Nearest coast" is the baseline from which the territorial sea of the territory concerned is determined in accordance with international law, except that "from the nearest coast" off the north-east coast of Australia means: from a line drawn

from a point at 11° south latitude, 142° 08' east longitude

to a point at 10° 35' south latitude, 141° 55' east longitude,

then to a point at 10° 00' south latitude, 142° 00' east longitude,

then to a point at 9° 10' south latitude, 143° 52' east longitude,

then to a point at 9° 00' south latitude, 144° 30' east longitude,

then to a point at 10° 41' south latitude, 145° 00' east longitude,

then to a point at 13° 00' south latitude, 145° 00' east longitude,

then to a point at 15° 00' south latitude, 146° 00' east longitude,

then to a point at 17° 30' south latitude, 147° 00' east longitude,

then to a point at 21° 00' south latitude, 152° 55' east longitude,

then to a point at 24° 30' south latitude, 154° 00' east longitude,

then to a point at 24° 42' south latitude, 153° 15' east longitude

on the coast of Australia.

11 "Special area" - a sea area where, for recognised technical reasons, taking into account the oceanographic and ecological conditions of the area and its particular traffic, it is necessary to introduce specific mandatory methods to prevent marine oil pollution.

In this Annex, the special sea areas are defined as follows:

11.1 Mediterranean Sea Area - the Mediterranean Sea proper with its bays and seas, the boundary between the Mediterranean Sea and the Black Sea being formed by the 41st parallel north latitude and the western boundary by the Strait of Gibraltar at meridian 5° 36' W.

11.2 Baltic Sea area - the Baltic Sea proper with the Gulf of Bothnia, the Gulf of Finland and the entrance to the Baltic Sea bounded in the Skagerrak by the latitude of Skagen at 57° 44.8' N.

11.3 Black Sea - the Black Sea proper, so that the 41st parallel north latitude forms the boundary between the Mediterranean Sea and the Black Sea.

11.4 Red Sea area - the Red Sea proper with the Gulf of Suez and Aqaba, bounded on the south by the compass line between Ras si Ane (12° 8.5' north latitude, 43° 19.6' east longitude) and Husn Murad (12° 0.4' north latitude, 43° 30.2' east longitude).

11.5 Gulf Area - the sea area north-west of the compass line between Ras al Hadd (22° 30' north latitude, 59° 48' east longitude) and Ras al Fasteh (25° 0.4' north latitude, 61° 25' east longitude).

11.6 Gulf of Aden - the sea area between the Red Sea and the Arabian Sea bounded on the west by the compass line between Ras si Ane (12° 28.5' north latitude, 43° 19.6' east longitude) and Husn Murad (12° 40.4' north latitude, 43° 30.2' east longitude) and to the east by the compass line between Ras Asir (11° 50' north latitude, 51° 16.9' east longitude) and Ras Fartak (15° 35' north latitude, 52° 13.8' east longitude).

11.7 Antarctic region - the area south of 60° south latitude.

11.8 The North-West European sea areas - the North Sea and its approaches, the Irish Sea and its approaches, the Celtic Sea, the English Channel and its approaches and part of the North-East Atlantic sea area immediately adjacent to the west of Ireland. The area is bounded by the lines passing through the following points:

48° 27' N on the French coast

48° 27' N, 6° 25' W

49° 52' N, 7° 44' W

50° 30' N, 12° W

56° 30' N, 12° W

62° N, 3˚ W

62° N on the Norwegian coast

57° 44.8' N on the Danish and Swedish coasts

11.9 Oman Arabian Sea area - the sea area bounded by the following coordinates:

22° 30.00' N, 59° 48.00' E

23° 47.27' N, 60° 35.73' E

22° 40.62' N, 62° 25.29' E

21° 47.40' N, 63° 22.22' E

20° 30.37' N, 62° 52.41' E

19° 45.90' N, 62° 25.97' E

18° 49.92' N, 62° 02.94' E
17° 44.36' N, 61° 05.53' E

16° 43.71' N, 60° 25.62' E

16° 03.90' N, 59° 32.24' E

15° 15.20' N, 58° 58.52' E

14° 36.93' N, 58° 10.23' E

14° 18.93' N, 57° 27.03' E

14° 11.53' N, 56° 53.75' E

13° 53.80' N, 56° 19.24' E

13° 45.86' N, 55° 54.53' E

14° 27.38' N, 54° 51.42' E

14° 40.10' N, 54° 27.35' E

14° 46.21' N, 54° 08.56' E

15° 20.74' N, 53° 38.33' E

15° 48.69' N, 53° 32.07' E

16° 23.02' N, 53° 14.82' E

16° 39.06' N, 53° 06.52' E

11.10 The South African Southern Ocean is the sea area bounded by the following coordinates (effective from 1 March 2008):

31° 14' S; 017° 50' E

31° 30' S; 017° 12' E

32° 00' S; 017° 06' E

32° 32' S; 016° 52' E

34° 06' S; 017° 24' E

36° 58' S; 020° 54' E

36° 00' S; 022° 30' E

35° 14' S; 022° 54' E

34° 30' S; 026° 00' E

33° 48' S; 027° 25' E

33° 27' S; 027° 12' E

12 "Instantaneous oil discharge rate" - the discharge of oil measured in litres per hour at a given instant, divided by the ship's speed in knots at that instant.

13 "Tank" - an enclosed space bounded by the ship's structure and designed to carry liquids in bulk.

14 'Side tank' - any tank adjacent to the ship's side plating.

15 'Centre tank' - any tank within the longitudinal bulkhead.

16 'Slop tank' - a tank specially designed for the collection of tank sludge, tank washings and other oily mixtures.

17 "Clean ballast" is ballast in a tank that has been cleaned since oil was last introduced into it so that its discharge does not leave visible traces of oil on the sea surface or on adjacent coastlines or produce sludge or emulsion adjacent shorelines, or produce sludge or emulsion below the sea surface or on adjacent shorelines, if discharged from a ship at rest in a clear and calm sea on a clear day. If the ballast is discharged through an oil discharge monitoring and control system approved by the Administration, and this system shows that the oil content of the discharge does not exceed 15 parts per million, the ballast may be considered clean, regardless of whether there are visible traces.

18 "Segregated ballast" - ballast water supplied to a tank entirely separated from the cargo oil and fuel oil system and used exclusively for the carriage of ballast or cargoes which do not contain oil or harmful substances as defined by the MARPOL Convention.

19 "Length" (L) - 96% of the total length measured on a waterline, which is 85% of the least moulded depth above the top of the keel, or the length from the leading edge of the stem to the centre of the rudder stock on that waterline, whichever is greater. If the ship is designed with steerage, the waterline on which the length is measured shall be parallel to the design waterline. The length (L) is measured in metres.

20 "Foremost and sternmost perpendiculars" shall pass through the fore and aft extremes of the length (L). The forward perpendicular shall pass through the intersection of the leading edge of the bow and the waterline on which the length is taken.

21. "Midship" – is the centre of the length (L).

22 "Beam" (B) - the maximum width of the ship amidships to the outer edge of the frames (moulded) in a ship with a metal shell and to the outside of the hull in a ship with a shell of other material. The width (W) is measured in metres.

23 "Deadweight" (DW) - the difference in metric tonnes between the displacement of a ship in water of

density 1.025 at the load waterline corresponding to the summer freeboard and the deadweight of the ship.

24 "Own weight" means a ship's displacement in metric tonnes without cargo, fuel, lubricating oil, ballast water, fresh and feed water in tanks, ship's provisions and passengers and crew with their effects.

25 "Fillability of a space" - the ratio between the part of the cubic content of the space assumed to be occupied by water and the total cubic content of the space.

26 "Volume and area" are always calculated to the outer edge of the moulded lines.
27 "Anniversary" means the day and month of the year corresponding to the expiry date of the International Oil Pollution Prevention Certificate.

28.1 "Ship delivered on or before 31 December 1979" means:

28.1.1 a ship for which the building contract was established on or before 31 December 1975; or

28.1.2 in the absence of a building contract, a ship the keel of which is laid or which is at a similar stage of construction on or after 30 June 1976; or

28.1.3 a ship which was delivered on or before 31 December 1979; or

28.1.4 a ship which has undergone a major refit,

28.1.4.1 for which a contract was entered into on or before 31 December 1975; or

28.1.4.2 in the absence of a contract, for which work commenced on or before 30 June 1976; or

28.1.4.3 which was completed on or before 31 December 1979.

28.2 "Ship delivered after 31 December 1979" means:

28.2.1 a ship for which the building contract was entered into after 31 December 1975; or

28.2.2 in the absence of a building contract, a ship the keel of which was laid, or which was at a similar stage of construction, after 30 June 1976; or

28.2.3 a ship delivered after 31 December 1979; or

28.2.4 a ship which has undergone a major refit,

28.2.4.1 for which a contract was entered into after 31 December 1975; or

28.2.4.2 in the absence of a contract, the construction of which commenced after 30 June 1976; or

28.2.4.3 which was completed after 31 December 1979.

28.3 "Oil tanker delivered on or before 1 June 1982" means:

28.3.1 an oil tanker for which the building contract was entered into on or before 1 June 1979; or

28.3.2 in the absence of a building contract, an oil tanker, the keel of which is laid or which is at a similar stage of construction on or after 1 January 1980; or

28.3.3 an oil tanker delivered on or before 1 June 1982; or

28.3.4 an oil tanker which has undergone a major refit,

28.3.4.1 for which a contract was entered into on or before 1 June 1979; or

28.3.4.2 in the absence of a contract, the execution of which commenced on or before 1 January 1980; or

28.3.4.3 which was completed on or before 1 June 1982.

28.4 "Oil tanker delivered after 1 June 1982" means:

28.4.1 an oil tanker for which the building contract was entered into after 1 June 1979; or

28.4.2 in the absence of a building contract, an oil tanker the keel of which was laid, or which was at a similar stage of construction, after 1 January 1980; or

28.4.3 an oil tanker delivered after 1 June 1982; or

28.4.4 an oil tanker which has undergone a major refit,

28.4.4.1 for which a contract was entered into after 1 June 1979; or

28.4.4.2 in the absence of a contract, the execution of which commenced after 1 January 1980; or

28.4.4.3 which was completed after 1 June 1982.

28.5 "Oil tanker delivered before 6 July 1996" means:

28.5.1 an oil tanker for which the building contract was entered into before 6 July 1993; or

28.5.2 in the absence of a building contract, an oil tanker the keel of which was laid, or which was at a similar stage of construction, before 6 January 1994; or

28.5.3 an oil tanker delivered before 6 July 1996; or

28.5.4 an oil tanker which has undergone a major refit,

28.5.4.1 for which a contract was entered into before 6 July 1993; or

28.5.4.2 in the absence of a contract, the execution of which commenced before 6 January 1994; or

28.5.4.3 which was completed before 6 July 1996.

28.6 "Oil tanker delivered on or after 6 July 1996" means:

28.6.1 an oil tanker for which the building contract was entered into on or after 6 July 1993; or

28.6.2 in the absence of a building contract, an oil tanker, the keel of which is laid or which is at a similar stage of construction on or after 6 January 1994; or

28.6.3 an oil tanker delivered on or after 6 July 1996; or

28.6.4 an oil tanker which has undergone a major refit,

28.6.4.1 for which a contract was entered into on or after 6 July 1993; or

28.6.4.2 in the absence of a contract, the execution of which commenced on or after 6 January 1994; or

28.6.4.3 which was completed on or after 6 July 1996.

28.7 "Oil tanker delivered on or after 1 February 2002" means:

28.7.1 an oil tanker for which the building contract was entered into on or after 1 February 1999; or

28.7.2 in the absence of a building contract, an oil tanker, the keel of which is laid or which is at a similar stage of construction on or after 1 August 1999; or

28.7.3 an oil tanker delivered on or after 1 February 2002; or

28.7.4 an oil tanker which has undergone a major refit,

28.7.4.1 for which a contract was entered into on or after 1 February 1999; or

28.7.4.2 in the absence of a contract, the execution of which commenced on or after 1 August 1999; or

28.7.4.3 which was completed on or after 1 February 2002.

28.8 "Oil tanker delivered on or after 1 January 2010" means:

28.8.1 an oil tanker, for which the building contract is created on or after 1 January 2007; or

28.8.2 in the absence of a building contract, an oil tanker, the keel of which was laid or was at a similar stage of construction on or after 1 July 2007; or

28.8.3 an oil tanker delivered on or after 1 January 2010; or

28.8.4 an oil tanker which has undergone a major refit,

28.8.4.1 for which a contract was entered into on or after 1 January 2007; or

28.8.4.2 in the absence of a contract, the execution of which commenced on or after 1 July 2007; or

28.8.4.3 which was completed on or after 1 January 2010.

28.9 "Ship delivered on or after 1 August 2010" means:

28.9.1 a ship for which the construction contract was entered into on or after 1 August 2007; or

28.9.2 in the absence of a building contract, a ship the keel of which is laid or which is at a similar stage of construction on or after 1 February 2008; or

28.9.3 a ship which is delivered on or after 1 August 2010; or

28.9.4 a ship which has undergone a major refit,[1)]

28.9.4.1 for which a contract was entered into on or after 1 August 2007; or

28.9.4.2 in the absence of a contract whose performance commenced on or after 1 February 2008; or

28.9.4.3 which was completed on 1 August 2010.

29 "ppm" (parts per million) - the volume ratio of oil to water measured in ml/m^3.

30 "Ship built" means a ship whose keel is laid or which is at a similar stage of construction.

31 "Oil residues (sludge)" means the residual waste oil products generated during the normal operation of a ship, such as those resulting from the cleaning of fuel oil or lubricating oil for main or auxiliary machinery, separated waste oil from oil filtration systems, waste oil collected in drip trays and hydraulic and lubricating waste oil.

32 "Waste oil (sludge) tank" means a tank for the storage of waste oil (sludge) from which sludge can be removed directly through the standard discharge connection or any other means of disposal.

33 "Oily bilge water" refers to water that may be contaminated with oil from, e.g. leaks or maintenance work in machinery spaces. Any liquid that enters the bilge system, including bilge wells, bilge pipelines, tank tops or bilge water storage tanks, is considered oily bilge water.

34 "Oily bilge water storage tank" means a tank for the collection of oily bilge water before discharge, transfer or removal.

35 "Audit" refers to a systematic, independent, and documented process that involves obtaining evidence through audits and evaluating it objectively to determine the extent to which the audit criteria have been met.

36 "Audit Scheme" means the IMO Member State Audit Scheme as established by the Organisation and taking into account the guidelines developed by the Organisation.[2)]

37 "Implementation Code" means the IMO Instruments Implementation Code (III Code) as adopted by the Organisation by Resolution A. 1«070(28).

38 "Audit standard" means the implementation code.

39 "Electronic logbooks" means a device or system approved by the Administration to record electronically the required records of discharges, transfers and other operations prescribed under this Annex in lieu of a physical logbook.

40 "unmanned non self-propelled barge (UNSP)" means a barge that:

40.1 is not propelled by machinery

40.2 has no oil on board (as defined in Regulation 1 of this Annex)

40.3 does not have machinery installed that uses oil or generates oil residues (sludge)

40.4 does not have tanks for fuel oil, lubricating oil, oily water and oil residues (sludge); and

40.5 does not have persons or live animals on board

Regulation 2 Application

1 Unless expressly provided otherwise, this Annex applies to all ships.

2 In ships other than oil tankers in which cargo spaces are used for the carriage of oil in bulk with a total capacity of 200 m^3 or more, the provisions of Regulations 16, 26.4, 29, 30, 31, 32, 34 and 36 for oil tankers shall also apply to the construction and use of such spaces, except that in cases where the total capacity is less than 1,000 m^3, the provisions of Regulation 34.6 may apply instead of Regulations 29, 31 and 32.
3 If a cargo covered by Annex 3 is carried in a cargo space of an oil tanker, the relevant provisions of Annex 3 shall also apply.

4 The provisions of Regulations 29, 31 and 32 shall not apply to oil tankers carrying asphalt or other products covered by this Annex where, due to the physical characteristics of the products, effective separation between product and water or effective control of the discharge water cannot be achieved. For these products, Regulation 34 shall be complied with by storing product residues and contaminated cleaning water on board and delivering them to reception facilities ashore.

5 Subject to the provisions of Subsection 6, Regulations 18.6 to 18.8 shall not apply to an oil tanker, as defined in Regulation 1.28.3, delivered on or before 1 June 1982, which is engaged exclusively on special voyages between:

5.1 ports or terminals within a Convention country; or

5.2 ports or terminals in Convention countries, when

5.2.1 the voyage is exclusively within a special area; or

5.2.2 the voyage takes place exclusively within other limits designated by the Organisation.

6 The provisions of Subsection 5 shall apply only when the ports or terminals where loading for such voyages is carried out are provided with reception facilities of sufficient capacity to receive and treat all ballast water and tank washings from the oil tankers using them, and when all the following provisions are complied with:

6.1 subject to the exceptions in Regulation 4, all ballast, including clean ballast and tank cleaning residues, shall be retained on board and delivered to reception facilities. Notes to this effect in the required oil logbook shall be endorsed by the competent port authority;

6.2 agreement has been reached between the Administration and the Governments of the port States referred to in Subsection 5.1 or 5.2 to use an oil tanker, as defined in Regulation 1.28.3, delivered on or before 1 June 1982 for this particular voyage;

6.3 the reception facilities have been approved as fully adequate to fulfil the requirements of this Annex by the Government of the Convention countries where such ports or terminals are located; and

6.4 the International Oil Pollution Prevention Certificate is endorsed to the effect that the oil tanker is engaged exclusively on such special voyages.

S Regulation 3 Exemption

1 Special ships such as hydrofoil, hovercraft, submersibles, etc., the design features of which render the application of the provisions of Sections 3 and 4 or Part 1.2 of Part II-A of the Polar Code relating to construction and equipment unreasonable or impracticable, may be exempted by the Administration from the

said provisions, provided that the design and equipment of the ship concerned afford equivalent protection against oil pollution having regard to the voyage for which the ship is intended.

2 Details of any such exemption granted by the Administration shall be entered in the certificate referred to in Regulation 7.

3 The Administration granting such an exemption shall, as soon as possible and not later than ninety days thereafter, send to the Organisation substantiated information thereon which the Organisation shall communicate to the Parties to the Convention for information and possible further action.
4 The Administration may waive the requirements of Regulations 29, 31 and 32 for any oil tanker engaged exclusively on voyages of 72 hours or less in duration and within 50 nautical miles of the nearest coast, provided that the oil tanker is engaged exclusively on voyages between ports or terminals of a Convention country. Such an exemption shall be subject to the condition that the oil tanker stores all oily mixtures on board for subsequent delivery to reception facilities and that the Administration approves the adequacy of the facilities available for the reception of such oily mixtures.

5 The Administration may waive the requirements of Regulations 31 and 32 for oil tankers other than those referred to in Subsection 4 in cases where:

5.1 the ship is an oil tanker of 40,000 tonnes deadweight or above which, as defined in Regulation 1.28.3, was delivered on or after 1 June 1982 and which, in accordance with Regulation 2.5, is engaged only on special voyages where the requirements of Regulation 2.6 are met; or

5.2 the tanker is engaged exclusively on one or more voyages in the following categories:

5.2.1 voyages within special sea areas; or

5.2.2 voyages in Arctic sea areas; or

5.2.3 voyages outside special sea areas or Arctic sea areas but within 50 nautical miles of the nearest coast where the tanker is engaged:

5.2.3.1 voyages between ports or terminals of a country that is a party to the Convention; or

5.2.3.2 limited voyages, as determined by the Administration, of a duration of 72 hours or less,
provided that the following conditions are met:

5.2.4 that all oily mixtures are stored on board for later delivery to reception facilities,

5.2.5 for voyages as specified in 5.2.3, the Administration has determined that sufficient reception facilities are available in the ports or terminals visited by the tanker,

5.2.6 the endorsement on the International Oil Pollution Prevention Certificate, when required, indicates that the ship is engaged exclusively in one or more of the categories of voyages specified in Subsections

5.2.1 and 5.2.3.2; and

5.2.7 that the quantity of the oily mixture and the date and port of delivery are entered in the oil logbook.

6 The Administration may waive the provisions of Regulation 28(6) for the following oil tankers if they are loaded in accordance with the conditions approved by the Administration taking into account the guidelines established by the Organisation:[3)]

6.1 oil tankers proceeding at steady speed with a limited number of changes of cargo so that all anticipated conditions have been approved in the stability information given to the master in accordance with Regulation 28(5);

6.2 oil tankers where verification of stability is carried out remotely by means approved by the Administration;

6.3 oil tankers loaded within an approved range of loading conditions; or

6.4 oil tankers built before 1 January 2016 and equipped with approved KG/GM limit curves covering all relevant intact and leakage stability requirements.

7 The Administration may exempt an unmanned non-self-propelled barge[4)] (UNSP) from the requirements of Regulations
6.1 and 7.1 of this Annex from the International Oil Pollution Prevention Certificate, and issue an International Oil Pollution Prevention Exemption Certificate for Unmanned Barges without their own propulsion for a period not exceeding five years on condition that the UNSP has undergone a survey confirming that the conditions specified in Regulations 1.40.1 to 1.40.5 have been met.

S Regulation 4 Exemption provisions

1 Regulations 15 and 34 and Subsection 1.1.1 of Part II-A of the Polar Code shall not apply to:

1.1 the discharge into the sea of oil or oily mixture necessary for the safety of the ship or necessary for saving human life at sea;

1.2 the discharge into the sea of oil or oily mixture resulting from damage to a ship or its equipment

1.2.1 provided that after the occurrence of the damage or discovery of the discharge, all reasonable measures have been taken to prevent or minimise the discharge; and

1.2.2 except where the shipping company or the master has acted with intent to cause damage or acted recklessly and with knowledge that damage would probably result;

1.3 the discharge into the sea of oily substances when authorised by the Administration and for the purpose of combating specific pollution incidents, to limit pollution damage. Any such discharge must be authorised by the Government within whose jurisdiction the discharge is proposed to be made.

S Regulation 5 Equivalence

1 The Administration may authorise the fitting of any equipment, materials, appliances or devices on a ship as an alternative to that required by this Annex, provided that the equipment, materials, appliances or devices are at least as effective as that required by this Annex. This Administration's authorisation shall not extend to substituting design requirements for operational procedures for the control of discharge of oil as prescribed in the provisions of this Annex.

2 The Administration which authorises the installation of equipment, material, fittings or appliances as alternatives to the requirements of this Annex shall inform the Organisation for dissemination to other Convention countries.

Section II Survey and certification

Regulation 6 Surveys

1 Every oil tanker of 150 gross tonnage and above and every other ship of 400 gross tonnage and above shall be subject to the surveys specified below:

1.1 A first survey before the ship is put in service or before the certificate required by Regulation 7 is first issued, which shall include a complete survey of its structure, equipment, installations, accessories, appliances and materials insofar as this Annex covers the ship. This survey shall be sufficiently effective to ensure that the ship's structure, equipment, installations, accessories, appliances and materials fully comply with the provisions of this Annex.
1.2 A renewal survey at intervals to be determined by the Administration, which shall not exceed five years except where Regulations 10.2.2, 10.5, 10.6 or 10.7, applies. The renewal survey shall be carried out to verify that the ship's structure, equipment, installations, accessories, appliances and materials fully comply with the provisions of this Annex.

1.3 An intermediate survey within three months before or after the second anniversary or within three months before or after the third anniversary of the issue of the certificate. The survey shall be carried out simultaneously with one of the annual surveys specified in Subsection 1.4. The survey shall ensure that the equipment and associated pumping and pipework, including systems for recording and controlling oil discharge, crude oil tank cleaning systems, oily water separation equipment, and oil filtering installations, fully comply with the relevant regulations in this Annex and are in good operational condition. The certificate issued pursuant to Regulations 7 and 8 shall bear an endorsement indicating such intermediate surveys.

1.4 An annual survey within three months before or after the anniversary date of the issue of the certificate, which includes a general survey of the structure, equipment, installations, appurtenances, arrangements and materials referred to in Subsection 1.1 to ensure that it has been maintained in accordance with Subsections 4.1 and 4.2 of this Regulation and remains satisfactory for the intended voyage. The certificate issued under Regulation 7 or 8 shall bear an endorsement indicating such annual surveys.

1.5 Additional surveys shall be carried out either wholly or partly after a repair carried out on the basis of the surveys prescribed in Subsection 4.3 of this Regulation or when important repairs or renewals are carried out. The survey shall be carried out to ensure that the necessary repairs or renewals have been carried out effectively, that the materials and workmanship of such repairs and renewals are satisfactory in all respects and that the ship in all respects complies with the provisions of this Annex.

2 The Administration shall establish appropriate measures for ships not covered by the provisions of Subsection 1 to ensure compliance with the relevant provisions of this Annex.

3.1 Surveys of ships carried out for the purpose of enforcing the provisions of this Annex shall be conducted by officers of the Administration. However, the Administration may appoint surveyors or recognised organisations to carry out inspections and surveys. Such organisations, including classification societies, shall be authorised by the Administration[5)] in accordance with the provisions of the MARPOL Convention and with the Code for Recognised Organisations (RO Code), consisting of Parts 1 and 2 (the provisions of which shall be considered mandatory) and Part 3 (the provisions of which shall be considered advisory), as adopted by the Organisation by Resolution MEPC. 237(65), as may be amended by the Organisation, provided that:

3.1.1 the amendments to Part 1 and Part 2 of the RO Code have been adopted, entered into force and given effect in accordance with the provisions of Article 16 of the MARPOL Convention concerning the amendment procedure applicable to this Annex;

3.1.2 amendments to Part 3 of the RO Code have been adopted by the Environment Committee (MEPC) in accordance with its rules of procedure; and

3.1.3 any amendments mentioned in Subsections 1 or 2, adopted by the Maritime Safety Committee (MSC) and the Environment Committee (MEPC), are identical and enter into force or take effect at the same time, as appropriate.

3.2 An Administration which appoints surveyors or recognised organisations to carry out the surveys and inspections referred to in Subsection 3.1 shall at least authorise any appointed surveyor or recognised organisation to:

3.2.1 to require the repair of a ship; and

3.2.2 carry out surveys and inspections when requested to do so by the appropriate authority of a port State. The Administration shall inform the Organisation of the specific responsibilities and conditions of the authority assigned to the nominated surveyors or recognised organisations, and this information shall be communicated to the Contracting Parties for the information of their officers.

3.3 When a nominated surveyor or recognised organisation determines that the condition of the ship and its equipment does not substantially correspond to the information contained in the certificate or that the ship is in such a condition that it is not fit to proceed to sea without danger to the marine environment, the surveyor or organisation concerned shall immediately ensure that the deficiency is rectified and shall notify the Administration in due time. If such rectification is not carried out, the certificate should be withdrawn and the Administration informed immediately; if the ship is in another Convention country, the appropriate port authorities of that Convention country should be informed immediately. When an officer of the Administration, a nominated surveyor or a recognised organisation has notified the appropriate port authorities of the Convention country concerned, the Government of that Convention country shall provide the necessary assistance to that officer, surveyor or organisation in carrying out their obligations under this Regulation. In this case, the Government of the Convention country concerned shall take measures to ensure that the ship does not set sail until it can do so or leave the port for the nearest repair yard without posing an unreasonable threat to the marine environment.

3.4 In all cases, the Administration assumes full responsibility for the completeness and effectiveness of the survey and undertakes to ensure the necessary arrangements to fulfil this obligation.

4.1 The condition of the ship and its equipment shall be maintained so as to comply with the provisions of this Annex to ensure that the ship remains in all respects fit to proceed to sea without presenting any unreasonable danger to the marine environment.

4.2 When a survey under Subsection 1 of this Regulation has been completed, no amendment of the ship's construction, equipment, fittings, accessories, appliances, or materials covered by the survey shall be made without the approval of the Administration, except for the direct replacement of such equipment and accessories.

4.3 In the event of an accident involving a ship or if a defect is discovered which significantly affects the condition of the ship or the operation of equipment covered by this Annex, the master or the shipping company shall, at the earliest opportunity, report to the Administration, the recognised organisation or the nominated surveyor responsible for the issue of the relevant certificate, who shall then arrange for investigations to be carried out to determine whether a survey required under Subsection 1 of this Regulation is necessary. If the ship is in the port of another Convention country, the master or shipping company shall also immediately notify the appropriate authorities in the port of that State, and the nominated surveyor or recognised organisation shall satisfy itself that the required report has been made.

S Regulation 7 Issue and endorsement of certificates

1 After a survey has been carried out in accordance with Regulation 6, an International Oil Pollution Prevention Certificate shall be issued to every oil tanker of 150 gross tonnage and above and to every other ship of 400 gross tonnage and above bound for ports or offshore terminals under the jurisdiction of other Convention countries.

2 Such certificates shall be issued or endorsed by the Administration or by any person or organisation duly authorised by it. In all cases, the Administration assumes full responsibility for the certificate.

S Regulation 8 Issuance and endorsement of certificate by another government

1 The Government of a Convention country may, at the request of the Administration, survey a ship and, if it is satisfied that the provisions of this Annex have been complied with, issue or authorise the issue of an International Oil Pollution Prevention Certificate to the ship and, where necessary, endorse or authorise the endorsement of the Certificate in accordance with this Annex.

2 A copy of the certificate and of the survey report shall be sent as soon as possible to the Administration which requested the survey.

3 A certificate so issued shall bear an endorsement stating that it has been issued at the request of the Administration and shall have the same validity and recognition as a certificate issued under Regulation 7.

4 No International Oil Pollution Prevention Certificate shall be issued to a ship entitled to fly the flag of a non-Convention country.

S Regulation 9 The design of the certificate

1 The International Oil Pollution Prevention Certificate shall be in the form of the model set out in Appendix 2 to this Annex and shall be in at least English, French or Spanish. In the event of any dispute or inconsistency, the entry in an official language of the country whose flag the ship is entitled to fly shall prevail.

2 The International Oil Pollution Prevention Exemption Certificate for Unmanned Non-self-propelled Barges shall be in a format consistent with the format specified in MARPOL Annex I, Appendix IV and shall be in at least English, French or Spanish. In the event of any dispute or inconsistency, the entry in an official language of the country whose flag the ship is entitled to fly shall prevail.

S Regulation 10 The certificate's period of validity

1 An International Oil Pollution Prevention Certificate shall be issued for a period determined by the Administration, which shall not exceed five years from the date of issue.

2.1 Regardless of the provisions of Subsection 1 of this Regulation, when the renewal survey is carried out within three months before the expiry date of the existing certificate, the new certificate shall be valid from the date of the periodical survey to a date not exceeding five years from the expiry date of the existing certificate.

2.2 When the renewal survey is performed after the expiry date of the existing certificate, the new certificate shall be valid from the date of the renewal survey to a date not exceeding five years from the expiry date of the existing certificate.

2.3 When the renewal survey is performed more than three months before the expiry date of the existing certificate, the new certificate shall be valid from the date of the renewal survey to a date not exceeding five years from the date of the renewal survey.

3 If a certificate is issued with a term of less than five years, the Administration may extend the certificate's period of validity to the maximum period specified in Subsection 1 of this Regulation, provided that the surveys referred to in Regulations 6.1.3 and 6.1.4 of this Annex are held when the certificate is issued with a validity of five years.

4 If the renewal survey has been performed and a new certificate cannot be issued or placed on board the ship before the existing certificate expires, the person or organisation authorised by the Administration may revalidate the existing certificate. Such a certificate shall be recognised as valid for the period specified, which shall not exceed five months from the date of expiry.

5 If a ship is in a port where a survey cannot be held and the certificate has expired, the Administration may extend the certificate's period of validity, but such extension shall be granted only for the purpose of enabling the ship to complete the voyage to the port where the survey can take place and then only in cases where it is considered safe and reasonable to do so. No certificate may be extended beyond a period of three months, and a ship which has been granted such an extension shall not, by virtue of the extension, leave the port where the survey was to take place without a new certificate. After the renewal survey has been performed, the period of validity of the certificate issued shall not exceed five years from the date of expiry of the existing certificate before the extension was authorised.

6 A certificate issued to a ship engaged on short voyages which has not been extended under the previous provisions may be extended by the Administration for a period of up to one month from the expiry date indicated. Once the renewal survey has been carried out, the new certificate may be valid for up to five years from the date of the existing certificate before the extension was authorised.

7 In special cases, as determined by the Administration, the validity period of a new certificate does not need to run from the expiry date of the existing certificate, as required under Subsections 2.2, 5 or 6 of this Regulation. In these exceptional cases, the period of validity of the new certificate shall not exceed five years from the date on which the renewal survey was performed.

8 If an annual or intermediate survey has been held before the period specified in Regulation 6, the following applies:

8.1 the annual survey date on the certificate shall be changed by endorsement to a date not more than three months later than the date on which the survey was performed;

8.2 the subsequent annual and intermediate surveys required by Regulation 8 shall be held at intervals as specified in that Regulation; and

8.3 the expiry date may remain unchanged provided that one or more annual or intermediate surveys are performed so that the maximum interval between surveys specified in Regulation 6.1 is not exceeded.

9 A certificate issued under Regulation 7 or 8 shall be invalid in any of the following cases:

9.1 if the required surveys are not carried out within the periods specified in Regulation 6.1;

9.2 if the certificate is not endorsed in accordance with Regulations 6.1.3 and 6.1.4;

9.3 if a ship is transferred to the flag of another country. A new certificate shall be issued only when the Government issuing the new certificate is satisfied that the ship fully complies with the requirements of Regulations 6.4.1 and 6.4.2. In the case of a transfer between Convention countries, the Government whose flag the ship was previously entitled to fly shall, if requested within three months after the transfer has taken place, provide the new Administration as soon as possible with a copy of the certificate held by the ship

before the transfer and, if available, a copy of the relevant survey report.

S Regulation 11 Port State control on operational requirements [6)]

1 A ship which is in the port or terminal of another Convention country may be subject to inspection by a person duly authorised by the Convention country when there are clear grounds for believing that the master or crew of the ship is not familiar with essential shipboard procedures for the prevention of pollution by oil.

2 In the light of the circumstances referred to in Subsection 1, the Convention country shall take such steps as will ensure that the ship does not proceed to sea until the circumstances are rectified in accordance with the provisions of this Annex.

3 The port State control procedure prescribed in Article 5 of the MARPOL Convention shall be applied in the enforcement of this Regulation.

4 Nothing in this Regulation shall be construed as limiting the rights and obligations of a Convention country in relation to the exercise of control of operational requirements specifically prescribed in the MARPOL Convention.

Section III Requirements for machinery spaces on all ships

Part A Construction

S Regulation 12 Tanks for oil residues (sludge)

1 Unless otherwise specified, this Regulation applies to every ship of 400 gross tonnage and above; provided that Subsection 3.5 of this Regulation need only apply so far as is reasonable and practicable to ships delivered on or before 31 December 1979 as defined in Regulation 1.28.1.

2 Waste oil (sludge) may be removed directly from the waste oil (sludge) tank or tanks to reception facilities through the standard discharge connection referred to in Regulation 13 or to any other means of disposal of waste oil (sludge) such as, for example, a waste burner, a spare boiler suitable for burning waste oil (sludge) or other acceptable means to be specified in Subsection 3.2 in the supplement to IOPP certificate A or B.

3 There shall be a tank or tanks for the residual oil products (sludge) and:

3.1 having regard to the type of machinery and the length of the voyage, have adequate capacity to receive residual oil products (sludge) that cannot otherwise be handled in accordance with the requirements of this Annex;

3.2 shall be fitted with a pump designed for disposal capable of drawing from the residual oil (sludge) tank or tanks for the disposal of residual oil (sludge) by means described in Regulation 12.2;

3.3 shall have no discharge connection to the bilge system, oily bilge water storage tank or tanks, tank top or oily water separators, except

3.3.1 the tank or tanks may be fitted with drain pipes with manually operated self-closing valves and arrangements for the subsequent visual monitoring of the settled water leading to an oily bilge water storage tank or bilge well, or an alternative arrangement provided that it is not directly connected to the bilge pipework; and

3.3.2 that the sludge tank discharge pipe and bilge water pipe may be connected by common pipes leading to the standard discharge connection referred to in Regulation 13; the connection of both systems to the

possible common pipes leading to the standard discharge connection referred to in Regulation 13 shall not allow the transfer of sludge to the bilge system;

3.4 shall not be arranged with pipes directly connected overboard except for the standard discharge connection referred to in Regulation 13; and

3.5 shall be designed and constructed for ease of cleaning and discharge of residues to reception facilities.

4 Ships built before 1 January 2017 shall be arranged to comply with the requirements of Subsection 3.3 of this Regulation not later than the first renewal survey carried out on or after 1 January 2017.

5 *Minimum capacity of sludge tanks.*

5.1 *For ships which do not carry ballast water in fuel oil tanks, the capacity of the sludge tank shall be calculated according to the following formula:*

$V_1 = K_1 \times C \times D$ (m^3)
$K_1 = 0.01$ *for ships using heavy fuel oil for propulsion, which is centrifuged on board, or 0.005 for ships using diesel oil for propulsion or where the heavy fuel oil is not centrifuged on board.*
C = *Daily fuel oil consumption.*
D = *Maximum sailing time in days between ports where reception facilities are available, if not known, minimum 30.*

5.2 *For ships fitted with on-board equipment recognised by the Danish Maritime Authority for the disposal of oil sludge, the sludge tank capacity V1 may be assumed to be 1* m^3 *for ships of 400 gt and above and 2* m^3 *for ships of 4000 gt and above.*

5.3 *For ships carrying ballast water in fuel oil tanks, the sludge tank capacity shall be calculated according to the following formula:*
$V_2 = V_1 + K_2 \times B$ (m^3)
V_1 = *Sludge tank capacity as specified in 1 or 2.*
$K_2 = 0.01$ *for ships using heavy fuel oil and 0.005 for ships using diesel oil.*
B = *Capacity of water ballast tanks which can also be used for fuel oil.*

S Regulation 12A [7)] **Protection of fuel oil tanks**

1 This Regulation applies to all ships with a total fuel oil capacity of 600 m^3 or more delivered on or after 1 August 2010, as defined in Regulation 1.28.9 of this Annex.

2 The application of this Regulation to determine the location of the tanks used to carry fuel oil is without prejudice to the provisions of Regulation 19 of this Annex.

3 For the purposes of this Regulation, the following definitions shall apply:

3.1 "Fuel oil" - any oil used as fuel for propulsion and auxiliary machinery on board the ship.

3.2 "Load line draught (d_s)" means the vertical distance measured in metres (moulded) from the base line amidships to the summer load line.

3.3 "Lightweight draught" is the draught amidships (moulded) corresponding to the lightweight of the ship.

3.4 "Partial load line draught (d_p)" is the lightweight draught plus 60% of the difference between the lightweight draught and the load line draught (d_s). The partial load line draught (d_p) shall be measured in

metres.

3.5 "Waterline (d_B)" is the vertical distance measured in metres (moulded) from the baseline amidships to the waterline corresponding to 30% of the depth Ds.

3.6 "Beam (B_S)" is the maximum breadth of the ship measured in metres (moulded) at or below the deepest load line d_S.

3.7 "Beam (B_B)" is the maximum breadth of the ship measured in metres (moulded) at or below the waterline d_B.
3.8 "Depth (D_S)" is the depth measured in metres (moulded) amidships to the upper deck. "Upper deck" means the highest deck to which the transverse watertight bulkheads extend - with the exception of stern peak bulkheads.

3.9 "Length (L)" - 96% of the total length measured on a waterline, which is 85% of the least moulded depth above the top of the keel, or the length from the leading edge of the stem to the centre of the rudder stock on that waterline, whichever is greater. In ships designed with a steerable design, the waterline on which the length is measured shall be parallel to the design waterline. The length (L) is measured in metres.

3.10 "Beam (B)" - the maximum width of the ship amidships, measured in metres, to the outer edge of the frames (moulded) in a ship with metal shell plating and to the outside of the hull in a ship with shell plating of other material.

3.11 "Fuel oil tanks" are tanks in which fuel oil is carried, but exclude tanks that do not contain oil during normal operations, such as overflow tanks.

3.12 "Small fuel oil tanks" are fuel oil tanks with a maximum individual capacity not exceeding 30 m^3.

3.13 "C" is the total volume of fuel oil of the ship, including fuel oil in the small fuel oil tanks in m^3, at 98 filling.

3.14 "Fuel oil capacity" is the volume of a tank in m^3 at 98 load.

4 The provisions in this Regulation shall apply to all fuel oil tanks except for smaller fuel oil tanks, as defined in 3.12, provided that the total volume of the exempted tanks does not exceed 600 m^3.

5 Individual fuel oil tanks shall not have a volume of more than 2,500 m^3.

6 For ships which are not self-elevating drilling units with a total fuel oil volume of 600 m^3 or more, the fuel oil tanks shall be located above the bottom shell (moulded) at a distance not less than distance h as described below:
h = B/20 m or
h = 2.0 m, whichever is less.
The minimum value of h = 0.76 m
In the area of the bilge rounding and in places where the bilge rounding is not clearly defined, the boundary line of the fuel oil tank must be parallel to the flat bottom amidships, as shown in Figure 1.

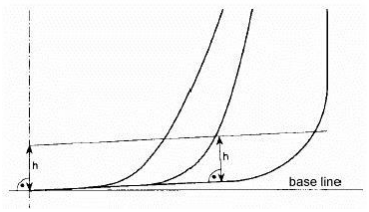


Figure 1 - Fuel oil tank boundary lines for the purpose of Subsection 6

7 For ships with a total fuel oil capacity of 600 m^3 or more but less than 5,000 m^3, the fuel oil tanks shall be located within the moulded shell of the ship at a distance not less than the distance w - as described in Figure 2 - measured from any cross section at right angles to the shell as described below:
w = 0.4 + 2.4 C/20,000 m
The minimum value of w = 1.0. For tanks with a fuel oil capacity of less than 500 m^3 the minimum value = 0.76 m.

8 For ships with a total fuel oil capacity of 5,000 m^3 or more, the fuel oil tanks shall be located within the ship's shell (moulded) at a distance not less than the distance w - as described in Figure 2 - measured at any cross section at right angles to the shell as described below:
w = 0.5 + C/20,000 m or
w = 2.0 m, whichever is smaller.
The minimum value of w = 1.0 m

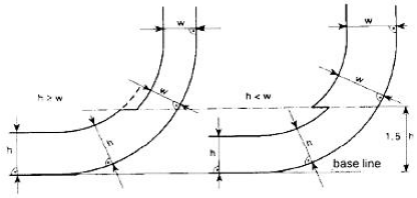


Figure 2 - Fuel oil tank boundary lines for the purpose of Subsections 7 and 8

9 Pipelines located at a distance of less than h from the bottom of the ship, as defined in Regulation 6, or at a distance of less than w from the side of the ship, as defined in Regulations 7 and 9, shall be fitted with valves or similar closing devices within or immediately to the side of the fuel oil tank. These valves shall be operable from an easily accessible enclosed space accessible from the navigating bridge or from the propulsion machinery control position without having to cross exposed decks.
The valves must close in the event of a fault in the remote control system (closed in fault condition) and must be kept closed on the open sea at all times while the tank contains fuel oil. However, it is permitted to open the valves when transferring fuel oil.

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

11 As an alternative to Subsection 6 and either Subsections 7 or 8, ships shall comply with the accidental oil discharge requirements specified below:

11.1 The level of protection against fuel oil contamination in the event of collision or grounding shall be assessed on the basis of the mean oil outflow parameter:

O_M < 0.0157-1.14E-6-C 600 $m^3 \leq C < 5{,}000\ m^3$

$O_M < 0.010\ C \geq 5{,}000\ m^3$

Where:

O_M = the average oil outflow parameter;

C = total fuel oil volume.

11.2 The following general assumptions apply when calculating the mean oil outflow parameter:

11.2.1 Ships are assumed to be loaded to partial load line draught d_p without trim or heel

11.2.2 All fuel oil tanks shall be assumed to be loaded to 98% of their volume.

11.2.3 The nominal density of fuel oil (ρ_n) shall generally be 1,000 kg/m^3. If the density of the fuel oil is specifically limited to a lower value, the lower value may be used; and

11.2.4 For the purpose of calculating oil outflow, the fillability of each tank shall be 0.99, unless otherwise approved

11.3 The following provisions apply when the oil outflow parameters are combined:

11.3.1 The average oil outflow shall be calculated independently for side damage and for bottom damage, and then combined into a dimensionless oil outflow parameter O_M, as follows:
$O_M = (0.4\ O_{MS} + 0.6\ O_{MB}) / C$

Where:

O_{MS} = average oil outflow with side damage in m^3.

O_{MB} = average oil discharge with bottom damage in m^3.

C = total amount of fuel oil.

11.3.2 For bottom damage, separate calculations shall be made for the average outflow of oil for tidal conditions at 0 m and at minus 2.5 m, which shall be combined as follows:
$O_{MB} = 0.7\ O_{MB(0)} + 0.3\ O_{MB(2.5)}$

Where:

$O_{MB(0)}$ = average oil discharge for 0 m tidal conditions, and

$O_{MB(2.5)}$ = average oil outflow for minus 2.5 m tidal conditions, in m^3.

11.4 The average oil outflow for damage in the O_{MS} side is calculated as follows:

$$O_{MB} = \sum_{1}^{n} P_{S(i)}\, OS_{(i)} \qquad [m^3]$$

Where:

i = each individual fuel oil tank taken into account;

n = the total number of fuel oil tanks;

$PS_{(i)}$ = the probability of rupture of fuel oil tank (i) in the event of side damage, calculated according to Subsection 11.6 in this Regulation;

$O_{S(i)}$ = the outflow in m^3 after side damage for fuel oil tank (i), which is assumed to be the total volume of fuel oil tank (i) at 98% filling.

11.5 The average bottom damage outflow shall be calculated for each tidal condition as follows:

$$O_{MB(0)} = \sum_{1}^{n} P_{B(i)} O_{B(i)} C_{DB(i)} \quad [m^3]$$

Where:

i = each individual fuel oil tank taken into account;

n = the total number of fuel oil tanks;

$PB_{(i)}$ = the probability of rupture of fuel oil tank (i) due to bottom damage, calculated in accordance with Subsection 11.7 of this Regulation;

$O_{B(i)}$ = the outflow in m^3 after side damage for fuel oil tank (i), calculated in accordance with Subsection 11.5.3; and

$C_{DB(i)}$= factor for oil recovery accountability as defined in Subsection 11.5.4.

$$O_{MB(2,5)} = \sum_{1}^{n} P_{B(i)} O_{B(i)} C_{DB(i)} \quad [m^3]$$

Where:

i, n, $P_{B(i)}$, $C_{DB(i)}$ are as defined in Subsection 11.5.1.

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

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

11.5.3.1 The ship shall be considered stranded, without trim or heel and with a draught before the change of tide equal to the partial load line draught d_p.

11.5.3.2 The fuel oil level after damage shall be calculated as follows:
$h_F = \{(d_P + t_C - Z_l)(\rho_S)\}/\rho_n$

where:

h_F = height of the fuel oil surface above Z_1 in metres;

t_C = tidal shift in metres. Decreasing tides shall be expressed in minus values;

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

ρ_S = density of water calculated as 1.025 kg/m^3 ; and

ρ_n = nominal density of the fuel oil, calculated in accordance with Subsection 11.2.3.

11.5.3.3 Oil outflow $O_{B(i)}$ for tanks near the bottom shell shall be calculated as not less than the following formula, and not more than the tank volume:

$O_{B(i)} = H_W : A$

where:
H_W = 1.0 m when $Y_B = 0$

$H_W = B_B/50$ but not greater than 0.4 m when Y_B is greater than $B_B/5$ or 11.5 m, whichever is less.
"H $_W$" shall be measured upwards from the flat bottom in the centre of the ship. In the area of the bilge rounding and where the bilge rounding is not clearly defined, "HW" shall be measured in a line parallel to the flat bottom of the midship, as shown for distance h in Figure 1.

For outboard Y_B values $B_B/5$ or 11.5 m, whichever is smaller, HW shall be linearly interpolated.

Y_B = the smaller value of Y_B measured along the length of the fuel oil tank, where Y_B, regardless of its location, is the transverse distance between the side shell at the waterline d_B and the tank at or below the waterline d_B.

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

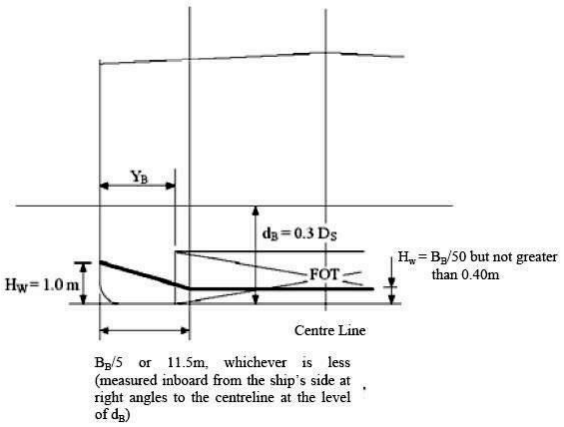


Figure 3 - dimensions for calculation of minimum oil outflow for the purpose of Subsection 11.5.3.3

11.5.3.4 In case of bottom damage, part of the outflow from a fuel oil tank may flow into a tank not designed for oil. This effect is approximated by the factor $C_{DB(i)}$ for each tank as follows:
$C_{DB(i)}$ = 0.6 for fuel oil tanks bounded from below by spaces not intended for oil storage.
$C_{DB(i)}$ = 1.0 otherwise.

11.6 The probability PS of rupture to a compartment by side damage shall be calculated as follows:

11.6.1 $P_S = P_{SL} * P_{SV} * P_{ST}$

Where:
$P_{SL} = (1 - P_{Sf} - P_{Sa})$ = the probability that the damage will extend longitudinally into the area bounded by X_a and X_f;

$P_{SV} = (1 - P_{SU} - P_{S1})$ = the probability that the damage will extend vertically into the area bounded by Z_1 and Z_U; and

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

11.6.2 P_{Sa}, P_{Sf}, P_{Su}, and P_{S1} shall be determined by linear interpolation from the side damage probability table

in Subsection 11.6.3, and P_{Sy} shall be calculated from the formulae given in Subsection 11.6.3, where:

P_{Sa} = the probability that the damage will be entirely aft for location X_a/L;

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

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

P_{Su} = probability that the damage will be entirely above the tank;

P_{Sy} = probability that the damage will be entirely outboard of the tank;

Space divisions X_a, X_f, Z_l, Z_u and y are calculated as follows:

X_a = The distance longitudinally from the sternmost point of L to the sternmost point of the compartment in question, measured in metres;

X_f = The distance longitudinally from the sternmost point of L to the foremost point of the compartment in question, measured in metres;

Z_l = The distance vertically from the baseline (moulded) to the lowest point in the space in question, measured in metres;

Z_u = The distance vertically from the baseline (moulded) to the highest point in the space in question measured in metres.

Where Z_u is greater than D_s, use D_s; and

y = The minimum horizontal distance measured perpendicular to the centre line between the space in question to the side plating measured in metres.[8)]

Where the bilge rounding, y, does not need to be taken into account when it is less than the distance h above the
baseline, where h is less than B/10, 3 m or the top of the tank.

11.6.3 Side damage probability table.

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

0.00	0.000
0.05	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

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

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

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} should be calculated as follows:

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

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

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

P_{Sy} cannot be larger than 1.

11.7 The probability P_B of rupture to a space by bottom damage shall be calculated as follows:

11.7.1 $P_B = P_{BL} * P_{BT} * P_{BV}$

Where:

$P_{BL} = (1 – P_{Bf} – P_{Ba})$ = the probability that the damage will extend longitudinally into the area limited by X_a and X_f;

$P_{BT} = (1 – P_{Bp} – P_{Bs})$ = the probability that the damage will extend transversely into the area limited by Y_p and Y_s; and

$P_{BV} = (1\text{-}P_{BZ})$ = the probability that the damage will extend vertically above the limit defined by z.

11.7.2 P_{Ba}, P_{Bf}, P_{Bp} og P_{Bs} shall be determined by linear interpolation from the probability table for bottom damage in Subsection 11.7.3, and P_{Bz} shall be calculated from the formulae given in 11.7.3 where:

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

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

P_{Bp} = the probability that the damage will be entirely port side of the tank;

P_{Bs} = probability that the damage will be entirely starboard of the tank;

P_{Bz} = probability that the damage will be entirely under the tank;

Space divisions X_a, X_f, Y_p, Y_s and z shall be calculated as follows:

X_a and X_f are as defined in Subsection 11.6.2;

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

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

z = The minimum value of z, where z is the vertical distance from the lowest point of the bottom plating to the lowest point in the space at any given location in the space.

11.7.3 Probability table for bottom damage

X_a/L	P_{Ba}	X_f/L	P_{Bf}	Y_p/B_B	P_{Bp}	Y_s/B_B	P_{Bs}

0.00	0.000
0.05	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

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

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

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} should be calculated as follows:

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

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

P_{Bz} shall not be greater than 1.

11.8 For maintenance and inspection purposes, all fuel oil tanks that are not adjacent to the shell plating shall be located no closer to the bottom shell plating than the minimum value *h* in Subsection 6 and no closer to the ship's side shell plating than the minimum value w in Subsections 7 or 8.

12 When approving drawings and constructing ships in accordance with this Regulation, Administrations shall give due consideration to general safety aspects - including the need for maintenance and inspection of side tanks, double bottom tanks and spaces.

S Regulation 13 Standard coupling

In order that the pipelines from the receiving system may be connected to the ship's pipeline for the discharge of wastewater from the machinery space bilge wells and sludge tanks, both pipes shall be provided with a standard coupling in accordance with the following table:

Standard dimensions for flanges for discharge lines	
Description	Dimension
Outer diameter	215 mm
Inside diameter	According to the outside diameter of the pipe
Bolt ring	183 mm

diameter	
Flange cut-outs	6 holes, 22 mm in diameter, placed at equal intervals on a bolt ring of the above diameter, cut to the flange circumference. The width of the cut-out must be 22 mm
Flange thickness	20 mm
Bolts and nuts	6, each 20 mm in diameter and of appropriate length

The flange shall be designed to accommodate pipes with an internal diameter up to 125 mm and shall be made of steel or other equivalent material with a smooth surface. This flange and associated gasket of oil-resistant material shall withstand a working pressure of 600 kPa.

Part B Equipment

Regulation 14 Equipment for the separation of oil and water

1 **Except as specified in Subsection 3, every ship of 400 gross tonnage and above but less than 10,000 gross tonnage shall be fitted with oil/water separation equipment in accordance with Subsection 6 of this Regulation.** Any such ship which is permitted to discharge ballast water stored in a fuel oil tank in accordance with Regulation 16.2 shall comply with the provisions of Subsection 2.

2 Except as specified in Subsection 3, every ship of 10,000 gross tonnage and above shall be fitted with water/oil separation equipment in accordance with Subsection 7.

3 Stationary ships, such as hotel ships, storage ships and similar ships, which only sail if they are to be moved without carrying cargo, are not required to be fitted with equipment for the separation of water and oil. Such ships shall have a storage tank of sufficient capacity to store all oily bilge water on board to the satisfaction of the Administration. All oily bilge water shall be stored on board for subsequent delivery to reception facilities ashore.

4 The Administration shall ensure that ships of less than 400 gross tonnage are provided, as far as practicable, with equipment for the storage of oil or oily mixtures on board or for their discharge in accordance with Regulation 15.6.
Ships of less than 400 gross tonnage shall have:

4.1 *a shore connection with a pump and an oil/water separation system and alarm equipment, if any, enabling the oily water from the machinery space bilge wells to be treated and discharged in accordance with the provisions of Regulation 15; or*

4.2 *a storage tank of at least 1 m^3 and pump and shore connection so that the oily water from the machinery space bilge wells can be stored on board for subsequent delivery to reception facilities ashore; or*

4.3 *other systems that can be approved by the Danish Maritime Authority and a shore connection with a pump.*
Ships of less than 400 gross tonnage using centrifuges or the like for the treatment of fuel and lubricating oils shall be fitted with sludge tanks in accordance with Regulation 12(1) and (2).

5 The Administration may waive the requirements of Subsections 1 and 2 for any ship,

5.1 which operates exclusively within special sea areas or Arctic sea areas; or

5.2 which is certified under the International Code for Safety of High Speed Craft (or otherwise certified under this Code in respect of size and construction) and which operates on a regular service where a round

trip does not exceed 24 hours, and which additionally covers sea voyages undertaken by such ships without carrying cargo or passengers,

5.3 The following conditions shall be fulfilled for the purposes of the provisions of Subsections 5.1 and 5.2:

5.3.1 the ship has a storage tank of sufficient capacity to store all oily bilge water on board to the satisfaction of the Administration,

5.3.2 all oily bilge water is stored on board for subsequent delivery to shore reception facilities,

5.3.3 the Administration has determined that adequate reception facilities to receive oily bilge water are available in a sufficient number of ports or terminals at which the ship calls,

5.3.4 the International Oil Pollution Prevention Certificate, when required, indicates that the ship operates exclusively within special sea areas or Arctic sea areas or that the ship has been accepted as a high-speed craft under this Regulation where the ship's route is known; and

5.3.5 the quantity of the oily mixture and the date and port of delivery are recorded in the oil logbook Part I.

6 The oil and water separation equipment referred to in Subsection 1 shall be of a design approved by the Administration and shall 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 assessing the design of such equipment, the Administration shall take into account the specification recommended by the Organisation.[9)]

7 The oil/water separation equipment referred to in Subsection 2 shall fulfil the provisions of Subsection 6. It shall also be fitted with alarm systems to indicate when this level cannot be maintained. The system shall also be fitted with a device to ensure that any discharge of oily mixtures is automatically stopped if the oil content exceeds 15 ppm. In assessing the design of such equipment and devices, the Administration shall take into account the specification recommended by the Organisation.[10)]

Part C Control of operational discharge of oil

M Regulation 15 Controlling the discharge of oil

1 Subject to the provisions of Regulation 4 and Subsections 2, 3 and 6 of this Regulation, any discharge into the sea of oil or oily mixture from ships shall be prohibited.[11)]

A Discharging outside special sea areas except in the Arctic region

2 Any discharge into the sea of oil or oily mixtures from ships of 400 gross tonnage and above is prohibited unless the following conditions are all met:

2.1 The ship must be en route.

2.2 The ship uses a filter system that fulfils the provisions of Regulation 14.

2.3 The oil content of the outflow without dilution shall not exceed 15 ppm.

2.4 Bilge water shall not originate from cargo pump rooms in oil tankers.
2.5 The bilge water from oil tankers shall not contain oil residues originating from the cargo.

B Discharges in special sea areas

3 Any discharge into the sea of oil or oily mixtures from ships of 400 gross tonnage and above is prohibited unless all the following conditions are met:

3.1 The ship must be en route.

3.2 The ship uses a filter system that fulfils the provisions of Regulation 14.7.

3.3 The oil content of the outflow without dilution shall not exceed 15 ppm.

3.4 Bilge water shall not originate from cargo pump rooms in oil tankers.

3.5 The bilge water from oil tankers shall not contain oil residues originating from the cargo.

4 No oil or oily mixture shall be discharged in the Antarctic region.

5 Nothing in this Regulation shall prevent a ship on a voyage only part of which passes through a special sea area from discharging outside the special sea area in accordance with Subsection 2.

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

Antarctic and Arctic sea areas

6 Ships of less than 400 gross tonnage shall either retain oil or oily mixtures on board for subsequent discharge into reception facilities or discharge into the sea in accordance with the following provisions:

6.1 The ship must be en route.

6.2 The ship must have installed equipment approved by the Administration which ensures that the oil content in the outflow, without being diluted, does not exceed 15 ppm.

6.3 The bilge water must not originate from cargo pump rooms in oil tankers.

6.4 The bilge water from oil tankers shall not contain oil residues originating from the cargo.

D General requirements

7 Whenever visible traces of oil are observed on or below the surface of the sea in the immediate vicinity of a ship or its wake, Governments of Convention countries should, within reasonable limits, immediately investigate the matter with a view to establishing whether this Regulation has been violated. Such investigations should pay particular attention to wind, sea and current conditions, the course and speed of the ship, whether other possible causes of the visible traces are present in the area, and relevant recorded discharges of oil.

8 No discharge into the sea shall contain chemicals or other substances in quantities or concentrations which are harmful to the marine environment or chemicals or other substances used to circumvent 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 remain on board or be discharged to reception facilities.

S Regulation 16 Separation of oil and water ballast and carriage of oil in forepeak tanks

1 Except from the provisions in Subsection 2, ballast water shall not be carried in any fuel oil tank in ships delivered after 31 December 1979, as defined in Regulation 1.28.2, of 4,000 gross tonnage and above which

are not oil tankers, or in oil tankers delivered after 31 December 1979, as defined in Regulation 1.28.2, of 150 gross tonnage and above.

2 Where the need to carry large quantities of fuel oil makes it necessary to carry ballast water which is not pure ballast in any fuel oil tank, such ballast water shall be discharged into a reception facility or into the sea in accordance with Regulation 15 using the equipment specified in Regulation 14.2. An entry shall be made in the oil logbook.

3 In a ship of 400 gross tonnage and above for which a building contract was entered into after 1 January 1982 or, in the absence of a building contract, the keel was 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 other ships shall comply with the provisions of Subsections 1 and 3 to the extent reasonable and practicable.

S Regulation 17 Oil logbook, Part I - Machinery space operations

1 Every oil tanker of 150 gross tonnage and above and every ship of 400 gross tonnage and above which is not an oil tanker shall be provided with an oil logbook, Part I (machinery space operations). The oil logbook, whether it forms part of the ship's logbook, as a separate log or as an electronic logbook, shall be approved by the Administration taking into account the guidelines developed by the Organisation,[12)] and shall be in the form specified in Appendix 3 to this Annex[13)].

2 Part I of the oil logbook shall be kept, if necessary on a tank-by-tank basis, whenever any of the following machinery space operations are carried out on the ship:

2.1 Ballasting or purging of fuel oil tanks.

2.2 Discharging dirty ballast or tank cleaning water from fuel oil tanks.

2.3 Collection and disposal of residual oil products (sludge).

2.4 Discharge overboard or otherwise dispose of bilge water from machinery spaces.

2.5 Bunkering of fuel oil or lubricating oil in bulk.

3 If any discharge of oil or oily mixture referred to in Regulation

4, or if a discharge of oil occurs as a result of an accident or other unforeseen circumstance not exempted in the said Regulation, an account of the circumstances and causes of the discharge shall be entered in the oil logbook.

4 Each operation described in Subsection 2 shall be entered immediately in Part I of the oil logbook so that all entries in the log relating to that operation are complete. Each completed operation shall be signed by the officer or officers in charge and each completed page or group of electronic entries shall be signed by the master. The entries in Part I of the oil logbook shall be made in at least English, French or Spanish for ships holding an International Oil Pollution Prevention Certificate. Where entries are also made in an official national language of the State whose flag the ship is entitled to fly, that language shall prevail in case of dispute or inconsistency.
5 Failure of the oil filtering equipment shall be recorded in Part 1 of the oil logbook.

6 Part 1 of the oil logbook shall be kept in such a place that it is readily accessible for inspection at all reasonable times and, except for unmanned ships under tow, shall be kept on board the ship. It shall be

retained for three years after the last entry.

7 The competent authority of the Government of a Convention country shall have the right to inspect the Part I oil logbook on board any ship to which this Annex applies while the ship is at any of its ports or oil terminals and to take a copy of any entry in the logbook and to require the master to certify its accuracy. Any such transcript certified by the master to be a true copy of the entry in the ship's oil logbook Part I shall be admissible in any legal proceedings as evidence of the facts stated in the entry. The inspection of Part I of the oil logbook by the competent authority and the making of a certified true copy in accordance with this Subsection shall be carried out as soon as possible and shall not cause undue delay to the ship.

8 The oil logbook shall be kept clearly and no sheet shall be torn out. What has been entered must not be erased, crossed out or otherwise rendered illegible. If it becomes necessary to make a correction in the log, the correction shall be annotated.

Section IV Requirements for cargo holds on oil tankers

Part A Construction

S Regulation 18 Segregated ballast tanks

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 tanker of 30,000 tonnes deadweight and above delivered after 1 June 1982, as defined in Regulation 1.28.4, shall have segregated ballast tanks and shall comply with Subsections 2, 3 and 4 or, if applicable, Subsection 5 of this Regulation.

2 The capacity of the segregated ballast tanks shall be such as to enable the ship to navigate safely on ballast voyages without the need to use cargo tanks for ballast, except in the cases covered by the provisions of Subsection 3 or 4. In all cases, the capacity of the segregated ballast tanks shall be at least sufficient to enable the ship's draught and trim on any part of a voyage in all ballast conditions, including conditions where only the ship's own weight and segregated ballast are taken into account, to fulfil each of the following requirements:

2.1 Draught amidships (moulded) (dm) in metres (without taking into account any deformation of the ship) shall not be less than:
$d_m = 2.0 + 0.02\ L$,

2.2 draughts at foremost and sternmost perpendiculars shall correspond to those resulting from the midship draught (d_m) specified in Subsection 2.1, in conjunction with a trim aft not exceeding 0.015 L; and

2.3 in no case shall the draught at the sternmost perpendicular be less than necessary to obtain full submergence of the propeller.

3 Ballast water shall not be carried in cargo tanks unless:

3.1 in exceptional cases in particularly severe weather conditions, the master considers it necessary to carry additional ballast water in the cargo tanks for the safety of the ship.

3.2 in exceptional cases where the particular manner in which the oil tanker is operated necessitates the carriage of ballast water in excess of the quantity specified in Subsection 2, provided that such a case falls within the exceptional cases specified by the Organisation.
Such additional ballast water shall be treated and discharged in accordance with Regulation 34. An entry shall be made in the oil logbook, Part II, referred to in Regulation 36.

4 In the case of crude oil tankers, the additional ballast permitted under Subsection 3 shall be carried in cargo tanks only if they have been purged with crude oil in accordance with Regulation 35 before departure from an oil discharge port or terminal.

5 Regardless of the provisions of Subsection 2, the ballast condition in oil tankers of less than 150 metres in length using segregated ballast tanks shall comply with the requirements laid down by the Administration.

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

6 Subject to the provisions of Subsection 7, 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 have segregated ballast tanks and shall comply with the requirements of Subsections 2 and 3.

7 Crude oil tankers referred to in Subsection 6 may, instead of being fitted with segregated ballast tanks, operate with a cargo tank cleaning method using tank cleaning with crude oil in accordance with Regulations 33 and 35, unless the crude oil tanker is intended to carry crude oil unsuitable for tank cleaning.

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

8 Every product tanker of 40,000 tonnes deadweight and above delivered on or before 1 June 1982, as defined in Regulation 1.28.3, shall have segregated ballast tanks and shall comply with the requirements of Subsections 2 and 3, or alternatively shall operate with tanks reserved for clean ballast in accordance with the following provisions:

8.1 The product tanker shall have sufficient capacity of tanks reserved for carrying only clean ballast as defined in Regulation 1.17 to fulfil the requirements of Subsections 2 and 3.

8.2 Arrangements and procedures for tanks reserved for the carriage of clean ballast shall comply with the requirements of the Administration. Such requirements shall include at least all the provisions of the "Specifications for Oil Tankers with Dedicated Clean Ballast Tanks" adopted by the International Conference on Tanker Safety and Pollution Prevention, 1978, by Resolution A. 495(XII).

8.3 The product tanker shall have an oil content gauge approved by the Administration on the basis of specifications recommended by the Organisation to ensure control of the oil content of the ballast water being discharged.[14)]

8.4 Every product tanker operating with clean ballast tanks shall have a clean ballast tank operating manual[15)] detailing the system and procedures. The manual shall fulfil the requirements established by the Administration and shall contain all the information specified in Subsection 8.2 of this Regulation. If changes are made which affect the ballast tank system, the operation manual shall be revised accordingly.

Oil tankers recognised as oil tankers with segregated ballast tanks

9 However, any oil tanker which is not required to have segregated ballast tanks in accordance with Subsections 1, 6 or 8 may be recognised as an oil tanker with segregated ballast tanks provided that it complies with the requirements of Subsections 2 and 3, or 5, as appropriate.

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

10 For oil tankers delivered on or before 1 June 1982, as defined in Regulation 1.28.3, with special ballast arrangements:

10.1 When an oil tanker, delivered on or before 1 June 1982 as defined in Regulation 1.28.3, is constructed

or operated in such a way that it complies at all times with the draught and trim requirements specified in Subsection 2 without the need to use ballast water, it shall be deemed to comply with the requirements of Subsection 6 relating to segregated ballast tanks, provided that all of the following conditions are met:

10.1.1 operational procedures and ballast arrangements are approved by the Administration,

10.1.2 agreement has been reached between the Administration and the Convention countries concerned when the draught and trim requirements are achieved by an operational method; and

10.1.3 the International Oil Pollution Prevention Certificate is endorsed to the effect that the oil tanker is operating with special ballast arrangements.

10.2 In no case shall ballast water be carried in oil tanks except on those rare voyages where weather conditions are so severe that, in the opinion of the master, it is also necessary to carry extra ballast water in cargo tanks for the safety of the ship. Such additional ballast water shall be treated and discharged in accordance with Regulation 34 and subject to the provisions of Regulations 29, 31 and 32 and shall be recorded in the required oil logbook referred to in Regulation 36.

10.3 An Administration which has endorsed a certificate in accordance with Subsection 10.1.3 of this Regulation shall submit details thereof to the Organisation for the information of Convention countries.

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

11 Oil tankers of 70,000 tonnes deadweight and above delivered after 31 December 1979, as defined in Regulation 1.28.2, shall have segregated ballast tanks and shall comply with Subsections 2, 3 and 4 or 5, as appropriate.

Protective location of segregated ballast tanks

12 In every crude oil tanker of 20,000 tons deadweight and upwards and in every product tanker of 30,000 tons deadweight and upwards, delivered after 1 June 1982, as defined in Regulation 1.28.4, - except those tankers complying with the requirements of Regulation 19 - the separate ballast tanks necessary to meet the capacity requirements of Subsection 2 and which are located in the cargo tank compartment shall be arranged in accordance with the requirements of Subsections 13, 14 and 15, to provide some degree of protection against oil discharge in the event of grounding or collision.

13 Segregated ballast tanks and spaces other than oil tanks in the cargo tank section (L_t) shall be so arranged as to fulfil the following requirements:

$$\Sigma PA_C + \Sigma PA_S \geq J[L_t(B + 2D)]$$

where PA_c = the side shell area in square metres for each segregated ballast tank or non-oil tank space based on projected dimensions of the bulkhead (moulded)

PA_s = the floor area in square metres for each such tank or space based on projected dimensions on frames (moulded)

L_t = the length in metres between the fore and aft extremities of the cargo tanks

B = maximum width of the ship in metres as defined in Regulation 1.22;

D = the side height in metres vertically from the upper edge of the keel to the upper edge of the freeboard deck beam measured amidships. In ships with rounded mouldings, the side height is measured to the

intersection of the deck and side plating construction lines, extending these as if the moulding were a right angle
J = 0.45 for oil tankers of 20,000 tonnes and a deadweight of 0.30 for oil tankers of 200,000 tonnes deadweight and above, subject to the provisions of Subsection 14 of this Regulation.
For intermediate values of deadweight, "J" shall be determined by linear interpolation.
Whenever the symbols used in this Regulation are used, they shall have the meaning defined in this Subsection.

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

$$J_{nedsat} = \left(J - \left(a - \frac{Oc + Os}{4\ Oa}\right)\right) \text{eller } 0{,}2, \text{ hvis denne er større}$$

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 deadweight values, the value of 'a' is determined by linear interpolation

O_c = as defined in Regulation 25.1.1

O_s = as defined in Regulation 25.1.2

O_a = the permissible oil discharge as prescribed in Regulation 26.2.

15 In determining "PA_c" and "PA_s" for segregated ballast tanks and spaces other than oil tanks, the following shall apply:

15.1) The minimum width of each side tank extending the full height of the ship's side or from the deck to the upper edge of the double bottom shall not be less than 2 metres. The width shall be measured inboard from the ship's side at a right angle to the centreline. Where there is a smaller width, the side tank shall not be taken into account when calculating the protective area 'PA_c'

15.2) the minimum vertical depth of each double bottom tank shall be the lesser of B/15 or 2 metres. Where there is a smaller depth, the bottom tank shall not be taken into account when calculating the protective area 'PA_s'.
The minimum width and depth of side tanks and double bottom tanks shall be measured clear of the bilge and, in the case of the minimum width, clear of any rounded deck corner.

S Regulation 19 Requirements for double-hull oil tankers delivered on or after 6 June 1996 [16)]

1 This Regulation applies to oil tankers of 600 tonnes deadweight and above delivered on or after 6 July 1996 as defined in Regulation 1.28.6:

2 Every oil tanker of 5,000 tonnes deadweight and above shall:

2.1 instead of Regulations 18.12 to 18.15, comply with the provisions of Subsection 3 of this Regulation unless it is subject to the provisions of Subsections 4 and 5; and
2.2 comply with the provisions of Regulation 28.6 if it is covered.

3 The entire length of the cargo tank shall be protected by ballast tanks or by tanks other than cargo and fuel

oil tanks as follows:

3.1 Wing tanks
Wing tanks shall either extend over the full side height of the ship or from the top of the bottom tanks to the upper deck, regardless of whether the ship is designed with a rounded deck corner. They shall be so arranged that the cargo tanks are located within the side plating at a distance (moulded) nowhere less than the distance w, measured at a right angle to the side plating as shown in Figure 1, as specified below:
The smaller of the following two values:

$$w = 0{,}5 + \frac{DW}{20.000} \text{ meter, eller}$$

w = 2.0 metres

The smaller value of w = 1.0 metre

3.2 Double bottom tanks
In any cross section, the height of each double bottom tank shall be such that the distance between the bottom of the cargo tank and the bottom plate (moulded) measured at a right angle to the bottom plate, as shown in Figure 1, is not less than the distance h, as specified below:

The smaller of the following two values:

h = B/15 (metres) or

h = 2.0 metres

The smaller value for h = 1.0 metre

3.3 The area of the radius or areas where the radius is not clearly defined
When the distances h and w are different, the distance w must be used at heights exceeding 1.5 metres above the baseline, as shown in Figure 1.

3.4 Total capacity of the ballast tanks
In crude oil tankers of 20,000 tonnes deadweight and above and in product carriers of 30,000 tonnes deadweight and above, the total ballast capacity of wing tanks, double bottom tanks, fore and aft peak tanks shall not be less than the capacity of tanks reserved for ballast only as prescribed in Regulation 18. Wing tanks and double bottom tanks used in complying with the provisions of Regulation 18 shall be arranged as uniformly as practicable throughout the length of the cargo tanks. Additional clean ballast tanks used to minimise bending loads on longitudinal stiffeners, trim, etc., may be placed anywhere in the ship.

3.5 Suction wells in cargo tanks
Suction wells in cargo tanks may be immersed in the double bottom tank below the boundary line, as defined as distance h, provided that such wells are as small as practicable and that the distance between the bottom of the well and the bottom plate is not less than 0.5 h.

3.6 Ballast and cargo oil pipes
Ballast pipes and other pipes, such as sounding and air pipes for ballast tanks, must not be routed through cargo tanks. Cargo oil pipes and similar pipes for cargo tanks must not be routed through ballast tanks. Exceptions to these provisions may be permitted for short pipe lengths, provided that the pipes are fully welded or equivalent.

4 The following applies to double bottom tanks:

4.1 Double bottom tanks as prescribed in Subsection 3.2 may be dispensed with, provided that the design of the oil tanker is such that the column and vapour pressure of the cargo oil on the ship's bottom plate, which is the only separation between the cargo tanks and the sea, does not exceed the external hydrostatic water pressure expressed by the following formula:

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

where:

h_c = column height of the cargo oil above the ship's bottom plate

ρ_c = maximum density of the cargo oil in t/m^3

d_n = the minimum draught under any expected cargo condition

ρ_s = density of seawater in t/m^3

p = maximum set pressure above atmospheric pressure (gauge pressure) of the pressure relief valve/vacuum valve for the

cargo tank expressed in pascals.

f = safety factor = 1.1

g = standard gravity (9.81 m/s^2)

4.2 Any horizontal division of the cargo tanks, for the purpose of meeting the above requirements, shall be inserted at a height of at least B/6 or 6 metres, whichever is less, but not more than 0.6 D above the baseline, where D is the measured depth amidships.

4.3 The wing tanks shall be arranged as defined in Subsection 3.1, except that below a height of 1.5 h above the baseline, where h is defined in Subsection 3.2, the cargo tank boundary may extend vertically down to the bottom plate as shown in Figure 2.

5 Other forms of tanker constructions may be permitted as alternatives to the Regulations in Subsection 3, provided that
such designs ensure at least the same level of protection against oil pollution in the event of collision or grounding and that they are approved in principle by the MEPC on the basis of guidelines developed by the Organisation.[17)]

6 Oil tankers of less than 5,000 tonnes deadweight shall comply with Subsections 3 and 4, or shall:

6.1 at least be fitted with double bottom tanks of a height h as prescribed in Subsection 3.2, which fulfil the following:
h = B/15 (metres)
The minimum value of h = 0.76 metres;
In the area of the bilge rounding and areas without a clearly defined bilge rounding, the boundary line of the cargo tanks shall be parallel to the centreline of the flat bottom as shown in Figure 3.

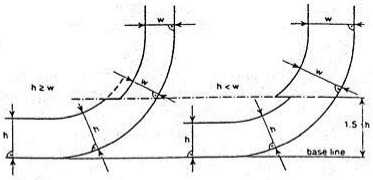
6.2 be fitted with cargo tanks arranged so that the capacity does not exceed 700 m^3 for each tank, unless the wing tanks are arranged in accordance with Subsection 3.1 and fulfil the following:

$$w = 0{,}4 + \frac{2{,}4\,DW}{20.000}\ (\text{meter})$$

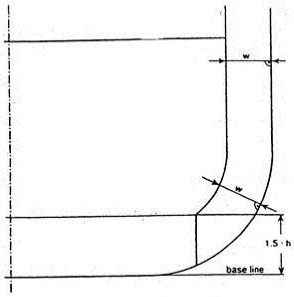
The minimum value of w = 0.76 metres

7 Oil shall not be carried in any tank extending forward of a collision bulkhead fitted in accordance with the requirements of Regulation II-1/11 of the International Convention for Safety at Sea, 1974, as amended.[18)] An oil tanker on which a collision bulkhead is not required by the said regulation shall not carry oil in any tank which extends forward of the plane perpendicular to the centreline where the collision bulkhead should have been fitted in accordance with the said Regulation.

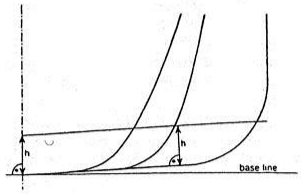
8 In approving tanker designs under these Regulations, the Administrations shall give due consideration to the overall safety aspect, including the need for maintenance and inspection of wing and double bottom tanks.



Figur 1 - Lasttankenes grænselinier jf. stk. 3



Figur 2 - Lasttankenes grænselinier jf. stk. 4



Figur 3 - Lasttankenes grænselinier jf. stk. 6

S Regulation 20 Requirements for double-hull oil tankers delivered before 6 July 1996

1 This Regulation, unless expressly stated otherwise,

1.1 applies to oil tankers of 5,000 tonnes deadweight and above delivered before 6 July 1996, as defined in Regulation 1.28.5; and

1.2 does not apply to oil tankers complying with the provisions of Regulations 19 and 28 in the form of Regulation 28.6 delivered before 6 July 1996, as defined in Regulation 1.28.5; and

1.3 shall not apply to oil tankers to which Subsection 1.1 applies and which comply with Regulations 19.3.1 and 19.3.2, or 19.4, or 19.5, except for the requirement for the distance between cargo tanks and the ship's side and between cargo tanks and the bottom plating. In such cases, the distance to the side shall not be less than that specified in the International Bulk Chemical Code (IBC Code) for Type 2 tank arrangements, and

the distance to the bottom at the centre line shall comply with the provisions of Regulation 18.15.2.

2 In this Regulation

2.1 "Heavy diesel oil" refers to diesel oils other than those distillates in which more than 50% by volume is distilled at a temperature not exceeding 340°C according to a test method accepted by the Organisation;[19)]

2.2 "Fuel oil" refers to heavy distillates or distillate residues from crude oil or mixtures of such products intended for heat and power generation and of a quality corresponding to the specifications accepted by the Organisation.[20)]

3 For the purpose of this Regulation, oil tankers are divided into the following categories:

3.1 "Category 1 oil tanker" is an oil tanker of 20,000 tonnes deadweight and above carrying crude oil, fuel oil, heavy diesel oil or lubricating oil as cargo, or of 30,000 tonnes deadweight and above, carrying oil other than the above types of oil as cargo, which does not comply with the requirements for oil tankers delivered after 1 June 1982 as defined in Regulation 1.28.4;

3.2 "Category 2 oil tanker" is an oil tanker of 20,000 tonnes deadweight and above carrying crude oil, fuel oil, heavy diesel oil or lubricating oil as cargo, or of 30,000 tonnes deadweight and above, carrying oil other than the above types of oil as cargo, which meets the requirements for oil tankers delivered after 1 June 1982 as defined in Regulation 1.28.4;

3.3 "Category 3 oil tanker" is an oil tanker of 5,000 tonnes deadweight and above but below the deadweight specified in Subsection 3.1 or 3.2.

4 An oil tanker to which this Regulation applies shall comply with the requirements of Regulations 19.2 to 19.5, 19.7 and 19.8 and Regulation 28 in the form of Regulation 28.6, not later than 5 April 2005 or the anniversary of the date of delivery of the ship in the year specified in the following table:

Category of oil tanker	**Date or year**
Category 1	2005, 5 April, for ships delivered 5 April 1982 or earlier 2005 for ships delivered after 5 April 1982
Category 2 and Category 3	2005, 5 April, for ships delivered 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

5 Regardless of the provisions of Subsection 4, the Administration may allow a Category 2 or 3 oil tankers constructed with only double bottoms or double sides not carrying oil and extending the full length of the cargo space or with double hulls not carrying oil and extending the full length of the cargo hold, but which does not fulfil the conditions for exemption from the provisions of Subsection 1.3, shall continue to operate after the date specified in Subsection 4, provided that:

5.1 the ship was in service on 1 July 2001; and

5.2 it is demonstrated to the satisfaction of the Administration that the ship fulfils the above requirements;

5.3 the above conditions of the ship remain unchanged; and

5.4 such continued operation does not take place after the date on which the ship is 25 years old from its date of delivery.

6 A Category 2 or 3 oil tanker aged 15 or more after the date of delivery shall comply with the provisions of the Condition Assessment Scheme (CAS) adopted by MEPC Resolution 94(46), including the amendments adopted and put into effect in accordance with Article 16 of the MARPOL Convention on amendment procedures for amendments to the Annex.

7 The Administration may allow a Category 2 or 3 oil tanker to continue to operate beyond the dates specified in Subsection 4, provided that the Condition Assessment Survey (CAS) shows a satisfactory result in the opinion of the Administration and provided that such operation does not take place after the anniversary of the date of delivery of the ship in 2015 or after the 25th anniversary of the date of delivery of the ship, whichever is the earliest.

8.1 When the Administration of a State allows a ship entitled to fly its flag to apply Subsection 5 or allows, suspends, revokes or denies the application of Subsection 7, it shall forthwith thereafter communicate this information to the Organisation for the information of Convention countries.

8.2 Convention countries are entitled to refuse access to ports or offshore terminals under their jurisdiction to oil tankers operating in accordance with the provisions of

8.2.1 Subsection 5, after the anniversary of the date of delivery of the ship in 2015; or

8.2.2 Subsection 7
In such cases, the country concerned shall communicate this information to the Organisation for the further information of the Convention countries.

S Regulation 21 Prevention of oil pollution from tankers carrying heavy grades of oil

1 This Regulation:

1.1 applies to oil tankers of 600 deadweight and above which are loaded with heavy grades of oil irrespective of the date of delivery; and

1.2 does not apply to oil tankers to which Subsection 1.1 applies, which comply with Regulations 19.3.1 and 19.3.2 or 19.4, or 19.5, except for the requirement for the distance between cargo tanks and the ship's side and between cargo tanks and the bottom plate. In such cases, the distance to the side shall not be less than that specified in the International Bulk Chemical Code (IBC Code) for Type 2 tank arrangements, and the distance to the bottom shall comply with the provisions of Regulation 18.15.2.

2 In this Regulation, "heavy oil" means:

2.1 crude oil with a density of more than 900 kg/m^3 at 15°C;

2.2 fuel oil, other than crude oil, having either a density exceeding 900 kg/m^3 at 15°C or a kinematic viscosity exceeding 180 mm^2/s at 50°C;

2.3 Bitumen, tar and emulsions thereof.

3 Oil tankers to which this Regulation applies shall, in addition to complying with the provisions of Subsections 4 to 8, also comply with the relevant provisions of Regulation 20.
4 Oil tankers to which this Regulation applies shall, subject to the provisions of Subsections 5, 6 and 7:

4.1 if the deadweight is 5,000 tonnes or more, comply with the requirements of Regulation 19, not later than 5 April 2005; or

4.2 if the deadweight is 600 tonnes or more but less than 5,000 tonnes, be fitted with double bottom tanks in accordance with the provisions of Regulation 19.6.1 and wing tanks arranged in accordance with Regulation 19.3.1 and in accordance with the distance w requirement referred to in Regulation 19.6.2, not later than the anniversary date of the delivery of the ship in 2008.

5 For oil tankers of 5000 tonnes deadweight and above carrying heavy grades of oil, constructed with double bottoms or double sides not used for the carriage of oil and extending the full length of the cargo hold, or with double hulls not used for the carriage of oil and extending the full length of the cargo hold, but which do not fulfil the conditions to be exempted from the provisions of Subsection 1.2, the Administration may authorise such ships to continue to operate after the date specified in Subsection 4, provided that:

5.1 the ship was in service on 4 December 2003;

5.2 it is demonstrated to the satisfaction of the Administration that the ship fulfils the above requirements;

5.3 the above conditions of the ship remain unchanged; and

5.4 such continued operation does not take place after the date on which the ship is 25 years old from its date of delivery.

6.1 The Administration may permit an oil tanker of 5,000 tonnes deadweight and above carrying crude oil of a density at 15°C of more than 900 kg/m^3 but less than 945 kg/$m^{3,}$ to continue to operate after the date specified in Subsection 4.1, provided that the Condition Assessment Survey (CAS) referred to in Regulation 20.6 shows, in the opinion of the Administration, a satisfactory result taking into account the size, age, area of operation and construction of the ship and provided that such operation does not take place after the ship's 25-year delivery date.

6.2 The Administration may allow an oil tanker of 600 tonnes deadweight and above but less than 5,000 tonnes carrying heavy grades of oil to continue to operate after the date specified in Subsection 4.2, provided that, in the opinion of the Administration, the ship is fit for such service having regard to the size, age, area of operation and construction of the ship and provided that such service does not take place after the ship's 25-year delivery date.

7 An oil tanker of 600 tonnes deadweight or more carrying heavy oil may be exempted by the Administration from the provisions of this Regulation, if the oil tanker:

7.1 either operates only in an area under its own jurisdiction or acts as a floating storage facility for heavy fuel oil in an area under its own jurisdiction; or

7.2 either operates only in an area under the jurisdiction of another Convention country or operates as a floating storage facility for heavy grades of oil in an area under the jurisdiction of another Convention country, provided that the Convention country under whose jurisdiction the oil tanker is operating accepts such operation.

8.1 When the Administration of a Convention country allows, suspends, revokes or declines the application of Regulations 5, 6 or 7 to a ship flying its flag, it shall immediately communicate information thereon to the Organisation for the information of Convention countries.

8.2 Convention countries are entitled, in accordance with the provisions of international law, to refuse to allow oil tankers operating under the provisions of Regulations 21.5 or 21.6 to enter ports or offshore

terminals under their jurisdiction or to refuse the transfer of heavy grades of oil between ships in areas under their jurisdiction, except when necessary for the safety of a ship or for saving lives at sea. In such cases, the Convention country shall transmit information thereon to the Organisation for the information of Convention countries.

S Regulation 22 Protection of pump-room bottoms

1 This Regulation applies to oil tankers of 5,000 tonnes deadweight and above built on or after 1 January 2007.

2 Pump rooms shall be provided with a double bottom so that in any cross section of the double bottom tank, there is a distance h between the bottom of the pump room and the ship's baseline, measured perpendicular to the ship's baseline, which is not less than:

h = B/15(m) or

h = 2 m, whichever is less.

The smaller value of h = 1 m.

3 In cases where the bottom plating in pump rooms is located above the baseline by at least the height required in Subsection 2, no double bottom will be required in pump rooms.

4 Ballast pumps shall be so arranged as to ensure effective suction from double bottom tanks.

5 Regardless of the provisions of Subsections 2 and 3, double bottoms are not required where water filling of the pump room will not result in the inoperability of the ballast or cargo pump system.

S Regulation 23 Oil spillage in the event of an accident

(Oil tankers delivered on or after 1 January 2010)

1 This Regulation applies to oil tankers delivered on or after 1 January 2010 as defined in Regulation 1.28.8.

2 For the purpose of this Regulation:

2.1 "Load line draught (d_S)" is the vertical distance measured in metres (moulded) from the baseline amidships to the summer load line. Calculations using this Regulation are based on draught d_S regardless of the fact that the assigned draught is greater, such as the tropical load line.

2.2 "Waterline (d_B)" is the vertical distance measured in metres (moulded) from the baseline amidships to the waterline corresponding to 30% of the draught D_S.

2.3 "Beam (B_S)" is the maximum breadth of the ship measured in metres (moulded) at or below the deepest load line d_S.

2.4 "Beam (B_B)" is the maximum breadth of the ship measured in metres (moulded) at or below the waterline d_B.

2.5 "Depth (D_S)" is the depth measured in metres (moulded) amidships to the upper deck.

2.6 "Length (L)" and "deadweight (D_W)" 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:

3.1 For oil tankers of 5,000 tonnes deadweight (DWT) and above, the average oil discharge parameter shall fulfil:

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

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

For combination vessels between 5,000 deadweight tonnes (DWT) and a cargo capacity of 200,000 m^3, the average oil discharge parameter given below may be used, provided that calculations acceptable to the Administration have been submitted showing that the ship, taking into account its increased structural strength, has an oil discharge at least equivalent to a standard double hull oil tanker of the same size, where OM ≤ 0.015.

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

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

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

where

O_M = average oil discharge parameter

C = total amount of cargo oil in m^3 at 98% tank filling

3.2 For oil tankers of less than 5,000 deadweight tonnes (DWT), the length of each cargo tank shall not exceed 10 metres or one of the following values, whichever is greater:

3.2.1 where there are no longitudinal bulkheads in the cargo tanks:
$(0.5\ b_i/B + 0.1)L$ but not more than 0.2 L

3.2.2 where there is a centre bulkhead in the cargo tanks:
$(0.25\ b_i/B + 0.15)L$

3.2.3 where there are two or more longitudinal bulkheads in the cargo tanks:

3.2.3.1 for side tanks: 0.2 L

3.2.3.2 for centre tanks:

3.2.3.2.1 if $b_i/B \geq 0.2)L$: 0.2 L

3.2.3.2.2 if $b_i/B < 0.2)L$:
- where there is no centre bulkhead:
$(0.5\ b_i/B + 0.1)L$
- where there is a centre bulkhead:
$(0.25\ b_i/B + 0.15)L$

3.2.4 b_i is the minimum distance from the ship's side to the outer longitudinal bulkhead of the tank, measured

from the ship's side perpendicular to the centre line at a height corresponding to the assigned summer freeboard.

4 The following general assumptions apply when calculating the average oil discharge parameter:

4.1 The cargo section extends between the foremost and sternmost limits of all tanks designed for oil transport, including slop tanks.

4.2 Cargo tanks in this Regulation are all cargo tanks, slop tanks and fuel oil tanks located within the cargo section.

4.3 Ships are assumed to be loaded to the load line draught ds without list or heel.

4.4 All oil cargo tanks shall be assumed to be loaded to 98% of the volume of their loading capacity. The nominal density of the cargo oil (ρ_n) shall be calculated as:
(ρ_n) = 1000 (DWT)/C(kg/m^3)

4.5 For the purpose of calculating oil discharge, the fillability of each compartment within the cargo section, including cargo tanks, ballast tanks and other compartments where oil is not stored, shall be 0.99, unless otherwise approved.

4.6 Suction wells may be omitted when determining tank location, provided that the suction wells are as small as practicable and that the distance between the bottom of the well and the bottom shell is not less than 0.5 h, where h is the height defined in Regulation 19.3.2.

5 The following provisions apply when the oil discharge parameters are combined:

5.1 The average oil discharge parameter shall be calculated independently for side damage and for bottom damage and then combined into a dimensionless oil discharge parameter OM as follows:

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

where:

O_{MS} = average oil discharge with side damage in m^3, and

O_{MB} = average oil discharge with bottom damage in m^3.

5.2 For bottom damage, separate calculations shall be made for the average oil discharge for tidal conditions of 0 m and minus 2.5 m to be combined as follows:

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

where:

$O_{MB(0)}$ = average oil discharge for 0 m tidal conditions, and

$O_{MB(2.5)}$ = average oil discharge for minus 2.5 m tidal conditions, in m^3.

6 The average oil discharge for side damage, OMS, is calculated as follows:

$$O_{MS} = C_3 \sum_{i}^{n} P_{s(i)} O_{s(i)} \qquad (m^3)$$

where:

i = the cargo tank being considered;

n = the total number of cargo tanks;

$P_{s(i)}$ = the probability of failure of cargo tank (i) in the event of side damage, calculated according to Regulation 23.8.1;
$O_{s(i)}$ = the discharge in m^3 after side damage for cargo tank (i), which is assumed to be the total density of cargo tank (i) at 98% filling, unless it is proved by applying the guidelines referred to in Regulation 19.5, it is proved that any significant cargo volume will remain in the tank.

C_3 = 0.77 for ships with two longitudinal bulkheads in the cargo tanks, provided that these bulkheads extend over the entire cargo section and that $P_{s(i)}$ is calculated in accordance with this Regulation. C_3 is 1.0 for all other ships and where $P_{s(i)}$ is calculated in accordance with Subsection 10.

7 The average bottom damage discharge shall be calculated for each tidal condition as follows:

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

i = the cargo tank being considered;

n = the total number of cargo tanks

$P_{B(i)}$ = the probability of rupture of cargo tank (i) in case of bottom damage, calculated in accordance with Subsection 9.1;

$O_{B(i)}$ = the discharge in m^3 from cargo tank (i), calculated in accordance with Subsection 7.3.

$C_{DB(i)}$ = factor for oil recovery accountability as defined in 23.7.4.

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

where:

i, n, $P_{B(i)}$ and $C_{DB(i)}$ are as defined in Subsection 7.1;

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

7.3 The oil discharge $O_{B(i)}$ for each cargo oil tank shall be calculated based on the principles of pressure balance in accordance with the following assumptions:

7.3.1 The ship shall be considered stranded, without trim or heel and with a draught before the change of tide equal to the load line draught d_s.

7.3.2 The load level after damage shall be calculated as follows:

$$h_c = \{(d_s + t_c - Z_l)(\rho_s) - (1000\ p) / g\}/\rho$$

where:

h_c = height of cargo oil above Z_l in metres;

t_c = tidal shift in metres. Decreasing tides must be expressed with minus values;

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

ρ_s = density of water calculated as 1.025 kg/m^3;

p = if an inert gas system is installed, the normal overpressure measured in kPa shall not be less than 5 kPa; if no inert gas system is installed, the overpressure can be set to 0.

g = acceleration due to gravity calculated as 9.81 m/s^2
ρ_n = nominal density of the cargo oil, calculated in accordance with Subsection 4.4.

7.3.3 Unless otherwise approved, the oil discharge $O_{B(i)}$ for cargo tanks limited by the bottom cladding shall be assumed to be at least 1% of the total load volume of the tank (i) to account for losses caused by currents and waves.

7.4 In case of bottom damage, part of the discharge from a cargo tank may flow into a tank not intended for oil. This effect is approximated by the factor $C_{DB(i)}$ for each tank as follows:
$C_{DB(i)}$ = 0.6 for cargo tanks bounded from below by spaces not intended for oil storage.
$C_{DB(i)}$ = 1.0 for cargo tanks that are limited by the bottom cladding.

8 Probability P s of rupture to a space by side damage must be calculated as follows:

8.1 $P_S = P_{SL}\, P_{SV}\, P_{ST}$

where:
$P_{SL} = 1 - P_{Sf}\, P_{Sa}$ = the probability that the damage will extend longitudinally into the area limited by X_a and X_f;

$P_{SV} = 1 - P_{Su}\, P_{Sl}$ = the probability that the damage will extend vertically into the area bounded by Z_l and

Z_u; and

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

8.2 P_{Sa}, P_{Sf}, P_{Sl}, P_{Su} and P_{Sy} shall be determined by linear interpolation from the lateral damage probability table in Subsection 8.3, where:

P_{Sa} = the probability that the damage will be entirely aft for location X_a/L;

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

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

P_{Su} = probability that the damage will be entirely above the tank;

P_{Sy} = probability that the damage will be entirely outboard of the tank;

Space divisions X_a, X_f, Z_l, Z_u and y are calculated as follows:

X_a = The distance longitudinally from the sternmost point of L to the sternmost point of the compartment in question, measured in metres;

X_f = The distance longitudinally from the sternmost point of L to the foremost point of the compartment in question, measured in metres;

Z_l = The distance vertically from the baseline (moulded) to the lowest point in that space measured in metres;

Z_u = The distance vertically from the baseline (moulded) to the highest point in the space in question measured in metres.

Z_u must not be greater than D_s; and
y = The minimum horizontal distance measured at right angles to the centre line between the spaces in question to the side cladding, measured in metres.[21)]

8.3 Side damage probability table

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

P_{Sy} should be calculated as follows:

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

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

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

P_{Sy} must not be greater than 1.

9 The probability P_B of rupture to a space by bottom damage must be calculated as follows:

9.1 $P_B = P_{BL}\ P_{BT}\ P_{BV}$

where:
$P_{BL} = 1 - P_{Bf} P_{Ba}$ = probability that the damage will extend longitudinally into the area bounded by X_a and X_f;

$P_{BT} = 1 - P_{Bu} P_{Bs}$ = the probability that the damage will extend transversely into the area bounded by Y_p and Y_s; and

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

9.2 P_{Ba}, P_{Bf}, P_{Bp}, P_{Bs} og P_{Bz} shall be determined by linear interpolation from the probability table for bottom damage in Subsection 9.3, where:

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

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

P_{Bp} = the probability that the damage will be entirely port side of the tank;

P_{Bs} = probability that the damage will be entirely starboard of the tank;

P_{Bz} = probability that the damage will be entirely under the tank;

Space divisions X_a, X_f, Y_p, Y_s and z are calculated as follows:

X_a and X_f are as defined in Subsection 8.2;

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

Y_s = The transverse distance from the most starboard point in the space located at or below the waterline d_B, to a vertical plane located $B_B/2$ starboard of the ship's centre line, measured in metres; and

z = The minimum value of z, where z is the vertical distance from the lowest point of the floor covering to the lowest point in the space at any given location in the space, measured in metres.

9.3 Probability table for bottom damage

X_a/L	P_{Ba}	X_f/L	P_{Bf}	Y_p/B_B	P_{Bp}	Y_s/B_B	P_{Bs}

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

P_{Bz} should be calculated as follows:

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

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

P_{Bz} shall not be greater than 1.

10 This Regulation employs a simplified probabilistic approach, where the contributions to the average oil discharge from each cargo tank are added together. More accurate calculations can be performed for certain types of construction characterised by steps and recesses in bulkheads or on deck, and types with inclined bulkheads or significantly curved hull surfaces. In such cases, one of the following calculation procedures can be used:

10.1 The probabilities in Subsections 8 and 9 above can be calculated with greater precision by using hypothetical subdivision of spaces.[22)]

10.2 The probabilities in Subsections 8 and 9 above can be calculated by direct application of the probabilities for the density functions contained in the guidelines referred to in Regulation 19.5.

10.3 Oil discharge may be assessed in accordance with the method described in the guidelines referred to in Regulation 19.5.

11 The following provisions concerning pipework shall be complied with:

11.1 Pipes passing through cargo tanks at a distance from the ship's side less than 0.30 B_s or at a distance from the ship's bottom less than 0.30 D_s shall be fitted with valves or similar closing mechanisms at the point where they enter a cargo tank. These valves shall remain closed at sea when the tanks contain oil, except for cargo transfer during essential cargo operations.

11.2 Where oil spillage is reduced by the use of cargo transfer systems or other systems capable of reducing oil spillage in the event of an accident, consideration may be given only after the effectiveness and safety aspects of the system have been approved by the Organisation. Submission for approval shall be in accordance with the provisions referred to in Regulation 19.5.

S Regulation 24 Accident assumptions

1 For the purpose of calculating the hypothetical oil discharge from oil tankers in accordance with Regulations 25 and 26, the three dimensions of the extent of damage to the sides and bottom of the ship shall be assumed as given below. For bottom damage, two conditions are given, which shall be applied separately to the listed sections of the oil tanker.

1.1 Damage to the side of the ship:

1) Langskibs udstrækning (l_c):	den mindste af følgende to værdier: $\frac{1}{3}L^{\frac{2}{3}}$ eller 14,5 meter
2) Tværskibs udstrækning (t_c) (indefter fra skibssiden vinkelret på centerlinjen i den højde, der svarer til det tildelte sommerfribord):	den mindste af følgende to værdier: $\frac{B}{5}$ eller 11,5 meter
3) Lodret udstrækning (v_c):	fra basislinjen opefter uden begrænsning

1.2 Damage to the bottom of the ship:

Indtil 0,3 L fra skibets forreste perpendikulær	Enhver anden del af skibet
1) Langskibs udstrækning:	
(l_s): $\frac{L}{10}$	Den mindste af følgende to værdier: $\frac{L}{10}$ eller 5 meter
2) Tværskibs udstrækning (t_s):	
Den mindste af følgende værdier: $\frac{B}{6}$ eller 10 meter dog ikke under 5 meter	5 meter
3) Lodret udstrækning fra basislinjen (v_s):	
Den mindste af følgende to værdier: $\frac{B}{15}$ eller 6 meter	Den mindste af følgende to værdier: $\frac{B}{15}$ eller 6 meter

2 Wherever in this Annex symbols appear which are used in this Regulation, they shall have the meaning defined herein.

S Regulation 25 Hypothetical oil discharge

Oil tankers delivered before 1 January 2010
1 The hypothetical oil discharge in case of damage to the ship's side (O_c) and damage to the ship's bottom (O_s, shall be calculated in accordance with the following formulae in respect of spaces with leakage caused

by damage at all conceivable points throughout the length of the ship to the extent defined in Regulation 24.

1.1 for damage on the ship's side:

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

1.2 for damage to the bottom of the ship:

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

where:
W_i = the volume in m^3 of a side tank assumed to be damaged in an accident as specified in Regulation 24; Wi for a segregated ballast tank may be set equal to zero.

C_i = the volume in m^3 of a centre tank assumed to be damaged in an accident as specified in Regulation 24; C_i for a segregated ballast tank may be set to zero.

$K_i = 1 - \frac{b_i}{t_c}$ Såfremt $b_i \geq t_c$ sættes $K_i = 0$

$Z_i = 1 - \frac{h_i}{v_s}$ Såfremt $h_i \geq v_s$ sættes $Z_i = 0$

b_i = the width in metres of the side tanks concerned, measured inwards from the ship's side at right angles to the centreline at the height corresponding to the assigned summer freeboard.

h_i = the minimum depth in metres of the double bottom concerned; where there is no double bottom, hi shall be zero.

When the symbols mentioned in this Section appear in this Subsection, they have the meaning defined in this Regulation.

2 If a void space or separate ballast tank of a length less than l_c as defined in Regulation 24 is fitted between wing oil tanks, O_c in formula (I) may be calculated based on volume W_i, which is the actual volume of one of these tanks (where they have equal volumes) or (where they have different volumes) of the smaller of the two tanks adjacent to such a space, multiplied by S_i as defined below, taking for all other wing tanks affected by such a collision the value of the actual full extent:

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

Where l_i = length in metres of the void or segregated ballast tank concerned.

3.1 Favour may only be given for double bottom tanks which are either empty or carrying clean water when cargo is carried in the overlying tanks.

3.2 If the double bottom does not extend the full length and width of the tank in question, the double bottom is considered non-existent, and the volume of the tanks above the failed part of the bottom shall be included in formula (II), even if the tank is not considered to be breached because such a partial double bottom is incorporated.

3.3 Suction wells may be disregarded in determining the value hi, provided that the area of such wells is not unusually large and provided that they extend only a minimum distance below the tank and in no case more than half the height of the double bottom. If the depth of such a well exceeds one-half the height of the double bottom, the hi shall be set equal to the height of the double bottom minus the well height.
Pipelines serving such wells, if installed within the double bottom, shall be fitted with valves for other shut-

off devices located at the point of connection to the tank being served to prevent the escape of oil in case of a failure of the pipework. Such pipelines shall be installed as high as possible above the bottom plating. These valves shall, when the ship is at sea, always be kept closed when the tank contains oil cargo, except that they shall only be opened for the transfer of cargo when necessary to trim the ship.

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

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

5 As a means of limiting the escape of oil in the event of damage to the bottom, an Administration may favour an on-board cargo transfer system, which has a high level emergency suction point in each oil tank which suction point in each oil tank and which can transfer cargo from a leaking tank or leaking tanks to segregated ballast tanks or to available cargo tanks, if it can be demonstrated that such tanks have sufficient ullage. Favourability for such a system will be dependent on whether the system can move an amount of oil equal to half the largest of the leakage tanks in question within two hours and on the availability of receiving capacity in ballast or cargo tanks. The favourability shall be limited to allow Os to be calculated according to Formula (III). The piping to such suction points shall be installed at least at a height not less than the vertical extent of the bottom damage vs. the Administration shall provide the Organisation with information concerning the systems it has approved so that the Organisation may inform other Convention countries.

6 This Regulation does not apply to oil tankers delivered on or after 1 January 2010 as defined in Regulation 1.28.8.

S Regulation 26 Limitation on the size and arrangement of cargo tanks
Oil tankers delivered before 1 January 2010

1 Except as specified in Subsection 7, the provisions of this Regulation shall be complied with for:

1.1 any oil tanker of 150 gross tonnage and above delivered after 31 December 1979, as defined in Regulation 1.28.2; and

1.2 any 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 one of the following two categories:

1.2.1 a ship delivered after 1 January 1977; or

1.2.2 a ship to which both of the following conditions apply:

1.2.2.1 delivered before 1 January 1977; and

1.2.2.2 the building contract was entered into after 1 January 1974 or, in the absence of a building contract, the keel is laid or the ship is at a similar stage of construction after 30 June 1974.

2 The cargo tanks in oil tankers shall be of such size and shall be so arranged that the hypothetical discharge O_c or O_s, calculated in accordance with the requirements of Regulation 25, shall not exceed the greater of the following two values at any point along the length of the ship:
30.000 m^3 eller 400 $\sqrt[3]{DW}$, dog højst 40.000 m^3.

3 The volume of each oil cargo wing tank of an oil tanker shall not exceed 75% of the hypothetical oil discharge limits referred to in Subsection 2. The volume of any oil cargo centre tank shall not exceed 50,000 m^3. However, in segregated ballast oil tankers as defined in Regulation 18, the permissible volume of an oil

cargo wing tank located between two segregated ballast tanks each exceeding 1 $_c$ in length may be increased to the maximum hypothetical oil discharge limit provided that the width of the wing tank exceeds t_c.
4 The length of each ballast tank shall not exceed 10 metres or the following values, whichever is greater:
4.1 where there is no longitudinal bulkhead in the cargo tank:

$(0{,}5\ \frac{b_i}{B} + 0{,}1)L$, som ikke må overstige 0,2L

4.2 where a longitudinal bulkhead is in the centre plane of the cargo tanks:

$(0{,}25\ \frac{b_i}{B} + 0{,}15)L$

4.3 where two or more longitudinal bulkheads are present in the cargo tanks:
4.3.1 for cargo wing tanks: 0.2 L
4.3.2 for centre cargo tanks:
4.3.2.1 if

$\frac{b_i}{B} \geq \frac{1}{5}$: 0,2 L

4.3.2.2 if

$\frac{b_i}{B} < \frac{1}{5}$:

- where no longitudinal centre bulkhead is fitted:

$(0{,}5\ \frac{b_i}{B} + 0{,}1)L$

- where a longitudinal centre bulkhead is fitted:

$(0{,}25\ \frac{b_i}{B} + 0{,}15)L$

4.4 b_i is the minimum distance from the ship's side to the outer longitudinal bulkhead of the tank concerned, measured inwards at right angles to the centreline at a height corresponding to the specified summer freeboard.
5 In order not to exceed the volume limits specified in Subsections 2, 3 and 4 and irrespective of the approved type of loading and unloading system installed, where such a system connects two or more tanks, valves or other similar closing devices shall be provided to separate the tanks from each other. These valves or devices shall be closed when the tanker is at sea.
6 Pipelines passing through cargo tanks less than tc from the ship's side or less than vc from the ship's bottom shall be fitted with valves or similar closing devices at the point where they enter a cargo tank. These valves shall be kept closed when the ship is at sea and the tanks contain oil cargo, except that they may be opened for such shifting of cargo as is necessary to trim 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.
S Regulation 27 Intact stability
1 Every oil tanker of 5000 tonnes deadweight delivered on or after 1 February 2002, as defined in Regulation 1.28.7, shall comply with the intact stability provisions specified in Subsections 1.1 and 1.2, as appropriate, in any draught under worst case loading and ballast conditions in accordance with good operational practice, including internal transfer of liquids. Under all conditions the ballast tanks shall be assumed to be slack.
1.1 In port, the initial metacentre height GM_o shall not be less than 0.15 m when corrected for free surfaces at a heel of 0°,
1.2 At sea, the following criteria shall be followed:
1.2.1 The area under the curve of the stability arm (GZ curve) shall not be less than 0.055 radian metres up to an angle of heel $\theta = 30°$ and not less than 0.09 radian metres up to an angle of heel $\theta = 40°$ or any other angle of heel θ_f[23)], which results in flooding if this angle is less than 40°. In addition, the area under the stability arm curve (GZ curve) between heeling angles 30° and 40° or between 30° and θ_f shall not be less than 0.03 radian metres if the heeling angle is less than 40°,
1.2.2 the stability arm GZ shall be at least 0.20 metres at an angle of heel equal to or greater than 30°,
1.2.3 the maximum stability arm shall occur at a preferred bank angle of 30° but not less than 25°
1.2.4 the initial metacentre height GM_o shall not be less than 0.15 m when corrected for free surfaces at a heel angle of 0°.
2 The requirements of Subsection 1 shall be fulfilled by design. For combination carriers, simple additional

operational procedures are permitted.
3 Simple supplementary operational procedures for the transfer of liquid cargo referred to in Subsection 2 shall be written procedures for use by the master and
3.1 are approved by the Administration,
3.2 specifies the cargo and ballast tanks which may be slack and still fulfil the stability criteria under any condition of liquefaction, taking into account the density of the cargo. The slack tanks can be alternated during the movement of the load and combined in any way provided the stability criteria are met,
3.3 will be easily understood by the officer responsible for the movement of liquid cargo,
3.4 indicates planned procedures for the movement of liquid cargo and ballast,
3.5 provides a basis for comparison of current and required stability by displaying the stability criteria graphically or in tabular form,
3.6 does not require extensive mathematical calculations by the responsible officer,
3.7 indicates the correct actions to be taken by the responsible officer in the event of deviations from the recommended values and in the event of an emergency; and
3.8 is prominently displayed in the approved trim and stability logbook, and in the control room where cargo and ballast operations are carried out, and in any computer program where stability calculations are performed.

S Regulation 28 Watertight subdivision and leakage 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 watertight subdivision and leakproof integrity criteria specified in Subsection 3 with the side or bottom damage referred to in Subsection 2, for any draught occurring when the ship is fully or partly loaded in a condition consistent with the trim and strength of the ship and with the density of the cargo. Such damage shall be applied at all conceivable points throughout the length of the ship as follows:
1.1 in tankers over 225 metres in length, at any point along the length of the ship,
1.2 in tankers exceeding 150 metres but not exceeding 225 metres in length, throughout the length of the ship, with the exception of the bulkheads bounding a machinery space located aft. The machinery space shall be considered as a single, fillable space,
1.3 in tankers not exceeding 150 metres in length, at any point in the length of the ship between two consecutive transverse bulkheads other than the machinery space. For tankers of 100 metres in length or less, where all the requirements of Regulation 28.3 cannot be complied with without significantly impairing the operational characteristics of the ship, Administrations may allow relaxations from these requirements. Tankers in ballast not carrying oil in cargo tanks other than oil residues shall not be considered.
2 The following provisions concerning the extent and nature of the damage contemplated shall apply:
2.1 Damage to the ship's side

.1	Langskibs udstrækning	den mindste af følgende to værdier: $\frac{1}{3}L^{\frac{2}{3}}$ eller 14,5 meter
.2	Tværskibs udstrækning (indvendigt mål fra skibssiden, vinkelret på centerlinjen i niveau med sommerlastelinjen)	den mindste af følgende to værdier $\frac{B}{5}$ eller 11,5 meter
.3	Lodret udstrækning	fra basislinjen opad uden begrænsning

2.2 Damage to the bottom of the ship:

	Indtil 0,3 L fra skibets forreste perpendikulær	I enhver anden del af skibet
.1	Langskibs udstrækning:	
	Den mindste af følgende to værdier: $\frac{1}{3}L^{\frac{2}{3}}$ eller 14,5 meter	Den mindste af følgende to værdier: $\frac{1}{3}L^{\frac{2}{3}}$ eller 14,5 meter
.2	Tværskibs udstrækning:	
	Den mindste af to følgende værdier: $\frac{B}{6}$ eller 10 meter	Den mindste af to følgende værdier: $\frac{B}{6}$ eller 5 meter
.3	Lodret udstrækning:	
	Den mindste af følgende to værdier: $\frac{B}{15}$ eller 6 meter målt fra basislinjen	Den mindste af følgende to værdier: $\frac{B}{15}$ eller 6 meter målt fra basislinjen

2.3 If any damage of less extent than the maximum extent specified in Subsections 2.1 and 2.2 above results in a reduced condition, such damage shall be included in the calculations.
2.4 In cases where damage involves transverse bulkheads as specified in Subsections 1.1 and 1.2, watertight transverse bulkheads shall be spaced at least equal to the longitudinal extent of the intended damage specified in Subsection 2.1 in order to be considered effective. Where transverse bulkheads are less widely spaced, one or more of these bulkheads within the extent of the damage shall be regarded as non-existent for the purpose of determining filled spaces.
2.5 Where the damage between two consecutive transverse watertight bulkheads is predicted as specified in Subsection 1.3, no main transverse bulkhead or transverse bulkhead adjacent to side tanks or double bottom tanks shall be assumed to be damaged, unless:
2.5.1 the gap between successive bulkheads is less than the longitudinal extent of the assumed damage as specified in Subsection 2.1; or
2.5.2 there is an offset or recess in a transverse bulkhead exceeding 3.05 metres in length within the extent of the intended damage depth. The displacement formed by the stern peak bulkhead and the stern peak tank top shall not be considered as a displacement for this purpose.
2.6 If pipes, ducts or tunnels lie within the intended extent of the damage, measures shall be taken to ensure that progressive flooding cannot extend to spaces other than those assumed to be fillable for each case of damage.
3 Oil tankers shall be assumed to fulfil the leak stability criteria if the following requirements are met:
3.1 The final waterline, taking into account compression, heel and trim, shall be lower than the lower edge of any opening through which gradual filling can take place. Such openings include vent pipes and openings closed by means of weathertight doors or hatch covers and need not include openings closed by watertight manhole covers and small hatches level with the deck, small watertight cargo tank hatches of the same strength and watertightness as the deck, remotely operated watertight sliding doors, hinged watertight access doors with ‘open/close’ indication locally and on the ship’s bridge, of the quick-acting or single-acting type which are normally closed at sea, hinged watertight doors which are permanently closed at sea, and fixed portholes.
3.2 At the final filling stage, the angle of heel due to asymmetrical filling shall not exceed 25°; however, this angle may be increased up to 30° if the deck edge is not submerged.
3.3 The stability of the final filling stage shall be examined and may be considered adequate if the stability curve extends at least 20° beyond the equilibrium point, together with a maximum residual stability arm of not less than 0.1 m within the 20° range. The area under the curve within this range must not be less than 0.0175 radian metres. Unprotected openings must not extend below the immersion line within this area unless the space in question is counted as permanently filled. Within this area, immersion may be permitted for openings as specified in Subsection 3.1 and for other openings that can be closed weathertight.
3.4 The administration must be satisfied that the stability is sufficient in the intermediate filling stages.
3.5 Equalisation systems requiring the use of mechanical means such as valves and equalising pipes, if fitted,

shall not be considered when their purpose is to reduce the angle of heel or to achieve the minimum residual stability to comply with the provisions of Subsections 3.1, 3.2 and 3.3. The required residual stability shall be maintained at all stages where cross-filling is used. Compartments connected by large cross section ducts can be considered as common.

4 Compliance with the requirements of Subsection 1 shall be confirmed by calculations which take into account the structural characteristics of the ship, the arrangement, shape and contents of the damaged compartments and the distribution and density of liquids and the effect of their free surfaces. The calculations shall be based on the following:

4.1 All empty or partially filled tanks, the density of transported loads and the outflow of liquids from damaged compartments shall be taken into account.

4.2 The fillability of compartments filled as a result of damage shall be assumed as follows:

Compartment	Fillability
Used for stores	0.60
Occupied for habitation	0.95
Occupied by machinery	0.85
Empty compartments	0.95
Intended for consumable liquids	0 to 0.95*)
Intended for other liquids	0 to 0.95**)

*) The fillability of partially filled compartments must correspond to the amount of liquid in the compartment. Regardless of the damage caused by the leak, it must be assumed that the contents of the tank have been completely lost and replaced by salt water to a height corresponding to the final equilibrium plane.

**) As above

4.3 The buoyancy of any superstructure directly above a side damage shall be disregarded. The unoccupied parts of the superstructure, which are outside the extent of the damage, may be taken into account, provided that they are separated from the damaged space by watertight bulkheads, and that the provisions in Subsection 3.1 of this Regulation, concerning undamaged spaces, are fulfilled. Hinged watertight doors are acceptable in watertight bulkheads in the superstructure.

4.4 The effect of the free surface shall be calculated at an angle of heel of 5° for each compartment. The Administration may require or permit the free surface corrections to be calculated at an angle of heel greater than 5° for partially filled tanks.

4.5 In calculating the free surface effect of consumable liquids, it shall be assumed that for each type of liquid, there is at least one transverse set of tanks or a single centre tank with a free surface, and the tank or combination of tanks having the largest free surface effect shall be taken into account in the calculation

5 The master of every oil tanker and the person in charge of a non-self-propelled oil tanker to which this Annex applies shall be provided with:

5.1 approved loading and cargo distribution information as may be necessary to ensure compliance with the provisions of this Regulation; and

5.2 approved data concerning the ship's ability to comply with the leak stability criteria as laid down in this Regulation, including the effect of any relaxations granted under Subsection 1.3.

6 Every oil tanker shall be fitted with a stability instrument capable of verifying compliance with the intact and leakage stability requirements and approved by the Administration, taking into account the performance standards recommended by the Organisation:[24)]

1) Oil tankers built before 1 January 2016 shall comply with this Regulation at the first scheduled renewal survey of the ship after 1 January 2016, but not later than 1 January 2021;

2) Regardless of the requirements of Subsection 1, a stability instrument installed on board an oil tanker constructed before 1 January 2016, need not be replaced provided that it can verify compliance with the intact and leak stability requirements to the satisfaction of the Administration; and

3) For the purpose of verification in accordance with Regulation 11, the Administration shall issue a Document of Compliance for the stability instrument.
7 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 assumed damage as prescribed in Subsection 2.2 shall be supplemented by the following assumed bottom damage:
7.1 Longitudinal extent:
7.1.1 For ships of 75,000 tonnes deadweight and above:
0.6L measured from the forward perpendicular
7.1.2 For ships less than 75,000 tonnes deadweight:
0.4L measured from the forward perpendicular
7.2 Transverse extent: B/3 at any point on the bottom
7.3 Vertical extent: damage to the outer hull.

S Regulation 29 Slop tanks

1 Subject to the provisions of Regulation 3.4, oil tankers of 150 gross tonnage and above shall be fitted with slop tanks in accordance with the requirements of Subsections 2.1 to 2.3. In oil tankers delivered on or before 31 December 1979, as defined in Regulation 1.28.1, any cargo tank may be used as a slop tank.
2.1 There shall be adequate arrangements approved by the Administration for cleaning the cargo tanks and the transfer of dirty ballast residues and tank washings from the cargo tanks to a slop tank.
2.2 In this system, there shall be arrangements for the transfer of oily wastes to a slop tank or a combination of slop tanks in such a manner that any discharge into the sea is such as to comply with the provisions of Regulation 34.
2.3 The capacity of the slop tanks or a combination of slop tanks shall be sufficient to accommodate the waste from tank cleaning, oil residues and residues from dirty ballast. The total capacity of the slop tanks shall not be less than 3% of the oil cargo capacity of the ship. However, the Administration may allow:
2.3.1 2% in oil tankers where the tank cleaning systems are so designed that once the slop tanks are filled with water, this water shall be sufficient for tank cleaning and for supplying tank injectors with propellant, where fitted, without additional water being admitted to the system,
2.3.2 2% in oil tankers fitted with segregated or clean ballast arrangements in accordance with Regulation 18 or where a tank cleaning system for the use of crude oil is installed in accordance with Regulation 33. The capacity may be further reduced to 1.5% in oil tankers where the tank cleaning systems are so designed that the slop tanks have sufficient water capacity for tank cleaning and operation of tank ejectors, where used, without introducing additional water into the system; and
2.3.3 1% on combination carriers where oil cargoes are carried only in smooth-walled tanks. This capacity can be further reduced to 0.8% where tank cleaning systems are designed so that the slop tanks have sufficient capacity for tank cleaning and the operation of tank ejectors, where fitted, without introducing additional water into the system. New oil tankers of 70,000 tonnes deadweight and above shall be fitted with at least two slop tanks.
2.4 Slop tanks shall be so constructed, particularly with regard to the positioning of inlet and outlet openings and, where appropriate, scuppers or partition plates, as to avoid excessive turbulence and mixing 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 1.28.2, shall be provided with at least two slop tanks.

S Regulation 30 Pumps, pipework and discharge systems

1 On every oil tanker, there must be a manifold on the open deck on both sides for connecting to a receiving system for the delivery of foul ballast water or oil-contaminated water.
2 On every oil tanker of 150 gross tonnage and above, there must be pipelines for discharging ballast water or oil-contaminated water from the cargo tank area into the sea, in accordance with Regulation 34, led to the open deck or to the ship's side above the waterline in deepest ballast condition. Other pipework enabling discharge in accordance with Subsections 6.1 to 6.5 may be permitted.
3 On oil tankers of 150 gross tonnage and above delivered after 31 December 1979, as defined in Regulation 1.28.2, the discharge into the sea of ballast water or oil-contaminated water from cargo tank areas, other than discharges below the waterline as permitted by Subsection 6, shall be capable of being stopped from the upper deck or above at a position where the manifold used as described in Subsection 1, can be visually

monitored. The arrangement for stopping the discharge need not be located at the place of observation if there is a secure communication system, such as telephone or radio contact, between the place of observation and the place from which the discharge can be stopped.

4 Every oil tanker delivered after 1 June 1982, as defined in Regulation 1.28.4, required to be fitted with segregated ballast tanks or to be provided with tank cleaning systems for crude oil shall comply with the following provisions:

4.1 Oil pipelines shall be designed and installed to minimise oil retention in the pipelines.

4.2 An arrangement shall be installed for emptying cargo pumps and pipelines after discharge, if necessary, by connecting to a stripping system. The contents of pumps and pipes must be able to be discharged both ashore and to the cargo or slop tank. When discharging to shore, a special small diameter pipe must be used. This pipe must be connected after the valves on the loading and unloading manifold.

5 Every crude oil tanker delivered on or before 1 June 1982, as defined in Regulation 1.28.3, which is required to be fitted with segregated ballast tanks or which is required to have a crude oil tank cleaning system, shall comply with the provisions of Subsection 4.2.

6 Every oil tanker shall discharge ballast water and oily water from cargo tank areas above the waterline except as follows:

6.1 Segregated and clean ballast water may be discharged below the waterline:

6.1.1 in ports and at oil terminals; or

6.1.2 in the sea by gravity alone; or

6.1.3 in the sea by pumps if the discharge of ballast water is carried out in accordance with the provisions of Regulation D-1.1 of the International Convention for the Management and Control of Ships' Ballast Water and Sediments.

provided that the surface of the ballast water has been checked immediately before discharge to ensure that the ballast water is not contaminated with oil.

6.2 Oil tankers delivered on or before 31 December 1979, as defined in Regulation 1.28.1, which cannot discharge segregated ballast water above the waterline without modification, may discharge below the waterline provided that the surface of the ballast water has been inspected immediately before discharge to ensure that the ballast water is not contaminated with oil.

6.3 Oil tankers delivered on or before 1 June 1982, as defined in Regulation 1.28.3, which use tanks reserved for clean ballast and which cannot discharge the ballast water from these tanks above the waterline without modification, may discharge below the waterline provided that the discharge is monitored in accordance with Regulation 18.8.3.

6.4 Any oil tanker may discharge dirty ballast water and oily water from cargo tank areas, other than slop tanks, below the waterline in the sea by gravity alone, provided that the dirty water has been stored for a sufficient time to separate oil and water. In addition, immediately before discharge, the ballast water shall be checked with the oil/water detector described in Regulation 32 to determine that the interface is at a height such that discharge will not cause a risk of harm to the marine environment.

6.5 Oil tankers delivered on or before 31 December 1979, as defined in Regulation 1.28.1, may discharge dirty ballast water or oily water from cargo tank areas in the sea below the waterline, instead of or after using the method described in Subsection 6.4, if:

6.5.1 a portion of this water is channelled through permanent pipes to an easily accessible point on the upper deck or above where it can be visually monitored during discharge; and

6.5.2 this system complies with the requirements of the Administration which shall include at least the specifications adopted by the Organisation for the design, installation and operation of an overboard discharge control system.[25)]

7 Every oil tanker of 150 tonnes deadweight and above delivered on or after 1 January 2010, as defined in Regulation 1.28.8, which is fitted with a sea chest permanently connected to the cargo oil pipework, shall be fitted with both a sea valve and an inboard isolation valve. In addition to these valves, the sea chest shall be capable of being isolated from the cargo oil pipework by means of an installation approved by the Administration while the tanker is carrying cargo or being loaded or unloaded. The installation shall be placed in the pipework to prevent the section of the pipework between the sea valve and the inboard isolation valve from filling with oil.

Part B Equipment

S Regulation 31 Oil discharge recording and control system

1 Subject to the provisions of Regulations 3.4 and 3.5, oil tankers of 150 gross tonnage and above shall be fitted with an oil discharge recording and control system approved by the Administration.

2 In assessing the type of oil content gauge to be incorporated in the system, the Administration shall take into account the specification recommended by the Organisation.[26)] The system shall be fitted with a recorder which continuously records the discharge in litres per mile and the total quantity discharged or the oil content and rate of discharge. The recorded information shall be identifiable as to time and date and shall be retained for at least three years. The system for recording and monitoring the discharge of oil shall be activated when any discharge is made into the sea and shall be so effective as to ensure that any discharge of oily mixture is automatically stopped when the instantaneous rate of discharge of oil exceeds that permitted by Regulation 34. Any malfunction of the recording and control system shall stop the discharge. A manual alternative method may be used in the event of a system failure, but the faulty system shall be repaired as soon as possible. The port State control may authorise an oil tanker with a defective system to make a ballast voyage before proceeding to the port of repair.

3 The recording and control system shall be designed and installed in accordance with the "Guidance and specification for recording and control systems for oil tankers", prepared by the Organisation.[27)] The Administration may permit such special arrangements as described in the guidance.

4 Instruction in the operation of the system shall be given in accordance with an operating manual approved by the Administration. It shall include manual as well as automatic operation and shall ensure that at all times oil is discharged only in accordance with the conditions specified in Regulation 34.

S Regulation 32 Oil/water interface detectors [28)]

Subject to the provisions of Regulations 3.4 and 3.5, oil tankers of 150 gross tonnage and above, shall be fitted with efficient oil/water interface detectors approved by the Administration for the rapid and accurate determination of the oil/water interface in slop tanks. The detector shall be capable of being used in other tanks where separation of oil and water is taking place from which discharge directly into the sea is intended.

Regulation 33 Requirements for tank cleaning with crude oil

1 Every 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 system for cleaning the cargo oil tanks containing crude oil. 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 carriage of crude oil or at the end of the third voyage carrying crude oil suitable for tank cleaning, whichever is later.

2 The crude oil tank cleaning installation and associated equipment and arrangements shall comply with the requirements established by the Administration. Such requirements shall include at least the provisions of the "Specification for the Design, Operation and Control of Crude Oil Tank Cleaning Systems" adopted by the Organisation.[29)] When a ship is not required to be fitted with a crude oil tank cleaning system in accordance with Subsection 1, it shall comply with the safety aspects of this specification.

3 Any crude oil cargo tank cleaning system required by Regulation 18.7 shall comply with the requirements of this Regulation.

Part C Control the discharge of oil

M Regulation 34 Control the discharge of oil

A Discharging outside special areas except in the Arctic region

1 Subject to the provisions of Regulation 4 and Subsection 2 of this Regulation, any discharge into the sea of oil or oily mixture from the cargo area of an oil tanker shall be prohibited unless all the following conditions are satisfied:[30)]

1.1 the tanker is not within a special sea area,

1.2 the tanker is more than 50 nautical miles from the nearest coast,

1.3 the tanker must be en route,

1.4 the instantaneous rate of discharge of oil content does not exceed 30 litres per nautical mile,

1.5 the total quantity of oil discharged into the sea for tankers delivered on or before 31 December 1979, as defined in Regulation 1.28.1, does not exceed 1/15,000 of the total quantity of the special cargo of which the oil residues 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 special cargo of which the oil residues formed a part; and

1.6 the tanker is operating an oil discharge monitoring and control system and slop tank arrangement as

prescribed in Regulations 29 and 31.
2 The provisions of Subsection 1 shall not apply to the discharge of clean or segregated ballast.
B Discharge in special areas
3 Subject to the provisions of Subsection 4, any discharge into the sea of oil or oily mixture from the cargo area of an oil tanker shall be prohibited while the ship is in a special sea area.[31)]
4 The provisions of Subsection 3 shall not apply to the discharge of clean or segregated ballast.
5 Nothing in this Regulation shall prevent a ship on a voyage only part of which passes through a special sea area from discharging outside the special sea area in accordance with Subsection 1.
C Requirements for oil tankers of less than 150 gross tonnage
6 The provisions of Regulations 29, 31 and 32 shall not apply to oil tankers of less than 150 gross tonnage for which the control of discharge of oil shall be accomplished by the storage of oil on board, followed by the discharge of all oily cleaning water to a reception facility. The total amount of oil and water used for cleaning and returned to a storage tank must be discharged into reception facilities, unless satisfactory measures are taken to ensure that any discharge into the sea is effectively recorded in such a way that this Regulation is complied with.
D General requirements
7 Whenever visible traces of oil are observed on or below the surface of the sea in the immediate vicinity of a ship or its wake, Governments of Convention countries should, within reasonable limits, immediately investigate the matter with a view to establishing whether this Regulation has been violated. Such investigations should pay particular attention to wind, sea and current conditions, the course and speed of the ship, whether other possible causes of the visible traces are present in the area, and relevant recorded oil discharges.
8 No discharge into the sea shall contain chemicals or other substances in quantities or concentrations which are harmful to the marine environment or chemicals or other substances used to circumvent the conditions of discharge specified in this Regulation.
9 Oil residues which cannot be discharged into the sea in accordance with the provisions of Subsections 1 and 3 of this Regulation shall be retained on board or delivered to reception facilities.
S Regulation 35 Cleaning cargo oil tanks containing crude oil
1 Every oil tanker operating with a system for cleaning cargo oil tanks containing crude oil shall be provided with a manual[32)] for the equipment and its operation, which gives a detailed description of the installation and equipment and describes its operation. Such a manual shall fulfil the requirements laid down by the Administration and shall contain all the information specified in the specifications referred to in Regulation 33(2). If any changes are made affecting the crude oil tank cleaning system, the equipment and operation manual shall be revised accordingly.
2 With regard to the ballasting of cargo tanks, a sufficient number of cargo tanks, taking into account the trading pattern of the tanker and the expected weather conditions, shall be cleaned with crude oil before each voyage in ballast so that only cargo tanks cleaned with crude oil are supplied with ballast water.
3 Oil tankers shall operate with a tank cleaning method using crude oil tank cleaning in accordance with the Operations Manual, unless the tanker is intended to carry crude oil unsuitable for tank cleaning.
S Regulation 36 Oil logbook Part II (cargo/ballast operations)
1 Every oil tanker of 150 gross tonnage and above shall be have an oil logbook II (cargo/ballast operations). The oil logbook, whether it forms part of the ship's logbook, as a separate log or as an electronic logbook, shall be approved by the Administration taking into account the guidelines developed by the Organisation[33)], and shall be in the form specified in Appendix 3 to this Annex[34)]. *The logbook shall be maintained in accordance with the instructions in the log.*
2 Oil logbook II shall be kept, if necessary on a tank-by-tank basis, whenever any of the following loading/ballasting operations are carried out on the ship:
2.1 Loading oil.
2.2 Internal transfer of oil cargo during the voyage.
2.3 Unloading oil.
2.4 Ballast intake in cargo tanks and clean ballast tanks.
2.5 Cleaning cargo tanks, including cleaning with crude oil.
2.6 Discharging ballast, except discharge from segregated ballast tanks.

2.7 Discharging water from slop tanks.
2.8 Closing the valves used and similar devices after slop tank discharge operations.
2.9 Closing valves necessary to separate clean ballast tanks from cargo and strip lines after slop tank discharge operations.
2.10 Disposal of oil residues.
3 In the case of oil tankers referred to in Regulation 34.6, the total quantity of oil and water used for cleaning and returned to a storage tank shall be entered in the oil logbook Part II.
4 If any discharge of oil or oily mixture referred to in Regulation 4 is made or occurs or if any discharge of oil occurs as a result of an accident or other unforeseen circumstance not excepted by that regulation, an account of the circumstances and causes of the discharge shall be entered in the oil logbook Part II.
5 Each operation described in Subsection 2 shall be entered immediately in the oil logbook Part II, so that all entries in the log relating to that operation are complete. Each completed operation shall be signed by the officer or officers in charge and each completed page or group of electronic entries shall be signed by the master. The entries in the oil logbook Part II shall be at least in English, French or Spanish. Where entries are also made in an official national language of the State whose flag the ship is entitled to fly, that language shall prevail in case of dispute or inconsistency.
6 Failures in the oil discharge monitoring and control system shall be recorded in the oil logbook Part II.
7 The oil logbook shall be kept in such a place that it is readily accessible for inspection at all reasonable times and, except for unmanned ships under tow, shall be kept on board the ship. It shall be retained for three years after the last entry.
8 The competent authority of the Government of a Convention country shall have the right to inspect the oil logbook Part II on board any ship to which this Annex applies while the ship is at any of its ports or oil terminals and to take a copy of any entry in the logbook and to require the master to certify its accuracy. Any such transcript certified by the master to be a true copy of an entry in the ship's oil logbook shall be admissible in any legal proceedings as evidence of the facts stated in the entry. The inspection of the oil logbook by the competent authority and the making of a certified true copy in accordance with this Subsection shall be carried out as soon as possible and shall not cause undue delay to the ship.
9 The Administration shall ensure that an appropriate oil logbook is kept for oil tankers of less than 150 gross tonnage operating in accordance with Regulation 34.6.
10 *Such logs shall be kept clearly and no page shall be torn out. What has been entered shall not be erased, crossed out or otherwise rendered illegible. If it becomes necessary to make a correction in the log, the correction shall be annotated.*

Section V Prevention of pollution arising from an oil pollution incident

S Regulation 37 Ship's oil pollution emergency plan

1 Every oil tanker of 150 gross tonnage and above and every other ship of 400 gross tonnage and above shall have an oil pollution emergency plan approved by the Administration.
2 Such a plan shall be carried out in accordance with the guidelines[35)] established by the Organisation and shall be written in the working language of the master and officers.
The plan shall include at least:
2.1 the procedure to be followed by the master or other persons in command of the ship to be used in reporting oil pollution incidents as required by Article 8 of the Convention and Protocol I, and based on the guidelines developed by the Organisation.[36)]
2.2 a list of authorities or persons to be contacted in the event of an oil pollution incident,
2.3 a detailed description of the actions to be taken immediately by the persons on board to minimise or control the release of oil following the incident; and
2.4 procedures and contacts on board the ship for coordinating the actions on board with the national local pollution response authorities.
3 The plan may be combined with the ship's emergency plan for noxious liquid substances required by Regulation 17 of Annex 2. In that case, the combined plan shall be labelled: "Ship's emergency plan".
4 Every oil tanker of 5,000 tonnes deadweight and above shall have direct access to shore-based computer programs, which can be used to calculate leakage stability and structural strength.

Section VI Receiving facilities

M Regulation 38 Reception facilities

A Receiving facilities outside special areas

1 The Government of each Convention country shall ensure that at oil loading terminals, repair ports and in other ports where ships have oil residues for discharge, facilities are provided for the reception of such residues and oily mixtures left over in oil tankers and other ships, facilities are provided which shall be sufficient to meet the requirements of the ships using them without causing undue delay to the ships.[37)]

2 There shall be reception facilities referred to in Subsection 1 in:

2.1 all ports and terminals where crude oil is loaded into oil tankers when such tankers have, immediately prior to arrival, completed a ballast voyage of not more than 72 hours or 1200 nautical miles,

2.2 all ports and terminals where oil, other than crude oil in bulk, is loaded at an average rate of more than 1000 metric tonnes per day,

2.3 all ports which have repair yards or tank cleaning facilities,

2.4 all ports and terminals serving ships equipped with sludge tanks as required by Regulation 12,

2.5 all ports for the reception of oily water from bilges and other residues which cannot discharge in accordance with Regulations 15 and 34 and Subsection 1.1.1 of Part II-A of the Polar Code; and

2.6 all bulk cargo loading ports for the reception of oily residues from combination carriers which cannot discharge according to Regulation 34.

3 Receiving facilities shall have the following capacities:

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

3.2 The loading ports and loading terminals referred to in Subsection 2.2, shall have reception facilities adequate to receive oil and oily mixtures which cannot be discharged in accordance with the provisions of Regulation 34.1 from oil tankers loading oil other than crude oil in bulk.

3.3 Every port which has repair yards or tank cleaning facilities shall have reception facilities adequate to receive all residues and oily mixtures retained on board for discharge from ships before they are received by such a yard or facility.

3.4 All facilities provided in ports and terminals in accordance with Subsection 2.4, shall be adequate to receive all residues retained on board in accordance with Regulation 12 from all ships reasonably expected to enter such ports and terminals.

3.5 All facilities provided in ports and terminals in accordance with this Regulation, shall be adequate to receive oily bilge water and other residues which cannot be discharged in accordance with Regulation 15 and Subsection 1.1.1 of Part II-A of the Polar Code.

3.6 The facilities provided in ports of loading of bulk cargoes shall, where appropriate, take into account the special problems of combination carriers.

4 The following States may fulfil the provisions of Subsections 1 to 3 of this Regulation through regional arrangements when, because of their particular circumstances, such arrangements are the only practical way in which they can meet these requirements.

4.1. Small island developing States; and

4.2. States having a coastline on Arctic waters, provided that the regional arrangements apply only to ports within the Arctic waters of these States.

Parties participating in a regional scheme shall develop a regional reception facilities plan taking into account the guidelines developed by the Organisation[38)].

The Government of any Party participating in the scheme shall consult with the Organisation with a view to circulating the following information to Contracting Parties to the MARPOL Convention:

4.3. How the regional reception facility plan takes into account the guidelines developed by the Organisation

4.4. Details of the identified regional ship-generated waste reception centres taking into account the guidelines developed by the Organisation; and

4.5. Details of ports with only limited facilities.

B Reception facilities in specific areas

5 The Government of each Convention country whose coastline is adjacent to a specified special area shall ensure that all oil loading terminals and repair ports within the special sea area are provided with facilities adequate for the reception and handling of all dirty ballast and tank washings from oil tankers. In addition, all ports within the special sea area shall be provided with facilities adequate to receive other residues and

oily mixtures from all ships.[39] Such facilities shall have sufficient capacity to meet the needs of the ships using them without causing undue delay.
6. The following states may fulfil the provisions of Subsection 5 of this Regulation through regional arrangements when, due to their unique circumstances, such arrangements constitute the only practical way in which those conditions can meet these requirements.
6.1. Small island developing States; and
6.2. States which have a coastline on Arctic waters, provided that the regional arrangements apply only to ports within the Arctic waters of these States.
Parties participating in a regional scheme shall develop a regional reception facilities plan taking into account the guidelines developed by the Organisation38).
The Government of any Party participating in the scheme shall consult with the Organisation with a view to circulating the following information to Contracting Parties to the MARPOL Convention:
6.3. How the regional reception facilities plan takes into account the guidelines developed by the Organisation;
6.4. Details of the identified regional ship-generated waste reception centres taking into account the guidelines developed by the Organisation; and
6.5. Details of ports with limited facilities.
7 The Government of any Convention country which has responsibility under its jurisdiction for entrances to waterways with shallow water contours which may require a reduction in draught for ballast discharge shall undertake to arrange for the provision of the facilities referred to in Subsection 4, provided that ships which have to discharge sewage or dirty ballast may be subject to some delay.
8 With regard to the Red Sea area, the Gulf areas,[40] the Gulf of Aden area and the Arabian Sea area of Oman:
8.1 Each Party concerned shall notify the Organisation of the measures it has taken in accordance with the provisions set out in Subsections 4 and 5. After receiving a sufficient number of notifications, the Organisation shall set a date from which the provisions of Regulations 15 and 34 shall take effect in respect of the area concerned. The Organisation shall notify all Parties of the date so fixed at least 12 months before that date.
8.2 During the period between the entry into force of this Convention and the date so fixed, ships shall comply with the provisions of Regulations 15 and 34 for discharging outside special areas when operating in the special area concerned.
8.3 After that date, oil tankers loading in ports in the special areas where such facilities are not yet available shall also fully comply with the provisions of Regulations 15 and 34 for discharging in special areas. However, oil tankers entering these special areas for the purpose of loading shall take all necessary measures to enter the area with clean ballast on board.
8.4 After the date on which the provisions for the special area concerned enter into force, each Convention country shall notify the Organisation of all cases where the facilities are alleged to be inadequate so that it may communicate them to the Parties concerned.
8.5 The reception facilities specified in Subsections 1, 2 and 3 shall be established within one year of the entry into force of this Convention.
9 Regardless of the provisions of Subsections 4, 5 and 6, the following provisions shall apply in the Antarctic region:
9.1 The Government of each Convention country which has ports at which ships arrive from or enter the Antarctic region shall ensure, as soon as practicable, that adequate reception facilities are available for the storage of oil residues (sludge), fouled ballast, water from tank cleaning and other oil residues and oily mixtures from all ships, without causing undue delay to ships and in accordance with the needs of the ships.
9.2 The Government of each Convention country shall ensure that every ship flying its flag is equipped with a tank or tanks of sufficient capacity for the storage of all oily sludge, dirty ballast, tank washings and other oily residues and oily mixtures before and during navigation in the Antarctic region and that they have made arrangements for the discharge of such oily residues to a reception facility after leaving the area.
C General requirements
10 Each Party to the Convention shall notify the Organisation of any cases where the facilities provided under this Regulation are alleged to be inadequate so that it may inform the Parties concerned.

Section VII Special requirements for fixed or floating platforms
S Regulation 39 Special provisions for fixed or floating platforms
1 This Regulation applies to fixed or floating platforms, including drilling platforms, floating production and storage installations (FPSOs) used for offshore production and storage of oil and floating storage units (FSUs) used for offshore storage of produced oil.
2 Fixed and floating platforms, when engaged in exploring for, exploiting or working the mineral resources of the seabed, shall comply with the provisions of this Annex applicable to ships of 400 gross tonnage and above which are not oil tankers, provided that:
2.1 they shall be fitted with the installations required by Regulations 12 and 14 as far as practicable.
2.2 they shall keep a record of all operations involving the discharge of oil or oily mixtures in a form approved by the Administration; and
2.3 the discharge into the sea of oil or oily mixture in any sea area shall be prohibited except as specified by the provisions in Regulation 4, except when the oil content of the discharge without dilution does not exceed 15 parts per million.
3 In giving effect to the provisions of this Annex relating to platforms used as FPSOs or FSUs, the Administration should, in addition to the requirements of Subsection 2, take into account the Organisation's guidelines.[41)]
Section VIII, Prevention of pollution during sea transfer of oil cargo between oil tankers
Regulation 40 - Scope of application
1 The Regulations contained in this Annex shall apply to oil tankers of 150 gross tonnage and above engaged on transfer at sea of oil cargoes between oil tankers (STS operations) and to STS operations which they may perform on or after 1 April 2012. However, STS operations carried out before that date but after the approval by the Administration of the STS operational plan required by Regulation 41.1 shall, as far as practicable, comply with the STS operations plan.
2 The Regulations referred to in this Annex shall not apply to oil transfer operations in respect of fixed or floating platforms, including drilling rigs; FPSOs (floating production, storage and offloading units) used for offshore production and storage of oil; and FSUs (floating storage units) used for offshore storage of produced oil.[42)]
3 The Regulations mentioned in this Annex do not apply to bunker operations.
4 The Regulations referred to in this Annex do not apply to STS operations necessary to ensure the safety of a ship or to save human life at sea or to combat specific pollution incidents in order to minimise pollution damage.
5 The Regulations referred to in this Annex shall not apply to STS operations where one of the ships involved is a warship, naval auxiliary or other ship owned or operated by a State and used at the time only on government non-commercial service. However, each State shall ensure, through the adoption of appropriate measures which do not impair the operations or operational capabilities of such ships, that STS operations are conducted in a manner consistent with this Annex that is, as far as possible, reasonable and practicable.
Regulation 41 - General regulations on safety and environmental protection
1 Every tanker engaged on STS operations shall, not later than the date of its first annual survey, intermediate survey or renewal survey due on or after 1 January 2011, have a plan on board prescribing how STS operations are to be conducted (STS operations plan). Each tanker's STS operations plan shall be approved by the Administration. The STS operations plan must be written in the ship's working language.
2 The STS operations plan shall be developed taking into account the information contained in the best practice guidelines for STS operations determined by the Organisation.[43)] The STS operations plan may be incorporated into an existing safety management system as required by Chapter IX of the 1974 SOLAS Convention, as amended, if this requirement is applicable to the oil tanker concerned.
3 Any oil tanker to which this Annex applies which is involved in STS operations shall comply with the STS operations plan.
4 The person having overall control of STS operations shall be qualified to perform all relevant tasks, taking into account the qualifications referred to in the guidelines on best practices for STS operations established by the Organisation.
5 Records[44)] of STS operations shall be kept on board for three years and shall be readily available for inspection by a Contracting Party to the MARPOL Convention.

Regulation 42 – Orientation

1 Any oil tanker to which this Annex applies which intends to conduct STS operations within the territorial sea or exclusive economic zone of a Contracting Party to the MARPOL Convention, shall notify the Contracting Party concerned at least 48 hours in advance of the intended STS operation. Where, in exceptional circumstances, all the information specified in Subsection 2 is not available at least 48 hours in advance, the oil tanker discharging the oil cargo shall inform the Contracting Party to the MARPOL Convention at least 48 hours in advance that an STS operation will take place and the information specified in Subsection 2 shall be communicated to that Contracting Party concerned as early as possible.

2 The information referred to in Subsection 1 of this Regulation[45)] shall contain at least the following:

2.1 name, flag, call sign, IMO number and estimated time of arrival of the oil tankers involved in STS operations;

2.2 date, time and geographical location at the commencement of the planned STS operations;

2.3 whether the STS operations are to be conducted at anchor or en route;

2.4 type and quantity of oil;

2.5 planned duration of the STS operations;

2.6 identification of the provider of the STS operations service or the person having overall consultative control thereof and contact details; and

2.7 confirmation that the oil tanker has on board an STS operations plan complying with the requirements of Regulation 41.

3 If the estimated time of arrival of an oil tanker at the location or area of STS operations is changed by more than six hours, the master, owner or agent of the oil tanker shall communicate a revised time of arrival to the Contracting Party to the MARPOL Convention specified in Subsection 1 of this Regulation.

Section IX Special requirements for the use or carriage of oil in the Antarctic region

M Regulation 43 Special requirements for the use or carriage of oil in the Antarctic region

1 Except for ships engaged in ship safety or search and rescue operations, the carriage in bulk as cargo used as ballast or the carriage and use of the following as fuel shall be prohibited in the Antarctic region as defined in Regulation 1.11.7 of this Annex:

1.1 crude oil with a density at 15°C of more than 900 kg/m^3;

1.2 oils, other than crude oil, of a density at 15°C exceeding 900 kg/m^3 or a kinematic viscosity at 50°C exceeding 180 mm^2/s; or

1.3 bitumen, tar and their emulsions.

2 When previous operations have involved the carriage or use of oil referred to in Subsections 1.1 to 1.3 of this Regulation, tanks or pipelines are not required to be cleaned or purged.

M Regulation 43A Special requirements for the use or carriage of oil in Arctic sea areas

1 Except for ships involved in ship safety or search and rescue operations and ships involved in oil spill response, the use and carriage of oil listed in Regulation 43.1.2 of this Annex as fuel for ships shall be prohibited in Arctic sea areas, as defined in Regulation 46.2 of this Annex, from 1 July 2024.

2. Regardless of the provisions of Subsection 1 of this Regulation, for ships to which Regulation 12A of this Annex or Regulation 1.2.1 of Chapter 1 or Part II-A of the Polar Code applies, the use and carriage of oil listed in Regulation 43.1.2 of this Annex as fuel for ships is prohibited in Arctic sea areas, as defined in Regulation 46.2 of this Annex, from 1 July 2029

3. Where previous operations that have included the use and carriage of oils listed in Regulation 43.1.2 of this Annex as fuel oil, cleaning or flushing of tanks and pipes is not required.

4. Regardless of the provisions of Subsections 1 and 2 of this Regulation, the Administration of a Convention country whose coastline is adjacent to Arctic sea areas may issue a temporary exemption from the requirements of Subsection 1 of this Regulation for ships entitled to fly its flag when operating in waters under the sovereignty or jurisdiction of a Convention country, taking into account the guidelines developed by the Organisation. Exemptions issued under this Subsection shall not apply after 1 July 2029.

5. The Administration in a Convention country to the present convention, which permits the application of Subsection 4 in this Regulation, shall notify the Organisation with information about the issued exemption so that the Organisation can inform other Convention countries for their information and appropriate action, if any.

Section X Verification of compliance with the provisions of the MARPOL Convention

Regulation 44 Application
The Contracting Parties shall apply the provisions of the Implementation Code when performing their obligations and assuming their responsibilities under the SOLAS Convention.
Regulation 45 Verification of compliance
1 Each Contracting Party shall be subject to periodic audits by the Organisation in accordance with the Audit Standard to verify compliance with and implementation of the MARPOL Convention.
2The Secretary General of the Organisation shall be responsible for the administration of the audit scheme on the basis of the guidelines established by the Organisation.[46)]
3 Each Contracting Party shall be responsible for facilitating the conduct of the audit and the implementation of an action programme to address observations based on the guidelines developed by the Organisation.[47)]
4 Audits of all Contracting Parties shall:
4.1be based on an overall timetable prepared by the Secretary General of the Organisation, taking into account the guidelines prepared by the Organisation;[48)] and
4.2 carried out at periodic intervals taking into account the guidelines established by the Organisation.[49)]
Section XI The International Code for Ships in Polar Waters
Regultion 46 Definitions
For the purposes of this Annex, the following definitions apply:
1 "Polar Code" refers to the International Code for Ships in Polar Waters, consisting of an Introduction and Parts I-A and II-A and Parts I-B and II-B, as adopted by Resolutions MSC. 385(94) and MEPC. 264(68), with amendments, provided that:
1.1 amendments to the environmental provisions of the preamble and Chapter 1 of Part II-A of the Polar Code have been adopted, entered into force and given effect in accordance with the provisions of Article 16 of the MARPOL Convention concerning the amendment procedures applicable to appendices to Annexes; and
1.2 amendments to Part II-B of the Polar Code shall be adopted by the IMO Environment Committee (MEPC) in accordance with its Rules of Procedure.
2 "Arctic waters" are waters located north of a line from latitude 58°00'. 0 N and longitude 042°00'. 0 W to latitude 64°37'. 0 N, longitude 035°27'. 0 W, and then by compass line to latitude 67°03'. 9 N, longitude 026°33'. 4 W and then by compass line to latitude 70°49'. 56 N and longitude 008°59'. 61 W (Sørkapp, Jan Mayen), and via the southern coast of Jan Mayen to 73°31'. 6 N and 019°01'. 0 E at Bjørnøya, and from there via a great circle line to latitude 68°38'. 29 N and longitude 043°23'08 E (Cap Kanin Nos), and then via the northern coast of the Asian continent eastwards to the Bering Strait, and then from the Bering Strait westwards to latitude 60° N as far as Il'pyrskiy and along the 60. North latitude eastwards as far as and including the Strait of Etolin, and then through the northern coast of the North American continent as far south as latitude 60° N, and then eastwards along latitude 60° N to longitude 056°37'. 1 W, and then to latitude 58°00'. 0 N, longitude 042°00'. 0 W.
3 "Polar waters" are Arctic waters and/or the Antarctic region.
Regulation 47 Application and requirements
1 This Annex applies to all ships in Polar waters.
2 Unless expressly stated otherwise, all ships covered by Subsection 1 shall comply with the environment-related provisions of the Preamble and Part II-A of the Polar Code in addition to any other applicable requirements of this Annex.
3 When applying Part II-A of the Polar Code, the additional guidance contained in Part II-B of the Polar Code should be taken into account.

Appendix 1 **List of oils *)**	
Asphalt Solutions	**Gas oil**
Blending Stocks	Cracked
Roofers Flux	
Straight Run Residue	**Gasoline Blending Stocks**

	Alkylates - fuel
Oils	Reformates
Clarified	Polymer - fuel
Crude Oil	
Mixtures containing crude oil	**Gasolines**
Diesel Oil	Casinghead (natural)
Fuel Oil No. 4	Automotive
Fuel Oil No. 5	Aviation
Fuel Oil No. 6	Straight Run
Residual Fuel Oil	Fuel Oil No. 1 (Kerosene)
Road Oil	Fuel Oil No. 1-D
Transformer Oil	Fuel Oil No. 2
Aromatic Oil (excl. veg. oil)	Fuel Oil No. 2-D
Lubricating Oil and Blending	
Stocks	**Jet Fuels**
Mineral Oil	JP-1 (Kerosene)
Motor Oil	JP-3
Penetrating Oil	JP-4
Spindle Oil	JP-5 (Kerosene, Heavy)
Turbine Oil	Turbo Fuel
	Kerosene
Distillates	Mineral Spirit
Straight Run	
Flashed Feed Stocks	**Naphtha**
	Solvent
	Petroleum
Notes:	Heartcut Distillate Oil
***)** The list of oils should not necessarily be considered exhaustive.	

Appendix 2 IOPP certificate

An overview and reproduction of relevant updated certificates can be found on the IMO website under the Global Integrated Shipping Information System (GISIS), Survey and Certification, Certificate specimens and E-Certificates.

Appendix 3 Oil logbook

Please refer to Appendix III of MARPOL Annex I and to the Oil logbook, Part 1 and Part 2, published by Weilbach.

Annex 2

Control of noxious liquid substances in bulk

	Section 1	**General**
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	Regulation 2	Application
S	Regulation 3	Exceptions
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M	*Regulation 6*	*Categorisation and declaration of noxious liquid substances and other substances*
	Section 3	**Surveys and certificates**
S	Regulation 7	Survey and certification of chemical tankers
S	Regulation 8	Survey
S	Regulation 9	Issuing and endorsing certificate
S	Regulation 10	The certificate's period of validity
	Section 4	**Design, construction, arrangement and equipment**
S	Regulation 11	Design, construction, equipment and operation
S	Regulation 12	Pumps, pipes, unloading systems and slop tanks
	Section 5	**Discharging residual noxious liquid substances**
M	Regulation 13	Discharging noxious liquid substances
S	Regulation 14	Manual of Procedures and Arrangements
S	Regulation 15	Cargo logbook
	Section 6	**Control measures at port states**
S	*Regulation 16*	*Control measures*
	Section 7	**Pollution prevention in case of accidents involving noxious liquid substances**
S	Regulation 17	Ship's emergency plan for pollution by noxious liquid substances
	Section 8	**Reception facilities**
M	Regulation 18	Reception facilities and arrangements in unloading terminals
	Section 9	**Verification of compliance with the provisions of the MARPOL Convention**
	Regulation 19	Application
	Regulation 20	Verification of compliance
	Section 10	**International Polar Code for Ships in Polar Waters**
	Regulation 21	Definitions
	Regulation 22	Usage and requirements

Introduction

This Annex contains the provisions of Annex II of the International Convention for the Prevention of Pollution from Ships - MARPOL 73/78 and subsequent amendments.

The administration of the regulations is distributed as follows: the Danish Environmental Protection Agency is responsible for the regulations on emissions, and the Danish Maritime Authority is responsible for the regulations on the technical installations on board the ships, including certificates, logs, and plans. This division of responsibility is indicated for each regulation with an "M" for the Danish Environmental Protection Agency and an "S" for the Danish Maritime Authority.

Regarding the implementation of the MARPOL Convention in Denmark, in addition to the Executive Orders issued by the Danish Maritime Authority, there are also Executive Orders issued by the Ministry of Environment and Gender Equality that must also be followed.

Section 1 General
Regulation 1 Definitions
In this Annex, the following definitions apply:
1 "Anniversary" means the day and month of the year corresponding to the date of expiry of the International Pollution Prevention Certificate for the carriage of noxious liquid substances in bulk.
2 "Associated pipework" refers to the unloading pipework extending from the tank suction point to the shore connection and includes all the ship's pipework, pumps and filters directly connected to the unloading system.
3 Ballast water
"Clean ballast" is ballast water in a tank which, since it was last used for a cargo containing a Category X, Y or Z substance, has been purified and emptied of residues after such purification in accordance with the relevant provisions of this Annex.
"Segregated ballast" means ballast water in a tank which is entirely separated from the cargo and fuel oil system and which is used exclusively for carrying ballast water or cargoes other than oil or noxious liquid substances as defined in this Convention.
4 Chemical codes
"The Bulk Chemical Code" (BCH Code) is the Code for the Construction and Equipment of Ships Carrying Harmful Chemicals in Bulk, adopted by Resolution MEPC 20(22) of the Marine Environment Protection Committee of the Organisation, as amended by the Organisation, provided that such amendments have been adopted and given effect in accordance with the provisions of Article 16 of the MARPOL Convention concerning amendment procedures applicable to Appendices to an Annex.
"The IBC Code" (International Bulk Chemical Code) is the International Code for the Construction and Equipment of Ships Carrying Harmful Chemicals in Bulk, adopted by the Marine Environment Protection Committee of the Organisation by Resolution MEPC 19(22), as amended by the Organisation, provided that such amendments are adopted and brought into force in accordance with the provisions of Article 16 of the MARPOL Convention concerning amendment procedures applicable to Appendices to an Annex.
5 "Water depth" is the depth indicated on the navigation chart.
6 "En route" means that the ship is proceeding on a course which may include deviations from the shortest direct route and which will spread any discharge over the largest possible sea area to the extent practicable.
7 "Liquid substances" are those substances whose vapour pressure does not exceed 280 kPa at a temperature of 37.8°C.
8 "Manual" is the Manual of Procedures and Arrangements, which conforms to the model in Appendix IV of MARPOL Annex II.
9 "Nearest coast". The term "from the nearest coast" means from the baseline from which the territorial sea of the territory concerned is determined in accordance with international law, except that "from the nearest coast" off the north-east coast of Australia means: from a line drawn
from a point at 11° south latitude, 142° 08' east longitude
to a point at 10° 35' south latitude, 141° 55' east longitude,
then to a point at 10° 00' south latitude, 142° 00' east longitude,
then to a point at 9° 10' south latitude, 143° 52' east longitude,
then to a point at 9° 00' south latitude, 144° 30' east longitude,
then to a point at 10° 41' south latitude, 145° 00' east longitude,
then to a point at 13° 00' south latitude, 145° 00' east longitude,
then to a point at 15° 00' south latitude, 146° 00' east longitude,
then to a point at 17° 30' south latitude, 147° 00' east longitude,
then to a point at 21° 00' south latitude, 152° 55' east longitude,
then to a point at 24° 30' south latitude, 154° 00' east longitude,
then to a point at 24° 42' south latitude, 153° 15' east longitude
on the coast of Australia.
10 "Noxious liquid substances" are substances listed under the pollution categories of Chapters 17 or 18 of the International Bulk Chemical Code or provisionally determined under the provisions of Regulation 6.3 to be in Category X, Y or Z.
11 "ppm" means ml/m^3.

12 "Residue" means any noxious liquid substance that must be disposed of.
13 "Residue/water mixture" is a residue to which water has been added for any reason (e.g. during tank cleaning or in ballast water).
14 "Ship's structure"
14.1 "Ship built" means a ship where the keel has been laid or where the ship has reached a similar stage of construction. A ship that has been converted into a chemical tanker shall, regardless of the date of construction, be treated as a chemical tanker built on the date on which the conversion commenced. This conversion provision does not apply to modifications to a ship that fulfils both of the following conditions:
14.1.1 the ship was built before 1 July 1986; and
14.1.2 the ship is certificated under the Bulk Chemical Code to carry only those products listed in the Code as polluting substances only.
14.2 "A corresponding construction stage" means the stage where:
14.2.1 a construction project that can be identified with a specific ship is started, and
14.2.2 assembly of this ship has commenced and involves at least 50 tonnes or 1% of the estimated total hull weight, whichever is less.
15 "Solidifying/non-solidifying substances"
15.1 "Solidifying substances" are harmful liquid substances which:
15.1.1 in cases where a substance has a melting point of less than 15°C, has a temperature less than 5°C above the melting point of the substance at the time of discharge; or
15.1.2 in cases where a substance with a melting point equal to or greater than 15°C has a temperature less than 10°C above the melting point of the substance at the time of discharge.
15.2 "Non-solidifying substances" are harmful liquid substances that are not solidifying substances.
16 "Tanker"
16.1 "Chemical tanker" is a tanker that is constructed or adapted to carry liquid bulk cargoes of products listed in Chapter 17 of the IBC Code;
16.2 "NLS tanker" is a tanker constructed or adapted for the carriage of noxious liquid substances in bulk and also includes an oil tanker as defined in Annex 1 when certified to carry a cargo or part cargo of noxious liquid substances in bulk.
17 "Viscosity"
17.1 "High viscosity substances" are noxious liquid substances of Category X or Y with a viscosity at or above 50 mPas at the unloading temperature.
17.2 "Low-viscosity substances" are noxious liquid substances that are not high-viscosity substances.
18"Audit" refers to a systematic, independent, and documented process that involves obtaining evidence through audits and evaluating it objectively to determine the extent to which the audit criteria have been met.
19"Audit Scheme" means the IMO Member State Audit Scheme as established by the Organisation and taking into account the guidelines developed by the Organisation.[1)]
20"Implementation Code" means the IMO Instruments Implementation Code (III Code) as adopted by the Organisation by Resolution A. 1070(28).
21"Audit standard" means the implementation code.
22 "Electronic logbook" is a device or system approved by the Administration to record electronically the required records of discharges, transfers and other operations prescribed under this Annex in lieu of a physical logbook.
23 "Sparingly soluble floating substance" is a smooth, malleable substance that fulfils the following conditions:
a. The density in sea water is equal to or less than 1025 kg/m3 at 20 degrees
b. Vapour pressure is less than or equal to 0.3 kPa
c. The solubility is less than or equal to 0.1% for liquids and less than or equal to 10% for solids; and
d. The kinetic viscosity is greater than 10 cSt at 20^0C"

Regulation 2 Application
1 Unless expressly specified otherwise, the provisions of this Annex apply to all ships carrying noxious liquid substances in bulk.

2 When a cargo subject to the provisions of Annex 1 is carried in a hold of an NLS tanker, the relevant provisions of Annex 1 shall also apply.

S Regulation 3 Exceptions

1 The requirements of this Annex and Chapter 2 of Part II-A of the Polar Code shall not apply to the discharge into the sea of noxious liquid substances when the discharge

1.1 is necessary for the safety of a ship or necessary to save human life at sea; or

1.2 occurs as a result of damage to a ship or its equipment provided that,

1.2.1 after the occurrence of the damage or discovery of the discharge, all reasonable precautions have been taken to avoid or minimise the discharge; and

1.2.2 the shipping company or master has not caused the damage wilfully or recklessly, knowing that there was a risk of damage, or

1.3 is with the approval of the Administration and for the purpose of combating specific pollution incidents to minimise pollution damage. Any such discharge must be authorised by the Contracting Party within whose jurisdiction the discharge is expected to occur.

Regulation 4 Exemptions

1 When the requirements for a transport operation are changed due to upgrading the classification of a product, the following applies:

1.1 If an amendment to this Annex and to the IBC Code and the BCH Code necessitates changes in construction or equipment and installations due to more stringent requirements for the carriage of a substance, the Administration may, for a specified period of time, modify or postpone the implementation of such changes for ships built before the entry into force of the amendment in question if the immediate enforcement of such change appears unreasonable or impracticable. Such relaxations shall be assessed on a substance by substance basis.

1.2 An Administration that permits relaxations in relation to such amendments shall send a report to the Organisation with information about the ship in question, the cargoes the ship may carry, the ship's area of operation, and the justification for the relaxation, which is forwarded to the other Convention countries for their information and possible reaction. Exemptions shall be indicated on the certificate referred to in Regulation 7 or 9.

1.3 Regardless of the above, an Administration may exempt a ship from the requirements of Regulation 11 when it is certified to carry vegetable oils identified by the relevant footnote in Chapter 17 of the IBC Code, provided that the ship fulfils the following conditions:

1.3.1 NLS tankers shall fulfil all requirements for a Type 3 ship as set out in the IBC Code, except requirements for the location of cargo tanks;

1.3.2 When this Regulation is applied, cargo tanks shall be placed at the following distances from the shell plating and shall be protected throughout their length by ballast tanks or spaces not containing oil:

1.3.2.1 tanks or spaces in the side shall be placed so that the cargo tank is located at a distance of at least 760 mm from the ship's shell (moulded);

1.3.2.2 tanks or spaces in the double bottom shall be arranged so that the distance between the bottom of the cargo tank and the moulded bottom skin, measured at right angles to the skin, is not less than B/15 (m) or 2.0 m at the centreline, whichever is less. The distance must be at least 1.0 m.

1.3.2.3 The relevant certificate shall indicate the exemption granted.

2 Subject to the provisions of Subsection 3, the provisions of Regulation 12(1) are not required to be complied with for ships built before 1 July 1986 operating in restricted areas as approved by the Administration between:

2.1 ports or terminals of a Convention country; or

2.2 ports or terminals of the Convention countries.

3 The provisions of Subsection 2 apply only to ships built before 1 July 1986 if

3.1 a tank which has contained substances of Category X, Y or Z or mixtures thereof is, each time it is washed or ballasted, cleaned in accordance with a procedure approved by the Administration in accordance with MARPOL Annex II, Appendix VI and the rinsing water is discharged to a reception facility;

3.2 subsequent rinse water or ballast water is discharged to a reception facility or into the sea in accordance with other provisions of this Chapter;

3.3 there are adequate reception facilities authorised by the governments of the Convention countries in

which such ports and terminals are located;
3.4 the Administration shall inform the Organisation, for dissemination to Convention countries, of the content of the exemption in cases where ships enter ports or terminals under the jurisdiction of other Convention countries; and
3.5 the certificate required by this Chapter shall be endorsed to the effect that the ship may only operate in such restricted areas.
4 The Administration may permit ships designed so that ballasting of cargo tanks is not necessary and cleaning of cargo tanks is only necessary for repairs or dry-docking to be exempted from the provisions of Regulation 12 if the following conditions are met:
4.1 the ship's design, construction and equipment are approved by the Administration having regard to the navigational purpose of the ship;
4.2 all wastewater from tank cleaning carried out in connection with a repair or dry-docking operation is discharged to a reception facility approved by the Administration;
4.3 the certificate required by this Annex:
4.3.1 indicates that each cargo tank may carry a limited number of substances which are compatible and which may be carried in rotation in the same tank without the tank being cleaned first; and
4.3.2 states the specific justification for the exemption;
4.4 the ship carries a Manual on board approved by the Administration; and
4.5 the Administration informs the Organisation for dissemination to Convention countries of the content of the exemption in cases where ships enter ports or terminals under the jurisdiction of other Convention countries.

S Regulation 5 Equivalences

1 The Administration may authorise the fitting of any equipment, materials, appliances or devices on a ship as an alternative to that required by this Chapter provided that the equipment, materials, appliances or devices are at least as effective as that required by this Chapter. This authorisation to the Administration shall not extend to substituting design requirements for operational procedures for the control of the discharge of noxious liquid substances as prescribed by the provisions of this Chapter.
2 The Administration which, in accordance with Subsection 1, authorises equipment, materials, devices or appliances as alternatives to the requirements of this Chapter shall inform the Organisation for dissemination to other Convention countries.
3 Regardless of the provisions of Subsections 1 and 2, the construction and equipment of gas carriers certified to carry noxious liquid substances listed in the applicable Gas Carrier Code shall be equivalent to the construction and equipment requirements of Regulation 11 and Regulation 12 of this Chapter provided that the gas carrier
3.1 holds a Certificate of Fitness in accordance with the relevant Gas Carrier Code for ships certificated to carry liquefied gases in bulk;
3.2 has an International Pollution Prevention Certificate for the Carriage of noxious liquid substances in bulk stating that the gas carrier may only carry noxious liquid substances as specified in the relevant Gas Carrier Code;
3.3 has segregated ballast arrangements;
3.4 is equipped with pumping systems and pipework approved by the Administration to ensure that the amount of cargo residues in the tank and associated pipework after discharge does not exceed the amount specified in Regulations 12.1, 12.2 or 12.3; and
3.5 has a Manual approved by the Administration to ensure that cargo residues do not mix with water and that cargo residues remain in the tank after the ventilation process has taken place as prescribed in the Manual.

Section 2 Categorisation of noxious liquid substances

Regulation 6 Categorisation and designation of harmful liquid substances and other substances

1 For the purposes of the provisions in this Chapter, noxious liquid substances are divided into four categories:
1.1 Category X - noxious liquid substances which, if discharged into the sea by tank cleaning or ballast discharge, would present a major hazard either to marine resources or to human health and therefore justify a prohibition of discharge into the sea.

1.2 Category Y - noxious liquid substances which, if discharged into the sea from tank cleaning or ballast water, would present a danger either to marine resources or human health or would harm amenities or interfere with other legitimate uses of the sea and therefore justify a restriction on the method and quantity of discharge into the sea.
1.3 Category Z - noxious liquid substances which, if discharged into the sea from tank cleaning or ballast water discharge, would present a minor hazard to either marine resources or human health and therefore justify minor restrictions on the method and quantity of discharge into the sea.
1.4 Other Substances - substances listed as OS (Other Substances) in the pollution category column of Chapter 18 of the IBC Code which have been assessed as falling outside Category X, Y or Z because they are not currently considered to pose a risk to marine resources, human health, amenities or other legitimate uses of the sea if discharged into the sea by tank cleaning or ballast discharge. Discharging bilge and ballast water or other residues or mixtures containing only substances listed as OS are not subject to the requirements of this Chapter.
2 Guidelines for the classification of noxious liquid substances are given in MARPOL Annex II, Appendix I
3 If it is desired to carry a liquid substance which has not been classified in accordance with Subsection 1 of this Regulation, the Governments of the Convention countries concerned in the proposed carriage shall make and agree upon an interim assessment of the proposed carriage on the basis of the guidelines referred to in Subsection 2. Until full agreement has been reached between the Governments concerned, the substance shall not be transported. The initiating Administration shall notify the Organisation as soon as possible, and no later than 30 days after the agreement has been reached, with details of the substance and the interim assessment so that the information can be circulated to all Contracting Parties for information. The Organisation shall maintain a register in which the provisional assessment of such substances shall be recorded until they have been officially included in the IBC Code.

Section 3 Surveys and certificates

S Regulation 7 Survey and certification of chemical tankers

1 Regardless of the provisions of Regulations 8, 9 and 10, chemical tankers which have been surveyed and certificated by a Convention country in accordance with the provisions of the IBC Code or the BCH Code, shall be deemed to comply with the provisions of this Chapter and the certificate issued in accordance with that Code, shall have the same force and recognition as a certificate issued in accordance with Regulation 9.

S Regulation 8 Surveys

1 Ships carrying noxious liquid substances in bulk shall be subject to the following surveys:
1.1 A first survey before the ship is put in service or before the certificate required by Regulation 9 is first issued, which shall include a complete survey of its structure, equipment, installations, accessories, appliances and materials in so far as the ship is covered by this Annex. This survey shall be sufficiently effective to ensure that the ship's structure, equipment, installations, accessories, appliances and materials fully comply with the provisions of this Annex.
1.2 A renewal survey at intervals to be determined by the Administration which shall not exceed five years except where Regulation 10(2), (5), (6) or (7) applies. The renewal survey shall be carried out to verify that the ship's structure, equipment, installations, accessories, appliances and materials fully comply with the provisions of this Annex.
1.3 An intermediate survey within three months before or after the second anniversary or within three months before or after the third anniversary of issuing the certificate. The survey must be carried out simultaneously with one of the annual surveys specified in Subsection 1.4 of this Regulation. The survey shall ensure that the equipment and the associated pump systems and pipework fully comply with the relevant regulations in this Annex and are in good operational condition. The certificate issued in accordance with Regulation 9 shall bear an endorsement indicating such intermediate surveys.
1.4 An annual survey within three months before or after the anniversary date of the issue of the certificate, which shall include a general survey of the structure, equipment, plant, appurtenances, arrangements and materials referred to in Subsection 1.1 to ensure that it has been maintained in accordance with Subsection 3 of this Regulation, and that it continues to be satisfactory for the service for which the ship is intended. The certificate issued under Regulation 9 shall bear an endorsement indicating such annual surveys.
1.5 Additional surveys shall be carried out either wholly or partly after a repair carried out on the basis of the surveys prescribed in Subsection 3 of this Regulation or when important repairs or renewals are carried out.

The survey shall be carried out to ensure that the necessary repairs or renewals have been carried out effectively, that the materials and workmanship of such repairs and renewals are satisfactory in all respects and that the ship in all respects complies with the provisions of this Annex.

2.1 Surveys of ships carried out for the purpose of enforcing the provisions of this Annex shall be conducted by officers of the Administration. However, the Administration may entrust surveys to surveyors appointed for the purpose or to organisations recognised by it.

2.2 Such organisations, including classification societies, shall be authorised by the Administration[2)] in accordance with the provisions of the MARPOL Convention and with the Code for Recognised Organisations (RO Code), consisting of Parts 1 and 2 (the provisions of which shall be considered mandatory) and Part 3 (the provisions of which shall be considered advisory), as adopted by the Organisation by Resolution MEPC. 237(65), as may be amended by the Organisation, provided that:

1) the amendments to Part 1 and Part 2 of the RO Code have been adopted, entered into force and given effect in accordance with the provisions of Article 16 of the MARPOL Convention concerning the amendment procedure applicable to this Chapter,

2) amendments to Part 3 of the RO Code have been adopted by the Maritime Safety Committee (MSC) in accordance with its rules of procedure, and

3) any amendments mentioned in Subsections 1 and 2, adopted by the Maritime Safety Committee (MSC) and the Environment Committee (MEPC), are identical and enter into force or take effect at the same time, as appropriate.

2.3 An Administration which appoints surveyors or recognised organisations to carry out the surveys and inspections referred to in Subsection 2.1 shall at least authorise any appointed surveyor or recognised organisation to:

2.3.1 to require the repair of a ship; and

2.3.2 to carry out surveys and inspections at the request of the appropriate authorities in a port of a Convention country.

2.4 The Administration shall inform the Organisation of the specific responsibilities and conditions of the authority assigned to the nominated surveyors or recognised organisations, and this information shall be communicated to the Contracting Parties for the information of their officers.

2.5 When a nominated surveyor or recognised organisation determines that the condition of the ship and its equipment does not substantially correspond to the information contained in the certificate or that the ship is in such a condition that it is not fit to proceed to sea without presenting an unreasonable danger to the marine environment, the surveyor or organisation concerned shall immediately ensure that the deficiency is rectified and shall notify the Administration in due time. If such rectification is not carried out, the certificate should be withdrawn and the Administration informed immediately; if the ship is in another Convention country, the appropriate port authorities of that Convention country should be informed immediately. When an officer of the Administration, a nominated surveyor or a recognised organisation has notified the appropriate port authorities of the Convention country concerned, the Government of that Convention country shall provide the necessary assistance to that officer, surveyor or organisation in carrying out their obligations under this Regulation. In this case, the Government of the Convention country concerned shall take measures to ensure that the ship does not set sail until it can do so or leave the port for the nearest repair yard without posing an unreasonable threat to the marine environment.

2.6 In all cases the Administration assumes full responsibility for the completeness and effectiveness of the survey and undertakes to ensure the necessary arrangements to fulfil this obligation.

3.1 The condition of the ship and its equipment shall be maintained so as to comply with the provisions of this Chapter to ensure that the ship remains in all respects fit to proceed to sea without presenting any unreasonable danger to the marine environment.

3.2 When a survey under Subsection 1 of this Regulation has been completed, no amendment of the ship's construction, equipment, fittings, arrangements, accessories, appliances or materials covered by the survey shall be made without the approval of the Administration, except for the direct replacement of such equipment and accessories.

3.3 In the event of an accident involving a ship or if a defect is discovered which significantly affects the condition of the ship or the operation of equipment covered by this Chapter, the master or the owner of the ship shall, at the earliest opportunity report to the Administration, the recognised organisation or the

nominated surveyor responsible for the issue of the relevant certificate, who shall then arrange for investigations to be carried out to determine whether a survey required under Subsection 1 of this Regulation is necessary. If the ship is in the port of another Convention country, the master or shipping company shall also immediately notify the appropriate authorities in the port of that State, and the nominated surveyor or recognised organisation shall satisfy itself that the required report has been made.

S Regulation 9 Issue and endorsement of certificates

1 After a survey has been carried out in accordance with the provisions of Regulation 8, an International Pollution Prevention Certificate for the carriage of noxious liquid substances in bulk shall be issued to every ship carrying such substances in bulk bound for ports or terminals under the jurisdiction of other Convention countries.

2 Such certificates shall be issued by the Administration or by a person or organisation duly authorised by it. In all cases, the Administration assumes full responsibility for the certificate.

3.1 The Government of a State Party may, at the request of the Administration, survey a ship and, if it is satisfied that the provisions of this Annex have been complied with, issue or authorise the issue of an International Pollution Prevention Certificate for the carriage of noxious liquid substances in bulk to the ship and, where necessary, endorse or authorise the endorsement of the Certificate in accordance with this Annex.

3.2 A copy of the certificate and of the survey report shall be sent as soon as possible to the Administration which requested the survey.

3.3 A certificate so issued shall bear an endorsement stating that it has been issued at the request of the Administration and shall have the same validity and recognition as a certificate issued under Subsection 1 of this Regulation.

3.4 An International Pollution Prevention Certificate for the carriage of noxious liquid substances in bulk shall not be issued to a ship entitled to fly the flag of a non-contracting State.

4 The International Pollution Prevention Certificate for the carriage of noxious liquid substances in bulk shall be made out in accordance with the model set out in MARPOL Annex II, Appendix III[3)] and shall be in at least English, French or Spanish. Entry in an official language of the country whose flag the ship is entitled to fly shall take precedence in case of dispute or inconsistency.

S Regulation 10 The certificate's period of validity

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 five years from the date of issue.

2.1 Regardless of the provisions of Subsection 1 of this Regulation, when the renewal survey is carried out within three months before the expiry date of the existing certificate, the new certificate shall be valid from the date of the periodical survey to a date not exceeding five years from the expiry date of the existing certificate.

2.2 When the renewal survey is performed after the expiry date of the existing certificate, the new certificate shall be valid from the date of the renewal survey to a date not exceeding five years from the expiry date of the existing certificate.

2.3 When the renewal survey is performed more than three months before the expiry date of the existing certificate, the new certificate shall be valid from the date of the renewal survey to a date not exceeding five years from the date of the renewal survey.

3 If a certificate is issued with a term of less than five years, the Administration may extend the certificate's period of validity to the maximum period specified in Subsection 1 of this Regulation, provided that the surveys referred to in Regulations 8.1.3 and 8.1.4 of this Chapter are held when the certificate is issued with a period of validity of five years.

4 If the renewal survey has been performed and a new certificate cannot be issued or placed on board the ship before the existing certificate expires, the person or organisation authorised by the Administration may revalidate the existing certificate. Such a certificate shall be recognised as valid for the period specified, which shall not exceed five months from the date of expiry.

5 If a ship is in a port where a survey cannot be held and the certificate has expired, the Administration may extend the certificate's period of validity, but such extension shall be granted only for the purpose of allowing the ship to complete the voyage to the port where the survey can take place and then only in cases where it is considered safe and reasonable to do so. No certificate may be extended beyond a period of three

months, and a ship which has been granted such an extension shall not, by virtue of the extension, leave the port where the survey was to take place without a new certificate. After the renewal survey has been performed, the period of validity of the certificate issued shall not exceed five years from the date of expiry of the existing certificate before the extension was authorised.
6 A certificate issued to a ship engaged on short voyages which has not been extended under the previous provisions may be extended by the Administration for a period of up to one month from the expiry date indicated. Once the renewal survey has been carried out, the new certificate may be valid for up to five years from the date of the existing certificate before the extension was authorised.
7 In special cases, as determined by the Administration, the validity period of a new certificate does not need to run from the expiry date of the existing certificate, as required under Subsections 2.2, 5 or 6 of this Regulation. In these exceptional cases, the period of validity of the new certificate shall not exceed five years from the date on which the renewal survey was performed.
8 If an annual or intermediate survey has been conducted before the period specified in Regulation 8, the following applies:
8.1 the annual survey date on the certificate shall be changed by endorsement to a date not more than three months later than the date on which the survey was performed;
8.2 the subsequent annual and intermediate surveys required by Regulation 8 shall be held at intervals as specified in that Regulation; and
8.3 the expiry date may remain unchanged provided that one or more annual or intermediate surveys are held so that the maximum interval between surveys specified in Regulation 8 is not exceeded.
9 A certificate issued under Regulation 9 shall be invalid in any of the following cases:
9.1 if the required surveys are not carried out within the periods specified in Regulation 8.1;
9.2 if the certificate is not endorsed in accordance with Regulations 8.1.3 and 8.1.4;
9.3 if a ship is transferred to the flag of another country. A new certificate shall be issued only when the Government issuing the new certificate is satisfied that the ship fully complies with the requirements of Regulations 8.3.1 and 8.3.2. In the case of a transfer between Convention countries, the Government whose flag the ship was previously entitled to fly shall, if requested within three months after the transfer has taken place, provide the new Administration as soon as possible with a copy of the certificate held by the ship before the transfer and, if available, a copy of the relevant survey report.

Section 4 Design, construction, arrangement and equipment

S Regulation 11 Design, construction, equipment and operation

1 The design, construction, equipment and operation of ships carrying noxious liquid substances listed in Chapter 17 of the IBC Code shall comply with the following codes in order to minimise the uncontrolled discharge into the sea of such substances:
1.1 The IBC Code if the chemical tanker was built on or after 1 July 1986;
1.2 The BCH code, to the extent referred to in Regulation 1.7.2 of the Code, for
1.2.1 ships for which the building contract was entered into on or after 2 November 1973 but which were built before 1 July 1986 and which proceed to ports or terminals under the jurisdiction of another Convention country; and
1.2.2 ships built on or after 1 July 1983 but before 1 July 1986, operating only between ports or terminals within the State whose flag the ship is entitled to fly.
1.3 The BCH code, to the extent referred to in Regulation 1.7.3 of this Code, for
1.3.1 ships for which the building contract was entered into before 2 November 1973 and which proceed to ports or terminals under the jurisdiction of another Convention country; and
1.3.2 ships built before 1 July 1983 that only sail between ports or terminals within the State whose flag the ship is entitled to fly.
2 For all ships other than chemical tankers and gas carriers carrying noxious liquid substances listed in Chapter 17 of the IBC Code, the Administration shall establish appropriate measures, based on guidelines developed by the Organisation,[4)] to reduce the uncontrolled discharge into the sea of such substances.

S Regulation 12 Pumps, pipes, discharge systems and slop tanks

1 All ships built before 1 July 1986 shall have pumping systems and pipework, which ensure that each tank intended for the carriage of a Category X or Y substance does not contain a residual quantity exceeding 300 litres in the tank and its associated pipework, and that each tank intended to contain a Category Z substance

does not contain a residual volume exceeding 900 litres in the tank and its associated pipework. A functional test shall be carried out in accordance with MARPOL Annex II, Appendix V

2 All ships built on or after 1 July 1986 but before 1 January 2007, shall be fitted with pumping systems and pipework that ensures that each tank intended to carry a Category X or Y substance does not contain a residual quantity exceeding 100 litres in the tank and its associated pipework, and that each tank intended to contain a Category Z substance does not contain a residual quantity exceeding 300 litres in the tank and its associated pipework. A functional test shall be carried out in accordance with MARPOL Annex II, Appendix V

3 Every ship built on or after 1 January 2007 shall be fitted with pumping systems and pipework that ensures that each tank intended to carry a Category X, Y or Z substance does not contain a residual quantity exceeding 75 litres in the tank and its associated pipework. A functional test shall be carried out in accordance with MARPOL Annex II, Appendix V

4 Ships built before 1 January 2007 that are not chemical tankers and which cannot comply with the requirements of Subsections 1 and 2 for pumping systems and pipework for Category (Z) substances, need not comply with the residual quantity requirements. The requirements are considered to be met if the tank is emptied as much as practicable.

5 Functional testing of pumps, cf. Subsections 1, 2 and 3, must be approved by the Administration. Testing of pumps shall use water as the test medium.

6 Ships intended to carry Category X, Y and Z substances shall have an outlet below the waterline.

7 For ships built before 1 January 2007 and intended to carry Category Z substances, an outlet below the waterline is not required as in Subsection 6 of this Regulation.

8 Outlets below the waterline shall be located within the cargo section in the vicinity of the ship's bilge and shall be so arranged as to avoid re-entry of residual water/water mixture into the ship's seawater intakes.

9 Discharge below the waterline shall be arranged so that residual/water mixtures discharged into the sea do not pass through the ship's boundary layer. When discharge is perpendicular to the ship's shell plating, the diameter of the outlet shall be at least:

$d = Q_d/5L_d$

where:

d = minimum diameter of the outlet (m)

L_d = distance from the front perpendicular to the outlet (m)

Q_d = the maximum flow rate through the outlet that the ship may use to discharge the residual/water mixture (m^3/h).

10 When the discharge is at a different angle to the outer skin of the ship, the above conditions shall be modified by using the perpendicular component of Q_d in the expression.

11 Slop tanks

Although this Annex does not require specific slop tanks, these may be necessary for certain cleaning processes. It is permitted to use cargo tanks as slop tanks.

Section 5 Discharging residues of noxious liquid substances

M Regulation 13 Discharging noxious liquid substances

Subject to the provisions of Regulation 3, discharging residues of noxious liquid substances or of ballast water, tank washings or other mixtures containing such substances shall be in accordance with the following provisions.

1 Discharge provisions

1.1 Discharging substances into the sea in 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 discharge is in accordance with the applicable operational requirements of this Annex.

1.2 Before the tank cleaning or discharge procedure is carried out in accordance with this Regulation, the tank in question shall be emptied as far as possible in accordance with the procedure described in the Manual.

1.3 Substances which have not been categorised or provisionally assessed in accordance with Regulation 6 of this Annex, or ballast water, tank washings or other mixtures containing such substances shall not be transported or discharged into the sea.

2 Discharge criteria

2.1 When the discharge of residues of substances in Categories X, Y and Z, or of substances provisionally assessed as such, or ballast water, tank washings or other mixtures containing such substances is permitted under this Regulation, the following shall apply:
2.1.1 the ship shall make a minimum en route speed of 7 knots if self-propelled or 4 knots if not self-propelled,
2.1.2 the discharge shall be made below the waterline at a discharge speed not exceeding the authorised speed calculated for the discharge; and
2.1.3 the discharge shall be made at a distance of not less than 12 nautical miles from the nearest coast and at a water depth of not less than 25 metres.
2.2 For ships built before 1 January 2007, discharge below the waterline is not required for residues of substances in Categories X, Y and Z, or of substances provisionally assessed as such, or required for ballast water, tank washings or other mixtures containing such substances.
2.3 For Category Z material, the Administration may waive the requirement of Subsection 2.1.3 for a minimum distance of 12 nautical miles from the nearest coast for those ships operating only in waters under the jurisdiction of the flag State whose flag the ship is entitled to fly. In addition, the Administration may waive the same requirement of a minimum distance of 12 nautical miles from the nearest coast for a specific ship entitled to fly their flag when operating in waters under the sovereignty or jurisdiction of a neighbouring State and after written agreement has been reached between the two coastal States involved, provided that a third party will not be affected. Notification of such agreement shall be sent to the Organisation within a period of 30 days and then forwarded to the Convention countries for information and possible action.

3 Venting cargo residues

Venting by a method approved by the Administration may be used to remove cargo residues from a tank. Such a procedure shall be in accordance with MARPOL Annex II, Appendix VII. Water subsequently added to the tank is considered clean and is not subject to the discharge requirements of this Annex.

4 Exemption from tank cleaning

At the request of the master of the ship, the Government of the receiving State may exempt a ship from tank cleaning if it is duly justified:
4.1 the unloaded tank is reloaded with the same substance or another substance compatible with the previous one and the tank is not cleaned or ballasted prior to loading; or
4.2 the unloaded tank is neither cleaned nor ballasted at sea. Tank cleaning, as specified in the provisions of this Regulation, must be carried out in another port, provided that it has been confirmed in writing that there is a reception facility in the port in question, and that it is suitable for the purpose, or
4.3 cargo residues are removed by a method of venting approved by the Administration in accordance with MARPOL Annex II, Appendix VII.

5 Use of detergents and additives

5.1 When a medium other than water, such as mineral oil or chlorinated solvent, is used to clean a tank, discharge shall be in accordance with the provisions of Annex 1 or Annex 2, which would apply if that medium had been carried as cargo. Tank cleaning procedures that include the use of such solvent shall be specified in the Manual and approved by the Administration.
5.2 When small quantities of cleaning agents are added to water to facilitate tank cleaning, substances of pollution Category X shall not be used except for those components that are rapidly biodegradable and added in a concentration not exceeding 10%. No further restrictions apply in addition to those applicable to the previous load.

6 Discharging Category X substances

Provided that Subsection 1 is complied with:
6.1 If a tank that has contained Category X substance has been unloaded, it must be cleaned before the ship leaves the port. The residues shall be discharged to a reception facility until the concentration of the substance is at or below 0.1% (weight). Once the required concentration level is reached, residues of the tank wash water must be discharged to the reception facility until the tank is empty. Full descriptions of such operations shall be entered in the cargo logbook and signed by the inspector in accordance with Regulation 16(1).
6.2 Water subsequently filled into the tank may be discharged into the sea in accordance with the criteria of Regulation 13(2).

6.3 In cases where the Government of a Convention country agrees that it is impracticable to measure the concentration of the substance in the wastewater without causing undue delay to the ship, that Convention country may accept an alternative method of determining the concentration specified in Regulation 13.6.1.1 provided that:
6.3.1 the tank is cleaned in accordance with a procedure approved by the Administration in accordance with MARPOL Annex II, Appendix VI; and
6.3.2 adequate records are entered in the cargo logbook and endorsed by an inspector in accordance with Regulation 16(1).
7 Discharging substances in Categories Y and Z
7.1 Subject to compliance with Subsection 1, the following shall apply:
7.1.1 Discharging residues of Category Y or Z substances shall be in accordance with the criteria in Regulation 13(2).
7.1.2 If discharging substances in Categories Y or Z is not carried out in accordance with the Manual, tank cleaning shall be carried out before the ship leaves the port unless alternative measures approved by an inspector in accordance with Regulation 16(1) have been implemented to remove cargo residues in the ship to an extent complying with this Annex. The resulting tank washings shall be discharged to a reception facility in the port or another port with a suitable reception facility, provided that it has been confirmed in writing that a reception facility is available in that port and that it is suitable for the purpose.
7.1.3 For high viscosity or solidifying substances of Category Y:
7.1.3.1 a tank cleaning procedure as specified in MARPOL Annex II, Appendix VI shall be used,
7.1.3.2 residual/water mixtures from tank cleaning shall be discharged to a reception facility until the tank is empty; and
7.1.3.3 water subsequently loaded into the tank may be discharged into the sea in accordance with the discharge criteria in Regulation 13(2).
7.1.4 for Category Y substances that are poorly soluble substances that flow and have either a viscosity equal to or greater than 50 mPa.s at 20°C, or a melting point equal to or greater than 0°C, as identified in '16.2.7' column 'o' of Chapter 17 of the IBC Code, the following applies for areas mentioned in Subsection 9:
1) A tank cleaning procedure as specified in MARPOL Annex II, Appendix VI shall be used.
2) Tank cleaning residues and water mixtures generated during an unloading operation shall be discharged to a reception facility in the port of discharge until the tank is empty.
3) Water subsequently loaded into the tank may be discharged into the sea in accordance with the requirements of Regulation 13(2).
7.2 Operational requirements for ballast water intake and discharge
7.2.1 After unloading and if necessary after tank cleaning, a cargo tank may be filled with ballast water. Criteria for discharging ballast water are set out in Regulation 13(2).
7.2.2 Ballast water which has been loaded into a cargo tank which has been cleaned to such an extent that the ballast water contains less than 1 ppm of the substance contained in the tank may be discharged into the sea irrespective of the rate of discharge, the speed of the ship or the location of the discharge, provided that the ship is not less than 12 nautical miles from the nearest coast and is in waters not less than 25 metres deep. The required cleanliness is achieved when a tank cleaning as specified in MARPOL Annex II, Appendix VI has been carried out and the tank has subsequently been washed with a complete cycle of the tank cleaning system - for ships built before 1 July 1994, or with a quantity of water not less than that calculated when k = 1.0.
7.2.3 Discharge into the sea of clean or segregated ballast water is not subject to the requirements of this Annex.
8 Discharging in the Antarctic region
8.1 The "Antarctic region" is the sea area south of 60° south latitude.
8.2 The discharge of noxious liquid substances or mixtures of such substances is not permitted in the Antarctic region.
9 Areas where Regulation 13.7.1.4 applies:
9.1 The North West European sea areas - the North Sea and its approach waters, the Irish Sea and its approach waters, the Celtic Sea, the English Channel and its approach waters and part of the North East Atlantic sea area immediately adjacent to the west of Ireland. The area is bounded by the lines through the

following points:
From the point at 48°27' north latitude on the coast of France,
then to a point at 48°27' north latitude, 006°25' west longitude,
then to a point at 49°52' north latitude, 007°44' west longitude,
then to a point at 50°30' north latitude, 012° west longitude,
then to a point at 56°30' north latitude, 012° west longitude,
then to a point at 62° north latitude, 003° west longitude,
then to the point at 62° north latitude on the coast of Norway, and
then to 57°44.8" north latitude on the Danish and Swedish coasts.
9.2 Baltic Sea area - the Baltic Sea proper with the Gulf of Bothnia, the Gulf of Finland and the entrance to the Baltic Sea bounded in the Skagerrak by the latitude of Skagen at 57°44.8' north latitude.
9.3 The Western European sea areas covering Great Britain, Ireland, Belgium, France, Spain and Portugal from the Shetland Islands in the north to Cape S., Vicente in the south and the approaches to the English Channel. The area is bounded by the lines through the following points:
58°30' north latitude on the English coast
From the point at 58°30' north latitude, 000° west longitude,
then to the point at 62° north latitude, 000° west longitude,
then to a point at 62° north latitude, 003° west longitude,
then to a point at 56°30' north latitude, 012° west longitude,
then to a point at 54°40'40.9" north latitude, 015° west longitude,
then to a point at 50°56'45.3" north latitude, 015° west longitude,
then to a point at 48°27' north latitude, 006°25' west longitude,
then to the point 48°27' north latitude, 008° west longitude,
then to the point at 44°52' north latitude, 003°10' west longitude,
then to the point at 44°52' north latitude, 010° west longitude,
then to a point at 44°14' north latitude, 011°34' west longitude,
then to a point at 42°55' north latitude, 012°18' west longitude,
then to a point at 41°50' north latitude, 011°34' west longitude,
then to a point at 37°00' north latitude, 009°49' west longitude,
then to a point at 36°20' north latitude, 009°00' west longitude,
then to a point at 36°20' north latitude, 007°47' west longitude,
then to a point at 37°10' north latitude, 007°25' west longitude,
then to a point at 51°22'25" north latitude, 003°21'52.5" east longitude,
then to a point at 52°12' north latitude, on the east coast of England,
then to a point at 52°10.3' north latitude, 006°21.8' west longitude,
then to a point at 52°01.52' north latitude, 005°04.18' west longitude,
then to a point at 54°51.43' north latitude, 005°08.47' west longitude and
then to a point at 54°40.39' north latitude, 005°34.34' west longitude.
9.4 Norwegian Sea. The area is bounded by the lines through the following points:
From the point 69°47.6904' north latitude, 030°49.059' east longitude,
then to a point at 69°58.758' north latitude, 031°6.2598' east longitude,
then to a point at 70°8.625' north latitude, 031°35.1354' east longitude,
then to a point at 70°16.4826' north latitude, 032°4.3836' east longitude,
then to a point at 73°23.0652' north latitude, 036°28.5732' east longitude,
then to a point at 73°35.6586' north latitude, 035°27.3378' east longitude,
then to a point at 74°2.9748' north latitude, 033°17.8596' east longitude,
then to a point at 74°20.7084' north latitude, 030°33.5052' east longitude,
then to a point at 74°29.7972' north latitude, 026°28.1808' east longitude,
then to a point at 74°24.2448' north latitude, 022°55.0272' east longitude,
then to a point at 74°13.7226' north latitude, 020°15.9762' east longitude,
then to a point at 73°35.439' north latitude, 016°36.4974' east longitude,
then to a point at 73°14.8254' north latitude, 014°9.4266' east longitude,
then to a point at 72°42.54' north latitude, 011°42.1392' east longitude,

thenc to a point at 71°58.2' north latitude, 009°54.96' east longitude,
then to a point at 71°37.5612' north latitude, 008°43.8222' east longitude,
then to a point at 70°43.161' north latitude, 006°36.0672' east longitude,
then to a point at 69°36.624' north latitude, 004°47.322' east longitude,
then to a point at 68°58.3164' north latitude, 003°51.2154' east longitude,
then to a point at 68°14.9892' north latitude, 003°17.0322' east longitude,
then to a point at 67°25.7982' north latitude, 003°10.2078' east longitude,
then to a point at 66°49.7292' north latitude, 003°25.1304' east longitude,
then to a point at 66°25.9344' north latitude, 003°17.1102' east longitude,
then to a point at 65°22.7214' north latitude, 001°24.5928' east longitude,
then to a point at 64°25.9692' north latitude, 000°29.3214' west longitude,
then to a point at 63°53.2242' north latitude, 000°29.442' west longitude,
then to a point at 62°53.4654' north latitude, 000°38.355' east longitude,
then to a point at 62° north latitude, 001°22.2498' east longitude, and
then to the point at 62° north latitude, 004°52.3464' east longitude.

S Regulation 14 Manual of Procedures and Arrangements

1 Every ship which is intended to carry substances of Category X, Y or Z shall carry a Manual of procedures on board approved by the Administration. The Manual shall be in a standard format in accordance with MARPOL Annex II, Appendix IV. In cases where a ship is engaged in international trade and the working language is not English, French or Spanish, there must be a translation of the text into one of these languages.

2 The main purpose of the Manual is to inform ship officers of the physical arrangement and all operational procedures for cargo handling, tank cleaning, cargo residue handling and ballast water intake and discharge that must be followed to fulfil the requirements of this Annex.

S Regulation 15 Cargo logbook

1 Every ship to which this Annex applies shall carry a cargo logbook either as part of the ship's logbook, as a separate log or as an electronic logbook approved by the Administration taking into account the guidelines developed by the Organisation [5)]and in the form specified in MARPOL Annex II, Appendix II. *The cargo logbook shall be maintained in accordance with the instructions in the log.*

2 Every operation specified in MARPOL Annex II, Appendix II shall be entered in the cargo logbook immediately after the operation has been completed.

3 In the event of an accidental discharge of a noxious liquid substance or mixture containing such a substance or a discharge subject to the provisions of Regulation 3, the circumstances and cause of the discharge shall be recorded in the cargo logbook.

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 cargo logbook entries for ships carrying an International Pollution Prevention Certificate for the carriage of noxious liquid substances in bulk or a certificate referred to in Regulation 7 shall be made in English, French or Spanish. If an official language of the country whose flag the ship is entitled to fly is also used, it shall prevail in case of dispute or inconsistency.

5 The cargo logbook shall be kept in such a place that it is readily accessible for inspection and, except for unmanned ships under tow, shall be kept on board. The log shall be kept until three years after the last importation.

6 The competent authority of the Government of a Convention country shall have the right to inspect the cargo logbook on board any ship to which this Annex applies while the ship is in port and to take a copy of any entry in the logbook and to require the master to certify the accuracy of the copy. Any copy certified by the master to be a true copy of an entry in the ship's log of harmful substances shall be admissible in any legal proceedings as evidence of the facts stated in the entry. The inspection of the cargo logbook by the competent authority and the making of a certified copy shall be carried out as soon as possible and shall not cause undue delay to the ship.

7 *The cargo logbook shall be kept in a clear manner and no page shall be torn out. What has been entered shall not be erased, crossed out or otherwise rendered illegible. If it becomes necessary to make corrections to the logbook, the correction shall be entered annotated.*

Section 6 Control measures at port States

S Regulation 16 Control measures

1 The Government of a Convention country shall appoint or authorise inspectors for the purpose of implementing this Regulation. The inspectors shall carry out checks in accordance with the control procedures developed by the Organisation.[6)]

2 When an inspector appointed or authorised by the Government of a Convention country has confirmed that an operation has been carried out in accordance with the requirements of the Manual or has granted an exemption from tank cleaning, the inspector shall make an appropriate entry in the cargo logbook.

3 The master of a ship carrying noxious liquid substances in bulk shall ensure that the provisions of this Regulation and of Regulation 13, and of Chapter 2 of Part II-A of the Polar Code when the ship is engaged on voyages in Arctic waters, are complied with and shall ensure that the cargo logbook is completed in accordance with Regulation 15 when operations subject to that Regulation take place.

4 A tank which has contained Category X material shall be purged in accordance with Regulation 13(6). The relevant records of this operation shall be made in the cargo logbook and shall be endorsed by the inspector in accordance with Subsection 1 of this Regulation.

5 If the Government of the receiving State is satisfied that it is impracticable to measure the concentration of the substance in the wastewater without causing undue delay to the ship, it may authorise the alternative method referred to in Regulation 13(6.3), provided that the surveyor referred to in Subsection 1 certifies in the cargo logbook that:

5.1 the tank and associated pumping systems and pipework have been emptied; and

5.2 tank washing has been carried out in accordance with the provisions of MARPOL Annex II, Appendix VI

5.3 the tank wash water from such tank wash has been discharged to a reception facility and that the tank is empty.

6 At the request of the master, the Government of the receiving State may exempt the ship from the tank cleaning requirements of Regulation 13 provided that one of the conditions in Regulation 13(4), is met.

7 An exemption referred to in Subsection 6 of this Regulation may be granted by the Government of the receiving country only to a ship which is en route to ports or terminals under the jurisdiction of other Convention countries. When such exemption is granted, the relevant entry to be made in the cargo manifest shall be endorsed by the surveyor referred to in Subsection 1.

8 If unloading is not carried out in accordance with the conditions applicable to the cargo tank pumping system approved by the Administration and based on MARPOL Annex II, Appendix V, other methods approved by the surveyor referred to in Subsection 1 may be used to remove cargo residues to the quantity specified in Regulation 12. Relevant records shall be entered in the cargo record book.

9 Port State control on operational requirements[7)]

9.1 A ship which is in the port of another Convention country may be subject to inspection by a person duly authorised by the Convention country when there are clear grounds for believing that the master or crew of the ship is not familiar with essential shipboard procedures for the prevention of pollution by harmful liquid substances.

9.2 If the situation referred to in Subsection 1 applies, the Convention country shall take steps to ensure that the ship does not depart until the situation is rectified in accordance with the provisions of this Annex.

9.3 The port State control procedure prescribed in Article 5 of the MARPOL Convention shall be applied in the enforcement of this Regulation.

9.4 Nothing in this Regulation shall be construed as limiting the rights and obligations of a Convention country in relation to the exercise of control of operational requirements prescribed explicitly in the MARPOL Convention.

10 *The ship's agent shall notify the Danish Maritime Authority or the inspector referred to in Subsection 2 of the arrival of ships that are to discharge noxious liquid substances carried in bulk. The notification shall be given in sufficient time to enable the endorsement referred to in Subsection 2 to be completed without undue delay to the ship.*

Section 7 Prevention of pollution by noxious liquid substances

S Regulation 17 Ship's emergency plan for pollution by noxious liquid substances

1 Every ship of 150 gross tonnage and above which is authorised to carry noxious liquid substances in bulk shall be provided with a ship's emergency plan approved by the Administration for use in the event of

pollution by noxious liquid substances.
2 Such a plan shall be carried out in accordance with the guidelines[8)] established by the Organisation and shall be written in the working language of the master and officers. The plan shall include at least:
2.1 the procedure to be followed by the master or other persons in command of the ship for the reporting of pollution by noxious liquid substances, developed in accordance with the guidelines developed by the Organisation as required by Article 8 of the Convention and Protocol I[9)]
2.2 a list of the authorities or persons to be contacted in the event of a pollution incident involving noxious liquid substances,
2.3 a detailed description of the immediate action to be taken by the persons on board to minimise or control the release following the accident; and
2.4 procedures and contacts on board the ship for coordinating the actions on board with the national local pollution response authorities.
3 The plan may be combined with the ship's oil pollution emergency plan required by Regulation 37 of Annex 1. In that case, the combined plan shall be labelled: "Ship's emergency plan".

Section 8 Reception facilities

M Regulation 18 Reception facilities and arrangements in unloading terminals

1 The Government of each Convention country undertakes to ensure that reception facilities are provided as necessary for ships using its ports, terminals or repair ports in accordance with the following guidelines:
1.1 ports and terminals where cargo handling operations are carried out shall have adequate facilities to receive, without undue delay to the ships, residues and mixtures containing noxious liquid substances to be delivered in accordance with the provisions of this Annex; and
1.2 repair ports where repairs are carried out on NLS tankers shall have facilities adequate to receive the ships' residues and mixtures containing noxious liquid substances.
2 Each Convention country shall determine the type of facilities to be provided in each port, terminal and repair port to comply with Subsection 1 of this Regulation and shall inform the Organisation thereof.
3 The following States may fulfil the provisions of Subsections 1, 2 and 6 of this Regulation through regional arrangements when, due to their particular circumstances, such arrangements constitute the only practical means of meeting these requirements.
3.1 Small Island Developing States; and
3.2 States that have a coastline on Arctic waters, provided that the regional arrangements apply only to ports within the Arctic waters of these States.
Parties participating in a regional scheme shall develop a regional reception facilities plan taking into account the guidelines developed by the Organisation[10)].
The Government of any Party participating in the scheme shall consult with the Organisation with a view to circulating the following information to Contracting Parties to the MARPOL Convention:
3.3 how the regional reception facility plan takes into account the guidelines developed by the Organisation;
3.4 details of the identified regional ship-generated waste reception centres taking into account the guidelines developed by the Organisation; and
3.5 details of ports with only limited facilities.
4 Where Regulation 13 of this Annex requires prior cleaning and where the regional reception facilities plan applies to the port of discharge, the cleaning and subsequent discharge to a reception facility shall be carried out as prescribed in Regulation 13 of this Annex at a regional ship-generated waste reception centre as specified in the applicable regional reception facilities plan.
5 The Governments of the Convention countries which have coastlines adjacent to any special area shall jointly agree on a date by which the requirement of Subsection 1 of this Regulation shall be complied with and the relevant requirements of Regulation 13 shall enter into force and shall notify the Organisation of that date at least six months in advance. The Organisation shall thereafter notify Convention countries of this date as soon as possible.
6 The Government of each Convention country shall ensure that unloading terminals have facilities for stripping cargo tanks of ships discharging noxious liquid substances at such terminals. Cargo hoses and pipework in the terminal containing noxious liquid substances from ships discharging such substances at the terminal shall not be drained back to the ship.
7 Each Convention country shall communicate to the Organisation for action to the parties concerned all

cases where the facilities required under Subsection 1 of this Regulation or the arrangements required under Subsection 3 of this Regulation are alleged to be inadequate.

Section 9 Verification of compliance with the provisions of the MARPOL Convention

Regulation 19 Application

The Contracting Parties shall apply the provisions of the Implementation Code when performing their obligations and assuming their responsibilities under the SOLAS Convention.

Regulation 20 Verification of compliance

1 Each Contracting Party shall be subject to periodic audits by the Organisation in accordance with the Audit Standard to verify compliance with and implementation of the MARPOL Convention.

2The Secretary General of the Organisation shall be responsible for the administration of the audit scheme on the basis of the guidelines established by the Organisation.[11)]

3 Each Contracting Party shall be responsible for facilitating the conduct of the audit and the implementation of an action programme to address observations based on the guidelines developed by the Organisation.[12)]

4 Audits of all Contracting Parties shall:

4.1be based on an overall timetable prepared by the Secretary General of the Organisation, taking into account the guidelines prepared by the Organisation;[13)] and

4.2 carried out at periodic intervals taking into account the guidelines established by the Organisation.[14)]

Section 10 International Code for Ships in Polar Waters

Regultion 21 Definitions

For the purposes of this Annex, the following definitions apply:

1 "Polar Code" refers to the International Code for Ships in Polar Waters, consisting of an Introduction and Parts I-A and II-A and Parts I-B and II-B, as adopted by Resolutions MSC. 385(94) and MEPC. 264(68)), as amended, provided that:

1.1 amendments to the environment-related provisions of the Preamble and Chapter 2 of Part II-A of the Polar Code have been adopted, entered into force and given effect in accordance with the provisions of Article 16 of the MARPOL Convention concerning the amendment procedures applicable to an Appendix to an Annex; and

1.2 amendments to Part II-B of the Polar Code shall be adopted by the IMO Environment Committee (MEPC) in accordance with its Rules of Procedure.

2 "Arctic waters" are waters located north of a line from latitude 58°00'. 0 N and longitude 042°00'. 0 W to latitude 64°37'. 0 N, longitude 035°27'. 0 W, and then by compass line to latitude 67°03'. 9 N, longitude 026°33'. 4 W and then by compass line to latitude 70°49'. 56 N and longitude 008°59'. 61 W (Sørkapp, Jan Mayen), and via the southern coast of Jan Mayen to 73°31'. 6 N and 019°01'. 0 E at Bjørnøya, and from there via a great circle line to latitude 68°38'. 29 N and longitude 043°23'08 E (Cap Kanin Nos), and then via the northern coast of the Asian continent eastwards to the Bering Strait, and then from the Bering Strait westwards to latitude 60° N as far as Il'pyrskiy and along the 60. North latitude eastwards as far as and including the Strait of Etolin, and then through the northern coast of the North American continent as far south as latitude 60° N, and then eastwards along latitude 60° N to longitude 056°37'. 1 W, and then to latitude 58°00'. 0 N, longitude 042°00'. 0 W.

3 "Polar waters" are Arctic waters and/or the Antarctic region.

Regulation 22 Application and requirements

1 This Annex applies to all ships in polar waters which are recognised to carry noxious liquid substances in bulk.

2 Unless expressly stated otherwise, all ships covered by Subsection 1 shall comply with the environment-related provisions of the Preamble and Part II-A of the Polar Code in addition to any other applicable requirements of this Annex.

3 When applying Chapter 2 of Part II-A of the Polar Code, the additional guidance contained in Part II-B of the Polar Code should be taken into account.

Annex 3

Prevention of pollution by harmful substances carried by sea in a packaged form

Section I	**General**

Introduction

This Annex contains the provisions of Annex III of the International Convention for the prevention of pollution from ships - MARPOL 73/78 and subsequent amendments.

The provisions apply to all ships carrying harmful substances in packaged form; they do not apply to the ship's equipment and stores.

The provisions are administered so that the regulations and subsections marked with an M are administered by the Danish Environmental Protection Agency, and those marked with an S are administered by the Danish Maritime Authority.

The provisions are mainly of an operational nature and are for the most part aimed at shippers of harmful substances (packaging, labelling and documentation).

Regarding the implementation of the MARPOL Convention in Denmark, in addition to the Executive Orders issued by the Danish Maritime Authority, there are also Executive Orders issued by the Ministry of Environment and Gender Equality that must also be followed.

Section I - General

Regulation 1 - Definitions

In this Annex, the following definitions apply:

1 "Harmful substances" are substances identified as marine pollutants in the International Maritime Dangerous Goods (IMDG) Code[1] or which fulfil the criteria in the Appendix to this Annex.

2 "Packaged form" is defined as the containment specified for harmful substances in the IMDG Code.

3 "Audit" refers to a systematic, independent, and documented process that involves obtaining evidence through audits and evaluating it objectively to determine the extent to which the audit criteria have been met.

4 "Audit Scheme" means the IMO Member State Audit Scheme as established by the Organisation and taking into account the guidelines developed by the Organisation[2)].

5 "Implementation Code" means the IMO Instruments Implementation Code (III Code) as adopted by the Organisation by Resolution A. 1070(28).

6 "Audit standard" means the implementation code.

Regulation 2 – Application

1 Unless expressly specified otherwise, the provisions of this Annex shall apply to all ships carrying harmful substances in packaged form.

2 The carriage of harmful substances shall not be authorised except in accordance with the provisions of this Annex.

2a As an alternative to the IMDG Code, the Baltic Sea Agreement on the Transport of Dangerous Goods can be used within the framework set out in the agreement [3)].

3 The Government of each Party shall promulgate, or cause to be promulgated, detailed requirements for packaging, marking and labelling, documentation, stowage, quantity limits and exemptions to prevent or

minimise pollution of the maritime environment by harmful substances to supplement the provisions of this Annex[4)].

4 For the purposes of this Annex, empty packagings previously used 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 residues harmful to the marine environment.

5 The provisions of this Chapter shall not apply to ship's stores and equipment.

S Regulation 3 - Packaging

Packaging shall be adequate to minimise the risk to the marine environment with regard to its specific contents.

S Regulation 4 - Marking and labelling

1 Packaging containing a harmful substance shall be durably marked or labelled to show that the substance is harmful in accordance with the relevant provisions of the IMDG Code.

2 The manner of affixing marks or labels to packages containing harmful substances shall be in accordance with the relevant provisions of the IMDG Code.

S Regulation 5 - Documentation [5)]

1 Transport information concerning the carriage of harmful substances shall be in accordance with the relevant provisions of the IMDG Code and shall be made available to the person or organisation designated by the port State authority.

2 Every ship carrying harmful substances shall carry a special list, manifest or stowage plan which, in accordance with the relevant provisions of the IMDG Code, indicates the harmful substances carried on board and their location. A copy of one of these documents must be made available before departure to the person or organisation designated by the port state authority.

S Regulation 6 - Stowage

Harmful substances shall be properly stowed and secured so as to minimise the risk to the marine environment without compromising the safety of the ship and its occupants.

S Regulation 7 - Quantity limitations

It may be necessary for important scientific and technical reasons to prohibit the carriage or impose restrictions on the quantity of certain harmful substances which may be carried on board a ship. In setting quantity restrictions, due account shall be taken of the size, construction and equipment of the ship, as well as of the packaging and special nature of the substance.

M Regulation 8 Exceptions

1 The throwing overboard of harmful substances carried in packaged form is prohibited except when this is necessary for the safety of the ship or to save human life at sea.

2 Subject to the provisions of the MARPOL Convention, appropriate measures based on the physical, chemical and biological properties of harmful substances shall be taken to minimise the washing overboard of leaked substances, provided that the implementation of such measures will not impair the safety of the ship and its occupants.

S Regulation 9 - Port State control of operational requirements [6)]

1 A ship in the port or offshore terminal of another Convention country may be subject to inspection by a person duly authorised by the Convention country for operational requirements under this Annex.

2 When there are clear grounds for believing that the master or crew of the ship is not familiar with essential ship procedures relating to the prevention of pollution by harmful substances, the Convention country shall take such steps, including conducting a detailed inspection if required, that will ensure that the ship does not depart until the conditions are rectified in accordance with the provisions of this Annex.

3 The port State control procedures prescribed in Article 5 of the MARPOL Convention shall be applied in the enforcement of this Regulation.

4 Nothing in this Regulation shall be construed as limiting the rights and obligations of a Convention country in relation to the performance of the verification of operational requirements specifically prescribed by the MARPOL Convention.

Section II - Verification of compliance with the provisions of the MARPOL Convention

Regulation 10 Application

The Contracting Parties shall apply the provisions of the Implementation Code when performing their obligations and assuming their responsibilities under the SOLAS Convention.

Regulation 11 Verification of compliance

1 Each Contracting Party shall be subject to periodic audits by the Organisation in accordance with the Audit Standard to verify compliance with and implementation of the MARPOL Convention.

2The Secretary General of the Organisation shall be responsible for the administration of the audit scheme on the basis of the guidelines established by the Organisation.

3 Each Contracting Party shall be responsible for facilitating the conduct of the audit and the implementation of an action programme to address observations based on the guidelines developed by the Organisation[7].

4 Audits of all Contracting Parties shall:

4.1be based on an overall timetable prepared by the Secretary General of the Organisation, taking into account the guidelines prepared by the Organisation; and

4.2carried out at periodic intervals taking into account the guidelines established by the Organisation.

Appendix

Criteria for the identification of harmful substances in packaged form

For the purposes of this Appendix, substances - other than radioactive materials[8)] - that are identified by one of the following criteria are harmful substances:[9)]

(a) Acute (short-term) aquatic hazard

Category: Acute 1	
96 hours LC_{50} (for fish)	< 1 mg/l and/or
48 hours EC_{50} (for crustaceans)	< 1 mg/l and/or
72 or 96 hours ErC_{50} (for algae or other aquatic plants)	< 1 mg/l

(b) Long-term aquatic hazard

(i) Non rapidly degradable substances for which sufficient chronic toxicity data are available

Category Chronic 1:	
Chronic NOEC or EC_x (for fish)	< 0.1 mg/l and/or
Chronic NOEC or EC_x (for crustaceans)	< 0.1 mg/l and/or
Chronic NOEC or EC_x (for algae or other aquatic plants)	< 0.1 mg/l
Category Chronic 2:	
Chronic NOEC or EC_x (for fish)	< 1 mg/l and/or
Chronic NOEC or EC_x (for crustaceans)	< 1 mg/l and/or
Chronic NOEC or EC_x (for algae or other aquatic plants)	< 1 mg/l

(ii) Rapidly degradable substances for which sufficient chronic toxicity data are available

Category Chronic 1:	
Chronic NOEC or EC_x (for fish)	< 0.01 mg/l and/or
Chronic NOEC or EC_x (for crustaceans)	< 0.01 mg/l and/or
Chronic NOEC or EC_x (for algae or other aquatic plants)	< 0.01 mg/l
Category Chronic 2:	
Chronic NOEC or EC_x (for fish)	< 0.1 mg/l and/or
Chronic NOEC or EC_x (for crustaceans)	< 0.1 mg/l and/or
Chronic NOEC or EC_x (for algae or other aquatic plants)	< 0.1 mg/l

(iii) Substances for which there is insufficient chronic toxicity data

Category Chronic 1:	
96 hours LC_{50} (for fish)	< 1 mg/l and/or
48 hours EC_{50} (for crustaceans)	< 1 mg/l and/or
72 or 96 hours ErC50 (for algae or other aquatic plants) and the substance is not rapidly degradable and/or the experimentally determined BCF is > 500 (or if not stated, log K_{ow} > 4).	< 1 mg/l

Category Chronic 2:	
96 hours LC_{50} (for fish)	> 1 mg/l, but < 10 mg/l and/or
48 hours EC_{50} (for crustaceans)	> 1 mg/l, but < 10 mg/l and/or
72 or 96 hours ErC_{50} (for algae or other aquatic plants) and the substance is not rapidly degradable and/or the experimentally determined BCF is > 500 (or if not stated, log K_{ow} > 4).	> 1 mg/l, but < 10 mg/l

Further guidance on the classification process for substances and mixtures can be found in the IMDG Code.

Annex 4
Prevention of pollution by sewage from ships

Part 1 Treatment and storage of sewage on large ships		
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Part 2 Storage of sewage on small ships		
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S	*Regulation 3*	*Requirements for new vessels*
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M	*Regulation 5*	*Use of products for disinfection and other purposes*

Introduction

This Annex contains the provisions of Annex IV of the International Convention for the Prevention of Pollution from Ships - MARPOL 73/78 and subsequent amendments, and Annex IV, Regulations 4 and 5 of the Helsinki Convention.

The administration of the regulations is distributed as follows: the Danish Environmental Protection Agency is responsible for the regulations on discharge, and the Danish Maritime Authority is responsible for the regulations on the technical installations on board the ships, including logs and plans. This division of responsibility is indicated next to each regulation with an "M" for the Danish Environmental Protection Agency and an "S" for the Danish Maritime Authority.

Regarding the implementation of the MARPOL Convention in Denmark, in addition to the Executive Orders issued by the Danish Maritime Authority, there are also Executive Orders issued by the Ministry of Environment and Gender Equality that must also be followed

Part 1 Treatment and storage of sewage on large ships

Section 1 General

Regulation 1 Definitions

For the purposes of this Annex:

1 "New ship" is a ship,

1.1 for which the building contract has been entered into or, in the absence of a building contract, whose keel is laid or which is at a similar stage of construction on or after 27 September 2003; or

1.2 which is delivered on or after 27 September 2006.

2 "Existing ship" is a ship that is not new.

3 "Sewage":

3.1 Effluent and other wastes from all types of toilets and urinals;

3.2 effluent from hospital rooms (pharmacy, sick rooms, etc.) discharged from wash basins, bathtubs and drains located in such rooms;

3.3 effluent from places where live animals are present; or

3.4 other wastewater when mixed with effluent as defined above.

4 "Storage tank" means a tank for the collection and storage of sewage.

5 "Nearest coast" is from the baseline from which the territorial sea of the territory concerned is determined in accordance with international law, except that in these provisions "from the nearest coast" off the north-east coast of Australia means: from a line drawn from the Australian coast
from a point at 11º 00' south latitude, 142º 08' east longitude
to a point at 10º 35' south latitude, 141º 55' east longitude,
then to a point at 10º 00' south latitude, 142º 00' east longitude
then to a point at 9º 10' south latitude, 143º 52' east longitude
then to a point at 9º 00' south latitude, 144º 30' east longitude
then to a point at 10º 41' south latitude, 145º 00' east longitude
then to a point at 13º 00' south latitude, 145º 00' east longitude
then to a point at 15º 00' south latitude, 146º 00' east longitude
then to a point at 17º 30' south latitude, 147º 00' east longitude
then to a point at 21º 00' south latitude, 152º 55' east longitude
then to a point at 24º 30' south latitude, 154º 00' east longitude
then to a point at 24º 42' south latitude, 153º 15' east longitude on the coast of Australia.

6 "Special area" means a sea area where, for recognised technical reasons related to the oceanographic and

ecological conditions of the area and to the particular type of traffic, it is necessary to adopt specific mandatory methods to prevent marine pollution by sewage.
The special areas are:
1. the Baltic Sea area as defined in Regulation 1.11.2 of Annex 1; and
2. any other areas as may be designated by the Organisation in accordance with the criteria and procedures for the designation of special areas for the prevention of pollution by sewage from ships.[1)]
7 "International trade" is trade from a country to which this Convention (MARPOL) applies to a port outside such country or vice versa.
8 "Persons" s the number of crew members and passengers.
9 "Passenger" is any person in addition to:
9.1 the master and the members of the crew or other persons employed or engaged for service on board in any capacity; and
9.2 a child under 1 year of age.
10 "Passenger ship": a ship carrying more than 12 passengers.
For the purposes of Regulation 11.3, a "new passenger ship" is a passenger ship:
10.1 if a building contract has been entered into or does not exist where the keel is laid or where the construction is at a similar stage of construction on or after 1 January 2019; or
10.2 where delivery takes place on 1 June 2021 or later.
"Existing passenger ship" is a passenger ship that is not a new passenger ship.
11 "Anniversary" is the day and month of each year corresponding to the expiry date of the International Sewage Pollution Prevention Certificate.
12 "Audit" refers to a systematic, independent, and documented process that involves obtaining evidence through audits and evaluating it objectively to determine the extent to which the audit criteria have been met.
13 "Audit Scheme" is the IMO Member State Audit Scheme as established by the Organisation and taking into account the guidelines developed by the Organisation[2)].
14 "Implementation Code" is the IMO Instruments Implementation Code (III Code) as adopted by the Organisation by Resolution A. 1070(28).
15 "Audit standard" is the implementation code.
16 "Unmanned non self-propelled barge (UNSP) is a barge that:
16.1 Is not propelled by machinery
16.2 Does not have persons or live animals on board.
16.3 Is not used for the storage of sewage during transport; and
16.4 Does not have equipment capable of producing sewage as defined in regulation 1.3
Regulation 2 Application [3)]
1 The provisions of this Annex apply to the following ships engaged in international and *domestic*[4)] trade:
1.1 new ships of 400 gross tonnage and above; and
1.2 new ships of less than 400 gross tonnage certified to carry more than 15 persons; and
1.2a *existing ships sailing in the Baltic Sea area and Danish territorial waters with a gross tonnage of 400 and above,*
1.2b *existing ships sailing to and from the Baltic Sea area and Danish territorial waters with a gross tonnage of less than 400 authorised to carry more than 15 persons,*
1.3 existing ships of 400 gross tonnage and above not later than 27 September 2008; and
1.4 existing ships of less than 400 gross tonnage certified to carry more than 15 persons not later than 27 September 2008.
2 The Administration shall ensure that existing ships referred to in Subsections 1.3 and 1.4 of this Regulation, whose keel is laid or which are at a similar stage of construction before 2 October 1983 are, as far as practicable, equipped to discharge sewage in accordance with the requirements of Regulation 11.
Regulation 3 Exceptions and exemptions
1 Regulation 11 and Subsection 4.2 of Chapter 4 of Part II-A of the Polar Code shall not apply to:
1.1 the discharge of sewage from a ship which is necessary for the safety of a ship or its occupants or for saving human life; or
1.2 the discharge of sewage resulting from damage to a ship or its equipment provided that all reasonable precautions have been taken before and after the occurrence of the damage to avoid or minimise the

discharge.
2 The Administration may exempt an unmanned non-self-propelled barge[5)] (UNSP) from the requirements of Regulations 4.1 and 5.1 of this Annex for an International Sewage Sludge Prevention Certificate for an unmanned non-self-propelled barge for a period not exceeding five years, on the condition that the UNSP has undergone a survey confirming that the conditions specified in Regulations 1.16.1 to 1.16.4 of this Annex are met.

Section 2 Surveys and certificates[6)]

S Regulation 4 Surveys

1 Every ship which is required by Regulation 2 to comply with the provisions of this Annex shall be subjected to the surveys listed below:

1.1 A first survey before the ship is put in service or before the certificate required by Regulation 5 is first issued which shall include a complete survey of its structure, equipment, installations, appurtenances, arrangements and materials in so far as the ship is covered by this Annex. Such a survey shall be sufficiently effective to ensure that the structure, equipment, plant, accessories, systems, arrangements and materials fully comply with the relevant provisions of this Annex.

1.2 A renewal survey at intervals to be determined by the Administration which shall not exceed five years except where Regulations 8.2, 8.5, 8.6 or 8.7 apply. This renewal survey shall be sufficiently effective to ensure that the design, equipment, installation, accessories, systems, devices and material fully comply with the relevant provisions of this Annex.

1.3 An additional survey, either complete or partial depending on the circumstances, shall be held after a repair has been carried out based on inspections prescribed in Subsection 4 of this Regulation, or after any other important repair or renewal. The survey shall be carried out so as to ensure that the necessary repairs or renewals have been carried out effectively, that the materials and workmanship of such repairs or renewals are satisfactory in all respects and that the ship in all respects complies with the provisions of this Annex.

2 The Administration shall take appropriate measures for ships not covered by the provisions of Subsection 1 of this Regulation, to ensure that the relevant provisions of this Annex are complied with.

3 Surveys of ships carried out for the purpose of enforcing the provisions of this Annex shall be conducted by officers of the Administration. However, the Administration may entrust the surveys to surveyors appointed for that purpose or to organisations recognised by it.

4 An Administration which appoints surveyors or recognises organisations to carry out the surveys referred to in Subsection 3 shall, as a minimum, authorise any appointed surveyor or recognised organisation to:

4.1 to require the repair of a ship; and

4.2. carry out surveys at the request of the appropriate authorities of a port State.

The Administration shall inform the Organisation of the specific responsibilities and conditions of the authority granted to the nominated surveyors or recognised organisations and this information shall be provided to all Contracting Parties for the information of their officers.

5 When an inspector or recognised organisation determines that the condition of the ship and its equipment does not substantially conform to the particulars in the certificate or is such that the ship is not fit to proceed to sea without presenting an unreasonable risk of harm to the marine environment, the surveyor or organisation concerned shall immediately ensure that the defect is rectified and shall notify the Administration in due time. If such rectification is not carried out, the certificate should be withdrawn and the Administration informed immediately; if the ship is in a port of another Contracting Government, the appropriate authorities of the port State should also be informed immediately. When an officer of the Administration, a nominated surveyor or a recognised organisation has notified the appropriate authorities of the port State, the Government of the port State concerned shall provide the necessary assistance to that officer, surveyor or organisation in carrying out their duties under this Regulation. Where applicable, the Government of the port State concerned shall take such measures as will ensure that the ship does not proceed to sea or leave the port to proceed to the nearest repair yard without presenting an unreasonable risk of harm to the marine environment.

6 In all cases, the Administration assumes full responsibility for the completeness and efficiency of the survey and undertakes to take the necessary measures to fulfil it.

7 The condition of the ship and its equipment shall be maintained so as to comply with the provisions of this Annex to ensure that the ship remains in all respects fit to proceed to sea without presenting any

unreasonable risk of harm to the marine environment.
8 When a survey of the ship under Subsection 1 of this Regulation has been completed, no alteration shall be made in the structure, equipment, installations, accessories, arrangements or materials covered by the survey, other than the direct replacement of such equipment and accessories, without the approval of the Administration.
9 If a ship is involved in an accident or if a defect is discovered which materially affects the condition of the ship or the effectiveness or completeness of the equipment covered by this Annex, the master or operator of the ship shall report at the earliest opportunity to the Administration, the recognised organisation or the nominated surveyor responsible for the issue of the relevant certificate, who shall then initiate an investigation to determine whether a survey under Subsection 1 of this Regulation is necessary. If the ship is in the port of another Convention country, the master or the shipping company shall also immediately notify the appropriate authorities of the port State, and the nominated surveyor or recognised organisation shall ensure that such notification has been made.

S Regulation 5 Issue or endorsement of certificates

1 After a first or renewal survey has been carried out in accordance with the provisions of Regulation 4, an International Sewage Pollution Prevention Certificate shall be issued to every ship bound for ports or offshore terminals under the jurisdiction of other Convention countries. For existing ships, this requirement shall apply as from 27 September 2008.
2 Such certificates shall be issued or endorsed either by the Administration or by a person or organisation[7)] duly authorised by it. In all cases, the Administration assumes full responsibility for the certificate.

S Regulation 6 Issuance or endorsement of a certificate by another government

1 The Government of a Convention country may, at the request of the Administration, cause a ship to be surveyed and, if it is satisfied that the provisions of this Annex have been complied with, shall issue or authorise the issue of an International Sewage Pollution Prevention Certificate to the ship in accordance with this Annex and, where appropriate, endorse or authorise the endorsement of such a Certificate.
2 A copy of the certificate together with a copy of the survey report shall be sent as soon as possible to the Administration which requested the survey.
3 A certificate so issued shall bear an endorsement to the effect that it has been issued at the request of the Administration and shall have the same validity and recognition as a certificate issued under Regulation 5.
4 No International Sewage Pollution Prevention Certificate or Unmanned Barge Exemption Certificate shall be issued to a ship entitled to fly the flag of a non-Contracting State.

S Regulation 7 The design of the certificate

1 The International Sewage Pollution Prevention Certificate shall be in the form of the model *annexed to MARPOL Annex IV, Appendix 1.* If the language used is not English, French or Spanish, the text shall include a translation into one of these languages.
2 The International Sewage pollution Prevention Exemption Certificate for Unmanned Non-self-propelled Barges shall be in a format in accordance with that specified in MARPOL Annex IV, Appendix II and shall be in at least English, French or Spanish. In the event of any dispute or inconsistency, the entry in an official language of the country whose flag the ship is entitled to fly shall prevail

S Regulation 8 The certificate's period of validity [8)]

1 An International Sewage Pollution Prevention Certificate shall be issued for a period specified by the Administration, which shall not exceed five years from the date of issue.
2.1 Regardless of the provisions in Subsection 1 of this Regulation, the new certificate, even if the renewal survey is conducted within three months before the expiry date of the existing certificate, shall be valid from the date the renewal survey was completed to a date not exceeding five years from the expiry date 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 on which the renewal survey was completed to a date not exceeding five years from the expiry date of the existing certificate.
2.3 When the renewal survey is completed more than three months before the expiry date of the existing certificate, the new certificate shall be valid from the date on which the renewal survey was completed to a date not exceeding five years from the date on which the renewal survey was completed.
3 If a certificate is issued with a validity period of less than five years, the Administration may extend the

certificate's period of validity to the maximum period specified in Subsection 1 of this Regulation.
4 If a renewal survey is completed and a new certificate cannot be issued or placed on board the ship before the existing certificate expires, the person or organisation authorised by the Administration may extend the existing certificate. Such a certificate shall be recognised as valid for the period specified, which shall not exceed five months from the date of expiry.
5 If a ship is in a port where a survey cannot be carried out and the certificate has expired, the Administration may extend the certificate's period of validity but such extension shall only be granted for the purpose of allowing the ship to complete the voyage to the port where the survey can be carried out and then only in cases where it is considered safe and reasonable to do so. No certificate may be extended beyond a period of three months, and a ship which has been granted such an extension shall not, by virtue of the extension, leave the port where the survey was to take place without a new certificate. On completion of the renewal survey, the period of validity of the certificate issued shall not exceed five years from the date of expiry of the existing certificate before the extension was authorised.
6 A certificate issued to a ship engaged on short voyages which has not been extended under the preceding provisions of this Regulation may be extended by the Administration for a period of up to one month from the expiry date indicated on it. Upon completion of the renewal survey, the new certificate shall be valid until a date not exceeding five years from the date of expiry of the existing certificate before the extension was allowed.
7 In special cases, as determined by the Administration, the validity period of a new certificate does not need to commence from the expiry date of the existing certificate as required under this Regulation's Subsections 2.2, 5 or 6. In such exceptional cases, the period of validity of the new certificate shall not exceed five years from the date on which the renewal survey was completed.
8 A certificate issued under Regulation 5 or 6 shall cease to be valid in either of these cases:
8.1 If the required surveys are not completed within the periods specified in Regulation 4.1.
8.2 When a ship is transferred to the flag of another country. A new certificate shall be issued only when the Government issuing the new certificate is satisfied that the ship fully complies with the requirements of Regulations 4.7 and 4.8. When the transfer is between Convention countries and a request is made within three months after the transfer has taken place, the Government whose flag the ship was formerly entitled to fly shall, as soon as possible, provide the new Administration with a copy of the certificate held by the ship before the transfer and a copy of the relevant survey reports, if available.

Section 3 Equipment and control of discharge

S Regulation 9 Sewage treatment plant

1 Every ship which is required by Regulation 2 to comply with the provisions of this Annex shall be provided with one of the following sewage treatment plants:
1.1 a sewage treatment plant of a type approved by the Administration which meets the standards and test methods developed by the Organisation[9)]; or
1.2 a sewage disposal and disinfection plant approved by the Administration. Such a facility shall be equipped to the satisfaction of the Administration with facilities for the temporary storage of sewage when the ship is less than three nautical miles from the nearest coast; or
1.3 a storage tank with a capacity which can be used to the satisfaction of the Administration for the storage of all sewage, taking into account the use of the ship, the number of persons on board and other relevant factors. The storage tank shall be constructed to the satisfaction of the Administration and shall be equipped with a visual indication of its capacity.
2 By way of derogation from Subsection 1, every passenger ship which in accordance with Regulation 2, is required to comply with the provisions of this Annex and to which Regulation 11.3 applies when in a special area shall be fitted with one of the following sewage treatment plants:
2.1 a sewage treatment plant which shall be of a type approved by the Administration and which complies with the standards and test methods developed by the Organisation[10)]; or
2.2 a storage tank with a capacity that can be used to the satisfaction of the Administration for the storage of all sewage, taking into account the use of the ship, the number of persons on board and other relevant factors. The storage tank shall be constructed to the satisfaction of the Administration and shall be equipped with a visual indication of its capacity.

S Regulation 10 Standard connections

1 In order that the receiving pipe may be connected to the ship's discharge piping, both pipelines shall have a standard connection in accordance with the following table:

Standard dimensions for connection flanges

Description	Dimension
Outer diameter	210 mm
Inner diameter	According to the outer diameter of the pipe
Diameter of the bolt ring	170 mm
Flange cut-outs	4 holes, 18 mm in diameter, placed at equal intervals on a bolt ring of the above diameter cut to the flange circumference. The width of the cut-out must be 18 mm
Flange thickness	16 mm
Nuts and bolts: quantity and diameter	4, each 16 mm in diameter and of appropriate length
The flange shall be designed to accommodate pipes with an internal diameter up to 100 mm and shall be made of steel or other equivalent material with a smooth surface. The flange and associated gasket shall be able to withstand a working pressure of 6 kg/cm^2.	

On ships with a depth (moulded) of 5 metres or less, the inner diameter of the coupling connection can be 38 mm.

2 On ships on regular service, i.e. passenger ferries, the ship's discharge pipeline may be fitted with another means of connection acceptable to the Administration, for example, a quick coupling.

M Regulation 11 Discharge of sewage

A) Discharge of sewage from ships other than passenger ships in all areas and discharge of sewage from passenger ships outside special areas

1 Subject to the provisions of Regulation 3 of this Annex, the discharge of sewage into the sea shall only be permitted if:

1.1 the ship discharges grinded and disinfected sewage using a system approved by the Administration in accordance with Regulation 9(1.2), at a distance of more than three nautical miles from the nearest coast or discharges sewage which has not been reduced in size or disinfected at a distance of more than 12 nautical miles from the nearest coast, provided that the sewage which has been stored in storage tanks or sewage from rooms containing live animals is in any case not discharged all at once but at a moderate discharge rate while the ship is under way and proceeding at a speed of not less than 4 knots; the Administration shall approve the discharge rate based on standards developed by the Organisation[11)]; or

1.2 the ship has in operation an approved sewage treatment plant which has been certified by the Administration as complying with the operational requirements referred to in Regulation 9(1.1) of this Annex and the wastewater shall not leave visible traces in the sea or cause discolouration of the surrounding sea.

2 The provisions of Subsection 1 shall not apply to ships sailing in waters under the jurisdiction of another State and to visiting ships from other States while in such waters when such ships discharge sewage in accordance with less stringent requirements which may be imposed by such other State.

B) Discharge of sewage from passenger ships in special areas

3 Subject to the provisions of Regulation 3 of this Annex, the discharge of sewage from passenger ships in special areas shall be prohibited

3.1 for new passenger ships on a date determined by the Organisation in accordance with Regulation 13.2 of this Annex, but in no case before 1 June 2019; and

3.2 for existing passenger ships, on a date determined by the Organisation in accordance with Regulation 13.2 of this Annex; but in no case earlier than 1 June 2021; except when the following conditions are met: the ship has in operation an approved sewage treatment plant certified by the Administration as complying with the operational requirements referred to in Regulation 9.2.1 of this Annex and the sewage does not

produce visible floating solid particles in the sea or cause discolouration of the surrounding sea.

C) General requirements

4 When sewage is mixed with waste or wastewater covered by other annexes of this Executive Order, the requirements in these annexes must also be met.

Section 4 Receiving facilities

M Regulation 12 Receiving facilities [12)]

1 The Government of each Convention country, which requires ships sailing in waters under its jurisdiction and visiting ships while in its waters to comply with the requirements of Regulation 11.1 undertakes to ensure that sewage disposal facilities are provided in ports and terminals in accordance with the needs of the ships using them without causing undue delay to them.

2 The following States may fulfil the provisions of Subsection 1 of this Regulation through regional arrangements when, because of their special circumstances, such arrangements constitute the only practical way in which those circumstances can meet these requirements.

2.1 Small Island Developing States; and

2.2 States which have coastline on Arctic waters, provided that the regional arrangements only apply to ports within the Arctic waters of these States.

Parties participating in a regional scheme shall prepare a regional reception facility plan taking into account the guidelines developed by the Organisation.

The Government of each Party participating in the scheme shall consult with the Organisation with a view to circulating the following information to Contracting Parties to the MARPOL Convention

2.3 how the regional reception facilities plan takes into account the guidelines developed by the Organisation;

2.4 details of the identified regional ship-generated waste reception centres taking into account the guidelines developed by the Organisation; and

2.5 details of ports with only limited facilities.

3 The Government of each Convention country shall inform the Organisation of all cases where facilities established under this Regulation are alleged to be inadequate so that it may inform the Governments of other Convention countries.

M Regulation 13 - Passenger ship reception facilities in special areas

1 The Government of each Convention country whose coastline is adjacent to a special area undertakes to ensure that:

1.1 sewage reception facilities are provided in ports and terminals in special areas used by passenger ships;

1.2 that the facilities are adequate to meet the needs of such passenger ships; and

1.3 that the facilities operate in such a manner as to avoid unnecessary delay to such passenger ships.

2 The Government of each Convention country concerned shall notify the Organisation of the action taken in accordance with Subsection 1 of this Regulation. When the Organisation has received a sufficient number of notifications in accordance with Subsection 1, it shall fix a date for the entry into force of the requirements of Regulation 11(3) for the area concerned. The Organisation shall notify the Government of each Convention country of the date so fixed not later than 12 months before that date. Until such date is established, ships sailing to the special area shall comply with the provisions of Regulation 11(1) of this Annex.

Section 5 Port State control

S Regulation 14 Port State control of operational requirements [13)]

1 A ship which is in the port or offshore terminal of another Convention country may be subject to inspection by a person duly authorised by the Convention country in respect of the operational requirements of this Annex when there are clear grounds for believing that the master or crew of the ship is not familiar with essential ship/terminal procedures for the prevention of sewage pollution.

2 If the situation in Subsection 1 of this Regulation applies, the Convention country shall take measures which will ensure that the ship does not depart until the situation is rectified in accordance with the provisions of this Annex.

3 The port State control procedures prescribed in Article 5 of the MARPOL Convention shall be applied in the enforcement of this Regulation.

4 Nothing in this Regulation shall be construed as limiting the rights and obligations of a Convention country in relation to the exercise of control of operational requirements specifically prescribed by the MARPOL

Convention.

Section 6 Verification of compliance with the provisions of the MARPOL Convention

Regulation 15 Application

Contracting Parties shall apply the provisions of the Implementation Code when performing their obligations and assuming their responsibilities under the MARPOL Convention.

Regulation 16 Verification of compliance

1 Each Contracting Party shall be subject to periodic audits by the Organisation in accordance with the Audit Standard to verify compliance with and implementation of the MARPOL Convention.

2The Secretary General of the Organisation shall be responsible for the administration of the audit scheme on the basis of the guidelines established by the Organisation[14].

3 Each Contracting Party shall be responsible for facilitating the conduct of the audit and the implementation of an action programme to address observations based on the guidelines developed by the Organisation[15].

4 Audits of all Contracting Parties shall:

4.1be based on an overall timetable prepared by the Secretary General of the Organisation, taking into account the guidelines prepared by the Organisation[16)] and

4.2carried out at periodic intervals taking into account the guidelines established by the Organisation[17].

Section 7 The International Code for Ships in Polar Waters

Regultion 17 Definitions

For the purposes of this Annex, the following definitions apply:

1 "Polar Code" refers to the International Code for Ships in Polar Waters, consisting of an Introduction and Parts I-A and II-A and Parts I-B and II-B, as adopted by Resolutions MSC. 385(94) and MEPC. 264(68)), as amended, provided that:

1.1 amendments to the environmental provisions of the preamble and Chapter 4 of Part II-A of the Polar Code, have been adopted, entered into force and given effect in accordance with the provisions of Article 16 of the MARPOL Convention concerning the amendment procedures applicable to Appendices to Annexes; and

1.2 amendments to Part II-B of the Polar Code shall be adopted by the IMO Environment Committee (MEPC) in accordance with its Rules of Procedure.

2 "Antarctica" is the sea area south of 60° south latitude.

3 "Arctic sea areas" are sea areas located north of a line from latitude 58°00'. 0 N and longitude 042°00'. 0 W to latitude 64°37'. 0 N, longitude 035°27'. 0 W, and then by compass line to latitude 67°03'. 9 N, longitude 026°33'. 4 W, and then by compass line to latitude 70°49'. 56 N and longitude 008°59'. 61 W (Sørkapp, Jan Mayen), and via the southern coast of Jan Mayen to 73°31'. 6 N and 019°01'. 0 E at Bjørnøya, and from there via a great circle line to latitude 68°38'. 29 N and longitude 043°23'08 E (Cap Kanin Nos), and then via the northern coast of the Asian continent eastwards to the Bering Strait, and then from the Bering Strait westwards to latitude 60° N as far as Il'pyrskiy and along the 60. North latitude eastwards as far as and including the Strait of Etolin, and then through the northern coast of the North American continent as far south as latitude 60° N, and then eastwards along latitude 60° N to longitude 056°37'. 1 W, and then to latitude 58°00'. 0 N, longitude 042°00'. 0 W.

4 "Polar waters" are Arctic sea areas and/or the Antarctic region.

Regulation 18 Application and requirements

1 This Annex applies to all ships in Polar waters that are certified in accordance with this Annex.

2 Unless expressly stated otherwise, all ships covered by Subsection 1, shall comply with the environment-related provisions of the Preamble to the Polar Code and of Chapter 4 of Part II-A, in addition to any other applicable requirements of this Annex.

Part 2 Storage of sewage on small craft

Regulation 1 Application

These provisions apply to all types of vessels of less than 400 gross tonnage or authorised to carry less than 15 persons, which are fitted with a toilet and which navigate in the Baltic Sea area and Danish territorial waters.

Regultion 2 Definitions

1 *"New vessel": A vessel whose keel was laid or which was produced on or after 1 January 2000.*

2 *"Existing vessel": A vessel that is not new.*

3 *"Sewage": Effluent and other waste from toilets and urinals.*
4 *"Fixed toilet system": A toilet system consisting of a toilet bowl, storage tank with associated valves and pipes and/or hose connections and a shore connection.*
5 *"Portable toilet": A toilet system consisting of a toilet bowl with associated portable storage tank without sea connection, where the tank can be emptied manually by tilting.*
6 *"Shore connection": A standard coupling link through which the storage tank can be emptied via an external pump arrangement.*
7 *"Sea toilet": A toilet system that is not equipped with a storage tank and has a direct connection to the sea.*
8 "Baltic Sea area": the Baltic Sea, the Gulf of Bothnia, the Gulf of Finland, the Belts and the Kattegat up to the parallel 57° 44.8′N through Skagen.

S Regulation 3 Requirements for new vessels
Permanently installed and portable toilet systems shall fulfil the technical requirements of the latest edition of the ISO 8099 standard at the time of construction.

S Regulation 4 Requirements for existing vessels
1 *Existing vessels shall comply with the provisions of Regulation 3 as from 1 January 2005, except that*
1.1 *existing portable toilet systems may be retained,*
1.2 *existing fixed toilet systems may be retained provided that the system is fitted with a shore connection in accordance with the ISO 8099 standard;*
1.3 *existing sea toilets may be retained if the toilet is equipped with a storage tank and a shore connection in accordance with ISO 8099.*

M Regulation 5 Use of products for disinfection and other purposes
Please note that the following Regulation is only the Danish Maritime Authority's translation of MARPOL. For current Danish legislation, please refer to the Ministry of Environment and Gender Equality.
Only products that are not harmful to the marine environment may be used in any toilet system for disinfection and other purposes.

Annex 5
Prevention of pollution by ship-generated waste

	Section I	**General**
	Regulation 1	Definitions
	Regulation 2	Application
M	Regulation 3	General prohibition of waste disposal at sea
M	Regulation 4	Disposal of waste outside special areas
M	Regulation 5	Special requirements for waste disposal from fixed or floating platforms
M	Regulation 6	Waste disposal within special areas
M	Regulation 7	Exceptions
M	Regulation 8	Reception facilities
S	Regulation 9	Port state control on operational requirements
S	Regulation 10	Posting, waste management plans and waste records
	Section 2	**Verification of compliance with the provisions of the MARPOL Convention**
	Regulation 11	Application
	Regulation 12	Verification of compliance
	Section 3	**International Code for Ships in Polar Waters**
	Regulation 13	Definitions
	Regulation 14	Usage and requirements

Introduction
This Annex contains the provisions of Annex V of the International Convention for the Prevention of

Pollution from Ships - MARPOL 73/78 and subsequent amendments.
The administration of the regulations is distributed as follows: the Danish Environmental Protection Agency is responsible for the regulations on discharge, and the Danish Maritime Authority is responsible for the regulations on the technical installations on board the ships, including logs and plans. This division of responsibility is indicated next to each regulation with an "M" for the Danish Environmental Protection Agency and an "S" for the Danish Maritime Authority.
Regarding the implementation of the MARPOL Convention in Denmark, in addition to the Executive Orders issued by the Danish Maritime Authority, there are also Executive Orders issued by the Ministry of Environment and Gender Equality that must also be followed.

Section I - General

Regulation 1 Definitions

For the purposes of this Annex:

1 "Animal carcasses": Carcasses of animals carried on board as cargo which die or are killed during the voyage.

2 "Cargo residues": Cargo residues not covered by other Annexes of the MARPOL Convention that remain on deck or in cargo holds after loading or unloading, including any surplus or spillage resulting from loading or unloading, whether wet or dry, or which remain in wash water, but does not include cargo dust remaining on deck after sweeping or dust on the external surfaces of the ship.

3 "Cooking oil": Any edible oil or animal fat used or intended to be used to prepare or cook food, but does not include the food itself prepared using such oils.

4 "Household waste": All types of waste not covered by other Annexes that is generated in the ship's accommodation areas. Household waste does not include grey water.

5 "En route": The ship is en route at sea on a course or courses, including deviation from the shortest direct route, which, so far as practicable from a navigational point of view, will cause any discharge to be spread over as large a sea area as is reasonable and practicable.

6 "Fishing gear": Any physical device or part thereof or combination of parts that can be placed on or in the water or on the seabed for the purpose of catching or controlling for subsequent capture or harvesting of marine or freshwater organisms.

7 "Fixed or floating platforms": Fixed or floating structures at sea engaged in the exploration, exploitation or associated offshore processing of mineral resources on the seabed.

8 "Food waste": All types of perishable or non-perishable nutrients, which also includes fruits, vegetables, dairy products, poultry, meat products and food residues generated on board ships.

9 "Waste": All types of food, domestic and operational waste, all types of plastics, cargo residues, cooking oil, fishing gear and animal carcasses generated in the normal operation of the ship and which are disposed of continuously or periodically, except those substances defined or listed in other Annexes of the MARPOL Convention. Waste does not include fresh fish and parts thereof resulting from fishing during the voyage or as a result of fish farming operations involving the transport of fish, including shellfish, for placement in the fish farming facility and the transport of ingested fish, including shellfish, from such facilities to shore for processing.

10 "Incinerator ash": Ash and slag originating from incinerators on board ships used for waste incineration.

11 "Nearest coast": The baseline from which the territorial sea of the territory concerned is determined in accordance with international law, except that in these provisions "from the nearest coast" off the north-east coast of Australia means from a line drawn from the Australian coast
from the point 11 00' south latitude, 142 08' east longitude to
point 10º 35' south latitude, 141º 55' east longitude, then to
10º 00' south latitude, 142º 00' east longitude, then to
point 9º 10' south latitude, 143º 52' east longitude, then to
9º 00' south latitude, 144º 30' east longitude, then to the point
10º 41' south latitude, 145º 00' east longitude, then to the point
point 13º 00' south latitude, 145º 00' east longitude, then to
15º 00' south latitude, 146º 00' east longitude, then to the point
the point at 17º 30' south latitude, 147º 00' east longitude, then to
21º 00' south latitude, 152º 55' east longitude, then to the point

24º 30' south latitude, 154º 00' east longitude, then to
the point at 24º 42' south latitude, 153º 15' east longitude, on the coast of Australia.
12 "Operational waste": Any solid waste (including sludge) not covered by other Annexes which accumulates on board during the normal maintenance or operation of a ship or is used for stowage and handling of cargo. Operational waste also includes cleaning agents and additives in cargo holds and external wash water. Operational waste does not include grey water, bilge water or other similar discharges essential to the operation of a ship, taking into account the guidelines developed by the Organisation.
13 "Plastic": A material in solid form containing as an essential ingredient one or more high molecular weight polymers and which is moulded (shaped) either during polymer production or during fabrication into a finished product under heat and/or pressure. Plastic has material properties ranging from hard and brittle to soft and elastic. For the purposes of this Annex, "all plastics" is all waste consisting of or containing plastics in any form, including synthetic ropes, synthetic fishing nets, plastic rubbish bags and incineration ash from plastic products.
14 "Special area": A sea area where, for recognised technical reasons, taking into account the oceanographic and ecological conditions of the area and its particular traffic, it is necessary to establish specific mandatory rules to avoid marine litter pollution.
For the purposes of this Annex, the special areas include the Mediterranean Sea Area, the Baltic Sea Area, the Black Sea Area, the Red Sea Area, the Gulf Area, the North Sea Area, the Antarctic Region and the Greater Caribbean Area, which are defined as follows:
14.1 Mediterranean Area means the Mediterranean Sea proper with its bays and seas, such that the boundary between the Mediterranean Sea and the Black Sea is formed by the 41st parallel north latitude and the boundary to the west by the Straits of Gibraltar at meridian 5° 36′ W.
14.2 Baltic Sea area means the Baltic Sea proper with the Gulf of Bothnia, the Gulf of Finland and the entrance to the Baltic Sea bounded in the Skagerrak by the latitude of Skagen at 57° 44.8′ N.
14.3 Black Sea area means the Black Sea proper, so that the 41st parallel north latitude constitutes the boundary between the Mediterranean Sea and the Black Sea.
14.4 Red Sea area means the Red Sea proper with the Gulf of Suez and the Gulf of Aqaba, bounded on the south by the compass line between Ras si Ane (12° 8.5′ north latitude, 43° 19.6′ east longitude) and Husn Murad (12° 40.4′ north latitude, 43° 30.2′ east longitude).
14.5 Gulf area means the sea area north-west of the compass line between Ras al Hadd (22° 30′ north latitude, 59° 48′ east longitude) and Ras al Fasteh (25° 04′ north latitude, 61° 25′ east longitude).
14.6 North Sea area means the sea areas:
14.6.1 North Sea, south of 62° north latitude and east of 4° west longitude;
14.6.2 Skagerrak limited east of Skagen southwards at 57° 44.8′ north latitude; and
14.6.3 English Channel and its approaches east of 5° west longitude and north of 48° 30′ north latitude.
14.7 Antarctic regions mean the sea area south of 60° south latitude.
14.8 The Greater Caribbean Area is the Gulf of Mexico and the Caribbean Sea proper with bays and seas and that part of the Atlantic Ocean within the limit of 30° north latitude from Florida eastwards to 77° 30′ west longitude, then a compass line crossing 7° 20′ north latitude and 50° west longitude, then by a compass line drawn south-westwards to the eastern boundary of French Guiana.
15"Audit" refers to a systematic, independent, and documented process that involves obtaining evidence through audits and evaluating it objectively to determine the extent to which the audit criteria have been met.
16"Audit Scheme" means the IMO Member State Audit Scheme as established by the Organisation and taking into account the guidelines developed by the Organisation.[1)]
17"Implementation Code" means the IMO Instruments Implementation Code (III Code) as adopted by the Organisation by Resolution A. 1070(28).
18"Audit standard" means the implementation code.
19 "Electronic logbooks" means a device or system approved by the Administration to record electronically the required records of discharges, transfers and other operations as prescribed under this Annex instead of a physical logbook.

Regulation 2 – Application

The provisions of this Annex apply to all ships unless expressly stated otherwise.

M Regulation 3 - General prohibition of disposal of waste at sea

1 Except as specified by the provisions in Regulations 4, 5, 6 and 7 and Section 5.2 of Part II-A of the Polar Code, as defined in Regulation 13.1, the disposal of all waste at sea is prohibited.
2 Except as specified in Regulation 7 of this Annex, the disposal at sea of all plastics, including synthetic ropes, synthetic fishing nets, plastic rubbish bags and incineration ash from plastic products is prohibited.
3 Except as specified in Regulation 7 of this Annex, disposal of cooking oil at sea is prohibited.

M Regulation 4 - Disposal of waste outside special areas

1 Subject to the provisions of Regulations 5, 6 and 7 of this Annex, the disposal of the following waste at sea outside special areas shall be permitted only while the ship is en route and as far from the nearest coast as practicable, but in any case not less than:
1.1 three nautical miles from the nearest coast for food waste which has passed through a shredding or grinding plant. Such shredded or ground waste shall be capable of passing through a sieve with a mesh size not exceeding 25 mm.
1.2 12 nautical miles from the nearest coast for food waste not treated in accordance with Subsection 1 above.
1.3 12 nautical miles from the nearest coast for cargo residues which cannot be recovered by generally available unloading methods. Such cargo residues shall not contain substances classified as harmful to the marine environment, taking into account the guidelines developed by the Organisation.
1.4 In the case of animal carcasses, disposal shall take place as far from the nearest coast as possible, taking into account the guidelines developed by the Organisation.
2 Detergents or additives in wash water from cargo holds, decks and external surfaces may be disposed of at sea, but such substances shall not be harmful to the marine environment, taking into account the guidelines developed by the Organisation.
3 Bulk carriers carrying dry cargo in bulk as defined in Regulation VI/1-1.2 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, carrying other than grain shall be classified in accordance with MARPOL Annex V, Appendix IV, and the shipper shall declare whether the cargo is harmful to the marine environment.
4 When waste is mixed with other discharges which are subject to different provisions for disposal or discharge, the most stringent regulations shall be followed.

M Regulation 5 - Special requirements for the disposal of waste from fixed or floating platforms

1 Except as specified by the provisions in Subsection 2, the disposal at sea of all waste from fixed or floating platforms and from all other ships moored to or within 500 metres of such platforms is prohibited.
2 Food waste may be disposed of at sea from fixed or floating platforms situated at least 12 nautical miles from the nearest coast and from all other ships moored to or within 500 metres of such platforms, but only when the waste has passed through a shredding or grinding plant. Such shredded or ground food waste shall be capable of passing through a sieve with a mesh size not exceeding 25 mm.

M Regulation 6 - Disposal of waste within special areas

1 Disposal at sea in special areas of the following types of waste is permitted only while the ship is en route and as follows:
1.1 Disposal at sea of food waste as far from the nearest coast as practicable, but not less than 12 nautical miles from the nearest coast or iceberg. Food waste shall be shredded or ground and shall be capable of passing through a sieve with a mesh size not exceeding 25 mm. Food waste must not be contaminated with other types of waste. Disposal of imported avian products, including poultry and parts of poultry, is not permitted in the Antarctic region unless it has been treated so that it is sterile.
1.2 Disposal of cargo residues that cannot be recovered by generally available unloading methods when all the following conditions are met:
1.2.1 Cargo residues, detergents or additives contained in cargo hold wash water do not include substances classified as harmful to the marine environment, taking into account the guidelines developed by the Organisation;
1.2.2 Both the port of departure and the next port of call are within the special area, and the ship will not transit outside the special area between these ports;
1.2.3 Adequate reception facilities are not available in these ports, taking into account the guidelines developed by the Organisation; and
1.2.4 When the requirements of Subsections 2.1, 2.2 and 2.3 are met, the disposal of cargo hold washings

containing residues shall be as far from the nearest coast or iceberg as practicable and at least 12 nautical miles from the nearest coast or iceberg.
2 Detergents or additives contained in wash water from decks and external surfaces may be disposed of at sea, but only if such substances are not harmful to the marine environment, taking into account the guidelines developed by the Organisation.
3 The following provisions apply (in addition to the provisions of Subsection 1 of this Regulation) in the Antarctic region:
3.1 The Government of each Convention country from whose ports ships depart en route to or arrive from the Antarctic region undertakes to ensure that adequate reception facilities are provided for all ships as soon as practicable without causing undue delay and in accordance with the needs of the ships.
3.2 The Government of each Convention country shall ensure that all ships registered in that country before entering the Antarctic region have sufficient capacity on board to store all waste while in the area and have made arrangements for the delivery of such waste to a reception facility after leaving the area.
4 When waste is mixed or contaminated with other substances whose disposal is prohibited or subject to different disposal requirements, the most stringent requirements shall apply.

M Regulation 7 – Exceptions

1 Regulations 3, 4, 5 and 6 of this Annex and Section 5.2 of Part II-A of the Polar Code shall not apply to:
1.1 The disposal of waste from a ship when necessary for the safety of the ship and its occupants or to save human life at sea; or
1.2 The accidental discharge of waste resulting from damage to a ship or its equipment, provided that all reasonable precautions have been taken before and after the occurrence of the damage to prevent or minimise the discharge; or
1.3 Accidental loss of fishing gear from a ship, provided that all reasonable precautions have been taken to avoid such loss; or
1.4 Disposal of fishing gear from a ship for the purpose of protecting the marine environment or the safety of the ship or its crew.
2 Exception regarding "en route":
2.1 The "en route" provisions of Regulations 4 and 6 and of Chapter 5 of Part II-A of the Polar Code shall not apply to the disposal of food waste where it is evident that the storage of such food waste on board poses an imminent risk to the health of persons on board.

M Regulation 8 – Reception facilities [2)]

1 The Government of each Convention country undertakes to ensure that adequate waste reception facilities are provided in ports and terminals in accordance with the needs of the ships using them, without causing them undue delay.
2 Reception facilities in special areas
2.1 The Government of each Convention country whose coastline is adjacent to a special area undertakes to ensure that adequate reception facilities are provided as soon as possible in all ports and terminals within the special area, taking into account the special needs of ships using those areas.
2.2 The Government of each country concerned shall notify the Organisation of the measures taken in accordance with Subsection 2.1 of this Regulation. When the Organisation has received a sufficient number of notifications, it shall fix a date on which the requirements of Regulation 6 of this Annex shall enter into force for the area concerned. The Organisation shall notify the Government of each Convention country of the date so fixed not later than 12 months before that date. Until such date is established, ships sailing in the special area shall comply with the provisions of Regulation 4 of this Annex in respect of disposal outside special areas.
3 The following States may fulfil the provisions of Subsections 1 and 2.1 of this Regulation through regional arrangements when, due to their particular circumstances, such arrangements constitute the only practical means of meeting these requirements.
3.1 Small Island Developing States; and
3.2 States that have a coastline on Arctic waters, provided that the regional arrangements apply only to ports within the Arctic waters of these States.
Parties participating in a regional scheme shall develop a regional reception facilities plan taking into account the guidelines developed by the Organisation38).

The Government of any Party participating in the scheme shall consult with the Organisation with a view to circulating the following information to Contracting Parties to the MARPOL Convention:
3.3 how the regional reception facility plan takes into account the guidelines developed by the Organisation;
3.4 details of the identified regional ship-generated waste reception centres taking into account the guidelines developed by the Organisation; and
3.5 details of ports with only limited facilities.
4 The Government of each Convention country shall inform the Organisation of all cases where the facilities provided under this Regulation are alleged to be inadequate so that it may inform the countries concerned.
S Regulation 9 - Port State control of operational requirements [4)]
1 A ship in the port or offshore terminal of another Convention country may be subject to an operational requirements inspection by a person duly authorised by the Convention country when there are clear grounds for believing that the master or crew of the ship is not familiar with essential shipboard procedures for the prevention of pollution by waste.
2 In the light of the circumstances described in Subsection 1 of this Regulation, the Convention country shall take such steps as will ensure that the ship does not sail until the conditions are rectified in accordance with the provisions of this Annex.
3 The port State control procedure prescribed in Article 5 of the MARPOL Convention shall be applied in the enforcement of this Regulation.
4 Nothing in this Regulation shall be construed as limiting the rights and obligations of a Convention country in relation to the performance of operational requirements inspections as specifically prescribed in the MARPOL Convention.
S Regulation 10 - Notices, waste management plans [(5)] **and waste records**
1.1 Every ship of 12 metres in length overall and above and fixed or floating platforms shall have notices[6)] **that draw the attention of crew members and passengers to the requirements of Regulations 3, 4, 5 and 6 of this Annex and of Section 5.2 of Part II-A of the Polar Code on waste disposal.**
1.2 The notices shall be in the working language of the ship's personnel and, on board ships using ports or offshore terminals under the jurisdiction of other Convention countries, the notices shall also be in English, French or Spanish.
2 All ships of 100 gross tonnage and above, and all ships certified to carry 15 persons or more, and fixed or floating platforms shall have a waste management plan to be followed by the crew. This plan must include written procedures on the containment, collection, storage, treatment and disposal of waste, including procedures for the use of on-board equipment. It shall also identify the person or persons responsible for ensuring that the procedures in the plan are implemented. Such a plan must be carried out in accordance with the guidelines developed by the Organisation[7)] , and be written in the working language of the crew.
3 Every ship of 100 gross tonnage and above and every ship certified to carry 15 persons or more calling at ports or terminals under the jurisdiction of another Convention country and every fixed or floating platform shall carry a waste logbook. The waste logbook, whether it forms part of the ship's logbook, as a separate log or as an electronic logbook, shall be approved by the Administration, taking into account the guidelines developed by the Organisation[8)], and shall be in the form specified in MARPOL Annex V, Appendix II.
3.1 Each discharge into the sea or into a reception facility or completed waste incineration shall be entered immediately in the waste logbook and signed by the responsible officer on the date of the discharge or waste incineration. Each printed page of the waste logbook shall be signed by the master of the ship. The records in the waste logbook shall be in at least English, French or Spanish. Where the records are also in the official language(s) of the flag State, such records shall take precedence in case of dispute or inconsistency;
3.2 The record of each discharge into the sea pursuant to Regulations 4, 5, 6 or Subsection 5.2 of Chapter 5 of Part II-A of the Polar Code shall include the date and time, the position of the ship (latitude and longitude), the description of the waste and the estimated quantity (in cubic metres) discharged. When discharging cargo residues, in addition to the above, the position of the ship at the time of commencement and completion of the discharge must be indicated.
3.3 The record of each completed burning operation shall include the date, time and position of the ship (latitude and longitude) at the time of commencement and completion of the burning operation, the category of waste burned and the estimated quantity of waste burned of each category in cubic metres.
3.4 The record of each discharge to port reception facilities or to another ship shall include the date and time

of discharge, the name of the port or facility or ship, the category of waste discharged and the estimated quantity of discharge of each category in cubic metres."
3.5 The waste logbook shall be kept on board the ship or fixed or floating platform and in a place where it is accessible for inspection at all reasonable times. The record, together with receipts received from reception facilities, shall be kept securely for two years after the last entry.
3.6 In the case of an accidental discharge, escape or loss referred to in Regulation 7 of this Annex, an entry shall be made in the waste logbook or, for ships of less than 100 gross tonnage, an entry shall be made in the ship's official logbook of the date and time of the incident, the port or position of the ship at the time of the incident (latitude, longitude and water depth, if known), the cause of the discharge, release or loss, a detailed description of the discharged, escaped or lost waste, the category of the discharged, escaped or lost waste, the estimated quantity of each category in cubic metres, reasonable measures taken to prevent or limit the discharge, release or accidental loss and general remarks.
4 The Administration may waive the requirement for a waste logbook for:
4.1 ships engaged on voyages of one hour or less in duration and authorised to carry 15 persons or more; or
4.2 fixed or floating platforms.
5 The competent Administration of the Member State shall examine the waste logbook or the ship's official logbook of all ships to which the provisions of this Regulation apply when such ships are in its ports or terminals, and the Administration shall take a copy of any entry therein and require the master to certify the copy. Any such copy which has been certified by the master of the ship as a true copy of an entry in the waste logbook or the ship's official logbook shall be accepted for all legal purposes as evidence of the facts stated in the entry. The examination of the waste logbook or the ship's official logbook by the competent administration and the copying and certification of the copy in accordance with this Subsection shall be carried out as soon as possible without causing undue delay.
6 Accidental loss or discharge of fishing gear referred to in Regulations 7.1.3 and 7.1.4, which poses a significant hazard to the marine environment or navigation, shall be reported to the flag State of the ship and, if the loss or discharge occurs in waters under the jurisdiction of a coastal State, it shall also be reported to that coastal State.

Section II Verification of compliance with the provisions of the MARPOL Convention

Regulation 11 Application

Contracting Parties shall apply the provisions of the Implementation Code when performing their obligations and assuming their responsibilities under the MARPOL Convention.

Regulation 12 Verification of compliance

1 Each Contracting Party shall be subject to periodic audits by the Organisation in accordance with the Audit Standard to verify compliance with and implementation of the MARPOL Convention.
2 The Secretary General of the Organisation shall be responsible for the administration of the audit scheme on the basis of the guidelines established by the Organisation.[9)]
3 Each Contracting Party shall be responsible for facilitating the conduct of the audit and the implementation of an action programme to address observations based on the guidelines developed by the Organisation.[10)]
4 Audits of all Contracting Parties shall:
4.1 be based on an overall timetable prepared by the Secretary General of the Organisation, taking into account the guidelines prepared by the Organisation;[11)] and
4.2carried out at periodic intervals taking into account the guidelines established by the Organisation[12)].

Section III The International Polar Code

Regultion 13 Definitions

For the purposes of this Annex, the following definitions apply:
1 "Polar Code" refers to the International Code for Ships in Polar Waters, consisting of an Introduction and Parts I-A and II-A and Parts I-B and II-B, as adopted by Resolutions MSC. 385(94) and MEPC. 264(68)), as amended, provided that:
1.1 amendments to the environment-related provisions of the preamble and Chapter 5 of Part II-A of the Polar Code are adopted, entered into force and given effect in accordance with the provisions of Article 16 of the MARPOL Convention concerning the amendment procedures applicable to Appendices to Annexes; and
1.2 amendments to Part II-B of the Polar Code shall be adopted by the IMO Environment Committee (MEPC) in accordance with its Rules of Procedure.

2 "Arctic waters" are waters located north of a line from latitude 58°00'. 0 N and longitude 042°00'. 0 W to latitude 64°37'. 0 N, longitude 035°27'. 0 W, and then by compass line to latitude 67°03'. 9 N, longitude 026°33'. 4 W and then by compass line to latitude 70°49'. 56 N and longitude 008°59'. 61 W (Sørkapp, Jan Mayen), and via the southern coast of Jan Mayen to 73°31'. 6 N and 019°01'. 0 E at Bjørnøya, and from there via a great circle line to latitude 68°38'. 29 N and longitude 043°23'08 E (Cap Kanin Nos), and then via the northern coast of the Asian continent eastwards to the Bering Strait, and then from the Bering Strait westwards to latitude 60° N as far as Il'pyrskiy and along the 60. North latitude eastwards as far as and including the Strait of Etolin, and then through the northern coast of the North American continent as far south as latitude 60° N, and then eastwards along latitude 60° N to longitude 056°37'. 1 W, and then to latitude 58°00'. 0 N, longitude 042°00'. 0 W.
3 "Polar waters" are Arctic waters and/or the Antarctic region.

Regulation 14 Application and requirements

1 This Section applies to all ships in Polar waters to which this Annex applies.
2 Unless expressly stated otherwise, all ships covered by Subsection 1 shall comply with the environment-related provisions of the preamble to the Polar Code and of Chapter 5 of Part II-A, in addition to any other applicable requirements of this Annex.
3 When applying Chapter 5 of Part II-A of the Polar Code, the additional guidance contained in Part II-B of the Polar Code should be taken into account.

Annex 6
Prevention of air pollution from ships

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S/M	Regulation 13	Nitrogen oxide (NOx)
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S/M	Regulation 16	Incineration on board ships
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	Regulation 19	Application
S	Regulation 20	Purpose
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S	Regulation 22	Achieved Energy Efficiency Design Index (Achieved EEDI)
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S	Regulation 27	Collecting and reporting information on ship fuel consumption
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S	Regulation 30	Application
S	Regulation 31	Verification of compliance
	ANNEX I	
	ANNEX II	

This Annex contains the provisions of Annex VI of the International Convention for the Prevention of Pollution from Ships - MARPOL 73/78 and subsequent amendments.

The administration of the regulations is divided so that the Danish Environmental Protection Agency is responsible for the regulations on discharges and the Danish Maritime Authority is responsible for the regulations on technical installations on board ships, including records and plans. This division of responsibilities is indicated next to each regulation with an "M" for the Danish Environmental Protection Agency and an "S" for the Danish Maritime Authority.
Regarding the implementation of the MARPOL Convention in Denmark, in addition to the Executive Orders issued by the Danish Maritime Authority, there are also Executive Orders issued by the Ministry of Environment and Gender Equality that must also be followed
In the provisions, IMO is referred to as the Organisation, MARPOL 73/78 as the Convention and the Danish Environmental Protection Agency and the Danish Maritime Authority as the Administration, respectively.

Section A General provisions

Regulation 1 Application

The provisions of this Annex apply to all ships unless otherwise expressly stated. The provisions do not apply to ships registered in Greenland.

Regultion 2 Definitions

1 The following definitions apply in this Chapter:

1.1 "Annex" means Annex VI to the International Convention for the Prevention of Pollution from Ships, 1973 (MARPOL), as amended by the Protocol of 1978 relating to MARPOL and by the Protocol of 1997, as amended by the Organisation, provided that such amendments are adopted and implemented in accordance with the provisions of Article 16 of MARPOL.

1.2"A corresponding construction stage" means the stage where

1.2.1a construction project that can be identified with a specific ship is started, and

1.2.2assembly of this ship has commenced and involves at least 50 tonnes or 1% of the estimated total hull weight, whichever is less.

1.3 "Anniversary" is the day and month of the year corresponding to the expiry date of the International Air Pollution Prevention Certificate.

1.4"Audit" refers to a systematic, independent, and documented process that involves obtaining evidence through auditing and evaluating it objectively to determine the extent to which the audit criteria have been met.

1.5"Audit Scheme" means the IMO Member State Audit Scheme as established by the Organisation and taking into account the guidelines developed by the Organisation.[1)]

1.6"Audit standard" means the implementation code."

1.7 "Auxiliary control measure" is a system, function or control strategy installed on a marine diesel engine to protect the engine and/or its auxiliary equipment from operating conditions that could cause damage or breakdown or used to facilitate engine starting. An auxiliary control measure may also be a strategy or precaution that has been satisfactorily demonstrated not to be a manipulation device.

1.8"Implementation Code" means the IMO Instruments Implementation Code (III Code) as adopted by the Organisation by Resolution A. 1070(28).

1.9 "Continuous feeding" is the process of feeding waste into an incineration chamber without manual assistance while the incinerator is in normal operation and the chamber temperature is between 850ºC and 1200ºC.

1.10 "Manipulation device" is a device that measures, senses or responds to operational variables (e.g. engine speed, temperature, intake pressure or other parameter) in order to activate, modulate, delay or deactivate the operation of a component or the function of the emission system, so as to limit the effectiveness of the emission system under normal operating conditions, unless the use of such a device is substantially covered by the applicable emission approval test procedures.

1.11 "Electronic logbook" is a device or system approved by the Administration to record electronically the required records of emissions, transfers and other operations prescribed under this Annex instead of a physical logbook[2)].

1.12 "Emission" is any release from ships into the atmosphere or sea of substances controlled by this Annex.

1.13"Emission control area" means an area where specific ship emission obligations are in force to prevent, limit and control air pollution caused by NOx or SOx and particulate matter or all three types of emissions and their adverse effects on human health and the environment. Emission control areas include the areas

specified in or designated under Regulations 13 and 14.
1.14 "Fuel oil" is any fuel supplied and intended for combustion for the purpose of propulsion or operation on board ships.
1.15 "Gross tonnage" is the gross tonnage calculated in accordance with the tonnage measurement rules contained in Annex 1 to the International Convention on Tonnage Measurement of Ships, 1969 or any convention superseding that Convention.
1.16 "In-use sample" is a sample of marine fuels for on-board combustion that are in use on ships at the time of sampling.
1.17 "Installations" are, in Regulation 12 of this Annex, systems, equipment, including portable fire extinguishers, insulation or other material installed in or on a ship, but do not include the repair or refilling of previously installed systems, equipment, insulation or other material or the refilling of portable fire extinguishers.
1.18 "Installed" is a marine diesel engine that is or is intended to be installed on a ship, including a portable marine auxiliary diesel engine, but only if the engine's fuel, cooling or exhaust system is an integral part of the ship. A fuel system is only considered an integral part of a ship if it is permanently attached to the ship. This definition includes a marine diesel engine that is used to supplement or augment the installed power capacity of the ship and is intended to be an integral part of the ship.
1.19 "Irrational emission control strategy" is any strategy or measure which, when the ship is under normal operating conditions, limits the effectiveness of an emission control system to a level below that expected based on the emission test procedures used.
1.20 "Low flashpoint" is that gaseous fuel or liquid oil has a flashpoint lower than that permitted by Chapter II-2, Regulation 4(2.2.1) of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended."
1.21 "Marine diesel engine" is any piston-driven internal combustion engine using liquid fuel or liquid-gas fuel/dual fuel that is subject to Regulation 13, including booster/combined systems, if used. In addition, a gas-fuelled engine installed on a ship built on or after 1 March 2016 or a gas-fuelled spare or non-identical replacement engine installed on or after that date is also considered to be a marine diesel engine.
1.22 "MARPOL sample" is a sample of marine fuels for on-board combustion taken during delivery to ships (MARPOL delivered sample).
1.23 "NOx Code" is the "Technical Code for the Control of Nitrogen Oxide Emissions from Marine Diesel Engines" adopted by Conference Resolution 2, as may be amended by the Organisation provided that such amendments are adopted and enter into force in accordance with the provisions of Article 16 of the MARPOL Convention concerning the amendment procedures applicable to Appendices to the Annexes to the Convention.
1.24 On-board sample" is a sample of marine fuels intended for combustion on board ships and intended to be used as marine fuel on the ship or carried on board for that purpose.
1.25 "Ozone-depleting substances" are those substances defined in Article 1(4) of the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer and listed in Annex A, B, C or E of the Protocol at the time of application or interpretation of this Annex.
The ozone-depleting substances typically used on board ships include the following:
Halon 1211 Bromochlorodifluoromethane
Halon 1301 Bromine trifluoromethane
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-Trichlor-1,2,2-trifluorethan
CFC-114 1,2-Dichlor-1,1,2,2-tetrafluorethan
CFC-115 Chloropentafluoroethane
1.26 "Incineration" is the burning of waste or other material on board a ship if it is generated during the normal operation of the ship.
1.27 "Incinerator" is a facility on board a ship intended primarily for the incineration of waste.
1.28 "Ships under construction" are ships where the keel is laid or where the ship has reached an equivalent stage of construction.

1.29 "Oil sludge" is oil residues from fuel oil or lubricating oil separators, waste oil from main or auxiliary machinery or waste oil from bilge water separators, oil filtration equipment or spill trays.
1.30 "Fuel oil sulphur content" is the concentration of sulphur in the fuel oil measured in % m/m tested in accordance with a standard accepted by the Organisation[3)]..
1.31 "Tanker", for the purpose of Regulation 15, is an oil tanker as defined in Annex 1, Regulation 1, or a chemical tanker as defined in Annex 2, Regulation 1. In Section 4 as specified in the MARPOL Convention
1.32 "Unmanned non self-propelled barge" (UNSP) is a barge that:
1.32.1 is not propelled by machinery
1.32.2 does not have systems, equipment and/or machinery installed that may generate emissions regulated by this Annex; and
1.32.3 does not have persons or live animals on board
1.33 "Gas fuel" is fuel with a vapour pressure above 0.28 MPa absolute at a temperature of 37.8°C
2 Only applicable to Section IV:
2.1 "A ship delivered on or after 1 September 2019" is a ship
2.1.1 for which the building contract was created on 1 September 2015 or later, or
2.1.2 in the absence of a building contract, a ship the keel of which is laid or which is at a similar stage of construction on or after 1 March 2016, or
2.1.3 delivered on or after 1 September 2019.
2.2 "Annual operational CII achieved" is the indicated operational CO2 intensity value achieved by the individual ship in accordance with Regulations 26 and 28 of this Annex
2.3 "Achieved EEDI" is the EEDI value achieved by each ship in accordance with Regulation 22 of this Annex
2.4 "Achieved EEXI" is the EEXI value achieved by the individual ship in accordance with Regulation 23 of this Annex
2.5 "Bulk carrier" is a ship whose primary purpose is the carriage of dry cargo in bulk and includes ship types such as ore carriers as defined in Chapter XII, Regulation 1 of the SOLAS Convention, but does not include combination carriers.
2.6 "Calendar year" is the period from 1 January to 31 December, both inclusive.
2.7 "Combination ship" is a ship designed to carry 100% deadweight with both liquid and dry cargo in bulk.
2.8 "Shipping company" is the owner of the ship or an organisation or person, such as the operator or bareboat charterer, who has assumed the responsibility for the operation of the ship on behalf of the owner of the ship and who, by assuming such responsibility, has agreed to take over all the obligations and liabilities imposed by the International Safety Management (ISM) Code, as amended.
2.9 "Container ship" is a ship designed exclusively for the carriage of containers in cargo holds and on deck.
2.10 "Conventional propulsion", for the purposes of Section IV, is a method of propulsion in which one or more reciprocating internal combustion engines are the means of propulsion, connected either directly or through a gearbox to the drive shaft.
2.11 "Cruise ship", for the purposes of Section IV, is a passenger ship without deck cargo designed exclusively for the commercial carriage of passengers in overnight accommodation on a sea voyage.
2.12 "Distance travelled" is the distance travelled over ground.
2.13 "Existing ship" is a ship that is not new.
2.14 "Gas carrier", for the purpose of Section IV, is a cargo ship, other than an LNG tanker, as defined in Subsection 2.16 of this Regulation, that is constructed or adapted and used for the carriage in bulk of liquefied gases.
2.15 "General cargo ship" is a multi-deck or single-deck ship designed primarily for the carriage of general cargo. This definition does not include specialised dry cargo ships not included in the calculation of reference lines for general cargo ships, i.e. animal carriers, barge carriers, heavy lift carriers, yacht carriers and nuclear fuel carriers.
2.16 "LNG tanker", for the purpose of Section IV, is a cargo ship built or adapted and used for the carriage in bulk of liquefied natural gas (LNG).
2.17 For the purpose of Section 4 of this Annex, it means a substantial change in:
2.17.1 the ship's dimensions, carrying capacity or engine power; or
2.17.2 changes the type of the ship; or

2.17.3 in the opinion of the Administration, serves the purpose of substantially extending the service life of the ship; or
2.17.4 otherwise modifies the ship so that, if it were a new ship, it would be subject to the provisions of the MARPOL Convention, which do not apply to existing ships; or
2.17.5 significantly alters the energy efficiency of the ship and includes modifications that could cause the ship to exceed the required EEDI specified in Regulation 24 of this Annex or the applicable required EEXI specified in Regulation 25 of this Annex.
2.18 "New ship" is a ship:
2.18.1 where the building contract was signed on 1 January 2013 or later or;
2.18.2 if a building contract does not exist where the keel is laid or where the structure is at a similar stage of construction on or after 1 July 2013; or
2.18.3where delivery takes place on 1 July 2015. or later.
2.19 "Non-conventional propulsion", for the purposes of Section IV, is a method of propulsion that is not conventional propulsion, including diesel-electric propulsion, turbine propulsion and hybrid propulsion systems.
2.20 "Passenger ship" is a ship carrying more than 12 passengers.
2.21 "Polar Code" is the International Code for Ships in Polar Waters, consisting of an Introduction and Parts I-A and II-A and Parts I-B and II-B, as adopted by Resolutions MSC. 385(94) and MEPC. 264(68), with amendments, provided that:
2.21.1 amendments to the environmental-related provisions of the Preamble and Chapter 1 of Part II-A of the Polar Code have been adopted, entered into force and given effect in accordance with the provisions of Article 16 of the MARPOL Convention concerning the amendment procedures applicable to amendments to Annexes; and
2.21.2 Amendments to Part II-B of the Polar Code shall be adopted by the IMO Environment Committee (MEPC) in accordance with its rules of procedure.
2.22 "Refrigerated ship" is a ship designed exclusively for the carriage of refrigerated cargoes in cargo holds.
2.23 "Required annual operational CII" is the measured CII value obtained for the specific ship type and size in accordance with Regulations 26 and 28 of this Annex
2.24 "Required EEDI" is the maximum value of the achieved EEDI allowed for the specific ship type and size in accordance with Regulation 24 of this Annex
2.25 "Required EEXI" is the maximum value of the achieved EEXI allowed for the specific ship type and size in accordance with Regulation 25 of this Annex
2.26 "Ro-ro cargo ship" is a ship designed for the carriage of ro-ro transport units.
2.27 "Ro-ro cargo ship (vehicle carrier)" is a multi-deck ro-ro cargo ship designed for the carriage of empty cars and lorries.
2.28 "Ro-ro passenger ship" is a passenger ship with ro-ro cargo space.
2.29 "Tanker" is an oil tanker as defined in Annex 1, Regulation 1, or a chemical tanker or an NLS tanker as defined in Annex 2, Regulation 1.

Regulation 3 Exceptions and exemptions

General exceptions

1 This Annex does not apply to:
1.1 emissions of any kind that may be necessary to ensure the safety of a ship or to save human life at sea; or
1.2 emissions of any kind resulting from damage to a ship or its equipment,
1.2.1 provided that all reasonable precautions have been taken to prevent or minimise the emission after the damage has occurred or after the emission has been detected; and
1.2.2 except where the shipping company or master acted with intent to cause damage or recklessly and with knowledge that damage might result.

Testing to reduce emissions from ships and research into control technologies

2 The Administration of a Convention country, in conjunction with other Administrations as appropriate, may exempt a ship from specific provisions of this Annex to enable it to undertake trials to develop technologies to limit and control ship emissions and engine design programmes. Such exemption shall only be granted if specific provisions of this Annex or of the NOx Code of 2008 would prevent research into the development of such technologies or programs. An authorisation issued under this Regulation shall not

exempt a ship from the reporting requirements of Regulation 27 and shall not change the type and extent of data to be reported under Regulation 27. Authorisation to issue such exemptions shall be granted only to as few ships as necessary and taking into account the following provisions:
2.1 For marine diesel engines with a cylinder capacity up to 30 litres, the duration of the sea trials shall not exceed 18 months. If more time is required, the Administration(s) which granted the authorisation may accept a renewal period of a further 18 months; or
2.2 For marine diesel engines with a cylinder capacity of 30 litres or more, the duration of the sea trials shall not exceed five years, and the progress made shall be assessed by the Administration(s) which granted the authorisation at each intermediate survey. An authorisation may be revoked on the basis of such an assessment if the testing has not been carried out in accordance with the conditions of the authorisation or if it is determined that the technology or program is not likely to produce effective results in limiting and controlling emissions from ships. If the Administration(s) granting the permit determines that more time is required to test a particular technology or program, a permit may be renewed for a maximum period of five years.
Emissions from activities associated with the extraction, etc., of minerals from the seabed
3.1 Emissions directly associated with the exploration, exploitation and associated offshore processing of seabed mineral resources are exempted from the provisions of this Annex in accordance with Article 2(3)(b)(ii) of the MARPOL Convention. Such emissions include the following:
3.1.1 Emissions resulting from burning substances resulting exclusively and directly from the exploration, exploitation and associated offshore processing of mineral resources from the seabed, including, among others, the burning of hydrocarbons and material washed up by drilling, mud and/or stimulation fluids during well preparation and testing procedures, and burning caused by unexpected conditions;
3.1.2 Release of gases and volatile compounds mixed in drilling fluids and washed-up material;
3.1.3 Emissions associated solely and directly with the processing, handling or storage of seabed minerals; and
3.1.4 Emissions from marine diesel engines intended solely for the exploration, exploitation and associated offshore processing of seabed mineral resources.
3.2 Regulation 18 of this Annex does not apply to the use of hydrocarbons produced and subsequently used on site as fuel when authorised by the Administration.
Unmanned barges without self-propulsion
The Administration may exempt unmanned non-self-propelled barges (UNSP)[4)] from the requirements of Regulations 5.1 and 6.1 of this Annex for an International Air Pollution Prevention Exemption Certificate for UNSP for a period not exceeding five years, provided that the barge has undergone a survey to confirm that the requirements of Regulations 2.1.32.1 to 2.1.32.3 are met.
S/M Regulation 4 Equivalence
1 The Administration may authorise the fitting of any other equipment, material, device or appliance or the use of any other procedure, alternative fuel oil or method of compliance as an alternative to that required by this Annex if such equipment, material, device or appliance or other procedure, alternative fuel oil or method of compliance is at least as effective as that prescribed, including the standards specified in Regulations 13 and 14.
2 An Administration which allows the use of another equipment, material, device or appliance or other procedures, alternative fuel oils or means of compliance to replace that required by this Annex shall communicate details thereof to the Organisation, which shall circulate this information to the other Parties for information and possible action.
3 The Administration should take into account any relevant guidance developed by the Organisation[5)] on the equivalences referred to in this provision.
4 An Administration authorising the use of an equivalence referred to in Subsection 1 of this Regulation shall endeavour not to degrade or damage the environment, the health of persons, property or resources of any State.
Section II Survey, certification and control measures
S Regulation 5 Surveys
1 Every ship of 400 gross tonnage and upwards and every fixed and floating platform shall be subjected to the following surveys to ensure compliance with Section 3 of this Annex:

1.1 An initial pre-commissioning survey before the certificate required by Regulation 6 is first issued. The survey shall be carried out to ensure that the equipment, systems, appliances, arrangements and materials fully comply with the relevant provisions of Section 3 of this Annex;
1.2 a renewal survey at intervals determined by the Administration not exceeding five years, except where Regulation 9(2), (5), (6) or (7) of this Annex applies. The renewal survey shall be performed to ensure that equipment, systems, appliances, arrangements and materials fully comply with the provisions of Section 3 of this Annex;
1.3 an intermediate survey for a period of three months before or after the second anniversary of the certificate or three months before or after the third anniversary of the certificate to replace the annual survey specified in Subsection 1.4 of this Regulation. The intermediate survey shall ensure that equipment and arrangements fully comply with the provisions of Section 3 and are in good condition. The intermediate survey shall be endorsed on the IAPP certificate issued in accordance with Regulation 6 or 7 of this Annex;
1.4 an annual survey during the three months before or after the anniversary date of the certificate, including a general survey of the equipment, systems, appliances, arrangements and materials specified in Subsection 1.1 to ensure that they are maintained in accordance with Subsection 5 and that they remain adequate for the intended service of the ship. Such annual surveys shall be endorsed on the IAPP certificate issued in accordance with Regulation 6 or 7; and
1.5 an additional survey, either full or partial as appropriate, to be carried out after an essential repair or renewal as a result of Subsection 5 or whenever a repair has been carried out as a result of surveys required by Subsection 6. The survey shall ensure that the necessary repairs or renewal have been properly carried out, that the materials used and the quality of craftsmanship are satisfactory and that the ship fulfils all the requirements of Section III of this Annex.
2 For ships of less than 400 gross tonnage, the Administration may establish appropriate provisions to ensure that the relevant provisions of Section III of this Annex are complied with.
3 The surveys of ships for the enforcement of the provisions of this Annex shall be carried out by officers of the Administration.
3.1 However, the Administration may entrust surveys to nominated surveyors or recognised organisations. Such organisations shall comply with the guidelines adopted by the Organisation[6)]..
3.2 For the purpose of complying with Regulation 13, surveys of marine diesel engines and equipment shall be carried out in accordance with the provisions of the NO_x Code, 2008.
3.3 When a designated inspector or recognised organisation finds that the condition of the equipment does not substantially correspond to the information contained in the certificate, they shall ensure that this is rectified and that the Administration is informed in due time. If no action is taken to rectify the above, the certificate shall be revoked by the Administration. If the ship is in the port of another Contracting Party, the relevant authorities of the port State must be informed immediately. Once the Administration's surveyor, a nominated surveyor or recognised organisation has notified the relevant authorities of the port State, the Government of the port State concerned shall provide the surveyor or organisation with the necessary assistance to comply with the provisions of this Regulation; and
3.4 The Administration shall, in all cases, fully guarantee the completeness of the survey and shall ensure that the necessary steps are taken to fulfil this obligation.
4 Ships to which Section IV applies shall also be subjected to the following surveys, taking into account the guidelines developed by the Organisation:[7)]
4.1 An initial survey before a new ship is put into service and before the International Energy Efficiency Certificate is issued. The survey shall verify that the EEDI achieved by the ship complies with the requirements of Section IV of this Annex and that the SEEMP required by Regulation 26 is on board;
4.2 A general survey or partial survey, as appropriate, to be carried out after a major conversion of a new ship to which this Regulation applies. The survey shall ensure that the EEDI obtained is recalculated to the extent necessary and fulfils the requirement of Regulation 24 of this Annex, with the reduction factor applicable to the type and size of the ship under conversion at the stage corresponding to the contract date or keel laying date or delivery date established for the original ship in accordance with Regulation 2.2.18 of this Annex;
4.3 in cases where a major conversion of a new or existing ship is so extensive that the ship is considered by the Administration as a newly constructed ship, the Administration shall determine whether an initial survey

of the EEDI obtained is necessary. If such a survey is deemed necessary, it shall ensure that the EEDI obtained is calculated and meets the requirements of Regulation 24, with the reduction factor applicable to the type and size of the ship being converted at the date of the conversion contract or, in the absence of such a contract, at the date of commencement of the conversion. The survey shall also ensure that the SEEMP required by Regulation 26 is on board and that, for ships subject to Regulation 27, it has been duly revised to reflect major refits in cases where such a major refit affects the data collection method and/or reporting processes.

4.4 for existing ships, the verification of the requirement to carry a SEEMP in accordance with Regulation 26 shall take place at the first intermediate or renewal survey identified in Subsection 1 of this Regulation, whichever occurs first, on or after 1 January 2013; and

4.5 The Administration shall ensure that the SEEMP for all ships subject to Regulation 27 complies with the provisions of Regulation 26.2 of this Annex. This shall be ensured prior to the collection of data under Regulation 27 of this Annex to ensure that the methodology and processes are in place prior to the ship's first reporting period. Confirmation that the ship fulfils these requirements shall be provided to and kept on board the ship.

4.6 The Administration shall ensure that for each ship to which Regulation 28 applies, the SEEMP is in accordance with Regulation 26.3.1 of this Annex. This shall be done before 1 January 2023. The Statement of Compliance shall be given to the ship and kept on board.

4.7 The verification that the EEXI achieved by the ship complies with the requirements of Regulations 23 and 25 of this Annex shall be carried out at the first annual, intermediate or renewal survey specified in Subsection 1 of this Regulation or the first survey specified in Subsections 4.1 and 4.3 of this Regulation, whichever occurs on or after 1 January 2023; and

4.8 Regardless of Subsection 4.7 of this Regulation, a full or partial survey, as appropriate, shall be carried out after a major conversion on a ship to which Regulation 23 applies. The survey shall ensure that the EEXI obtained has been calculated as necessary and complies with the requirements of Regulation 25 of this Annex.

5 The equipment shall be maintained so as to comply with the provisions of this Annex, and no changes shall be made in the equipment, systems, appliances, arrangements or materials covered by the survey without the express approval of the Administration. However, replacement of equipment with other equipment complying with the provisions of this Annex is authorised.

6 When a ship suffers an accident or a defect is discovered which substantially affects the performance of equipment covered by this Annex, the master or owner of the ship shall, at the earliest opportunity, inform the Administration, the nominated surveyor or recognised organisation responsible for the issue of the relevant certificate.

S Regulation 6 Issue or endorsement of certificates and declarations of conformity for reporting fuel consumption and CO2 intensity

International Air Pollution Prevention Certificate (IAPP)

1 An International Air Pollution Prevention Certificate shall, after completion of an initial or renewal survey in accordance with the provisions of Regulation 5, be issued to:

1.1 any ship of 400 gross tonnage or more engaged in domestic trade or trade to ports or offshore terminals under the jurisdiction of other Contracting Parties; and

1.2 platforms and drilling rigs operating in national waters or in waters under the sovereignty or jurisdiction of other Contracting Parties to the 1997 Protocol.

2 Ships built before the date on which Annex VI to the MARPOL Convention enters into force for the Administration of the ship concerned shall be issued with an International Air Pollution Prevention Certificate in accordance with Subsection 1, not later than the first scheduled dry-docking after the date of such entry into force, but not later than three years after that date.

3 The certificate shall be issued or endorsed either by the Administration or by a person or organisation duly authorised by the Administration.[8)] In all cases, the Administration assumes full responsibility for the certificate.

International Energy Efficiency Certificate

4 Ships of 400 gross tonnage and above shall be issued with an International Energy Efficiency Certificate after a survey in accordance with the provisions of Regulation 5.4, before the ship can proceed to ports or

offshore terminals under the jurisdiction of other Convention countries.
5 The certificate shall be issued or endorsed either by the Administration or by an organisation duly authorised by the Administration.[9)] In any case, the Administration assumes full responsibility for the certificate.
Declaration of conformity - Reporting of fuel consumption and the operational CO2 intensity assessment
6 Upon receipt of reported data in accordance with Regulation 27.3 of this Annex and the annual operational CII achieved in accordance with Regulation 28.2 of this Annex, the Administration or an authorised classification society shall:
6.1 determine whether the reported data complies with Regulation 27 of this Annex,
6.2 verify that the reported annualised operational CII is based on the data submitted in accordance with Regulation 27 of this Annex
6.3 based on the verified annual operational CII data, determine the operational CO2 intensity rating of the ship in accordance with Regulation 28.6 of this Annex
6.4 issue a declaration of conformity related to the Fuel Consumption Reporting and the operational CO2 intensity rating for the ship no later than five months from the beginning of the calendar year in which it is determined and verified in accordance with Regulations 6.6.1 to 6.6.3 of this Annex. In any case, the Administration assumes full responsibility for this declaration of conformity.
7 The Administration or an organisation authorised by it shall, on receipt of information reported under Regulations 27.4, 27.5 or 27.6 of this Annex, immediately determine whether the information has been reported in accordance with Regulation 27 of this Annex and shall issue a declaration of conformity concerning fuel consumption to the ship. In any case, the Administration assumes full responsibility for this declaration of conformity.
8 Regardless of Subsection 6 of this Regulation, for a ship classed as Category "D" for three consecutive years or "E" in accordance with Regulation 28 of this Annex, a declaration of conformity shall not be issued unless a corrective action plan is in place and reflected in the ship's SEEMP and verified by the Administration or an organisation authorised by it in accordance with Regulations 28.7 and 28.8 of this Annex.
S Regulation 7 Issuance of certificates by another government
1 A Contracting Party may, at the request of the Administration, have a ship surveyed and shall, if it is satisfied that the requirements of this Annex are complied with, issue or authorise the issue of an International Air Pollution Prevention Certificate or an International Energy Efficiency Certificate to the ship and duly endorse or authorise the endorsement of the certificate in accordance with this Annex.
2 A copy of the certificate and a copy of the survey report shall thereafter be forwarded as soon as possible to the Administration at whose request the survey was carried out.
3 A certificate so issued shall include a statement that it has been issued at the request of the Administration and shall have the same validity and be recognised in the same manner as a certificate issued under Regulation 6.
4No International Air Pollution Prevention Certificate or International Energy Efficiency Certificate shall be issued to a ship entitled to fly the flag of a non-Contracting Party.
S Regulation 8 Form of certificates and declarations of conformity for reporting fuel consumption and operational CO2 intensity assessment
International Air Pollution Prevention Certificate (IAPP)
1 The International Air Pollution Prevention Certificate shall be in a form corresponding to the model in MARPOL Annex VI Appendix I and shall be issued in either English, French or Spanish. If an additional official language of the country is used, this shall prevail in case of discrepancies.
International Energy Efficiency Certificate
2 The International Energy Efficiency Certificate shall be in a form corresponding to the model in MARPOL Annex VI Appendix VIII in either English, French or Spanish. If an additional official language is used by the issuing Party, this shall prevail in case of discrepancies.
Declaration of conformity - Reporting of fuel consumption and operational CO2 intensity assessment
3 The declaration of conformity pursuant to Regulations 6.6 and 6.7 of this Annex shall be drawn up in a form corresponding to the model in MARPOL Annex VI Appendix X and shall be issued in either English,

French or Spanish. If an additional official language is used by the issuing Party, this shall prevail in case of dispute or inconsistency.

International Air Pollution Prevention Exemption Certificate for Unmanned Barges without Own Propulsion

4 In accordance with Regulation 3.4 of this Annex, the International Air Pollution Prevention Certificate for Unmanned Non-Self Propelled Barges shall be in a form corresponding to the model in MARPOL Annex VI Appendix XI and shall be issued in either English, French or Spanish. If an additional official language is used by the issuing Party, this shall prevail in case of dispute or inconsistency.

Regulation 9 The validity and validity period for certificates and declarations of conformity regarding the reporting of fuel consumption and the operational CO2 intensity assessment

International Air Pollution Prevention Certificate (IAPP)

1 The International Air Pollution Prevention Certificate shall be issued for a period determined by the Administration, which shall not exceed five years.

2 Regardless of the provisions of Subsection 1, the following shall apply:

2.1 When the renewal survey is completed less than three months before the expiry date of the existing certificate, the new certificate shall be valid from the date on which the renewal survey was completed to a date not exceeding five years from the expiry date 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 on which the renewal survey was completed to a date not exceeding five years from the expiry date of the existing certificate.

2.3 When the renewal survey is completed more than three months before the expiry date of the existing certificate, the new certificate shall be valid from the date on which the renewal survey was completed to a date not exceeding five years from the date on which the renewal survey was completed.

3 If a certificate has been issued for a duration of less than five years, the Administration may extend the certificate's period of validity to the maximum period specified in Subsection 1, provided that the surveys referred to in Regulations 5.1.3 and 5.1.4, respectively, have been satisfactorily completed.

4 If a renewal survey is completed and a new certificate cannot be issued or placed on board the ship before the existing certificate expires, the person or organisation authorised by the Administration may extend the existing certificate. Such a certificate shall be recognised as valid for a period not exceeding five months from the date of expiry.

5 If a ship is in a port where a survey cannot be carried out and the certificate has expired, the Administration may extend the certificate's period of validity but such extension shall only be granted for the purpose of allowing the ship to complete the voyage to the port where the survey can be carried out and then only in cases where it is considered safe and reasonable to do so. No certificate may be extended beyond a period of three months, and a ship which has been granted such an extension shall not, by virtue of the extension, leave the port where the survey was to take place without a new certificate. On completion of the renewal survey, the period of validity of the certificate issued shall not exceed five years from the date of expiry of the existing certificate before the extension was authorised.

6 A certificate issued to a ship engaged on short voyages which has not been revalidated under the preceding provisions of this Regulation may be revalidated by the Administration for a period of up to one month from the expiry date indicated thereon. Upon completion of the renewal survey, the new certificate shall be valid until a date not exceeding five years from the date of expiry of the existing certificate before the extension was allowed.

7 In special cases to be decided by the Administration, the validity period of a new certificate need not start from the expiry of the existing certificate as required by Subsections 2.1, 5 or 6. In such exceptional cases, the period of validity of the new certificate shall not exceed five years from the date on which the renewal survey was completed.

8 If an annual or intermediate takes place before the period specified in Regulation 5, then:

8.1 the anniversary date shown on the certificate shall be changed by endorsement to a date not more than three months later than the date on which the survey was completed;

8.2 the subsequent annual or intermediate survey required by Regulation 5 shall be carried out at intervals as prescribed in the Regulation, using the new anniversary date;

8.3 the expiry date may remain unchanged provided that such annual or intermediate survey or surveys as

may be necessary are carried out so as not to exceed the maximum intervals between surveys prescribed in Regulation 5.
9 A certificate issued under Regulation 6 or 7 shall cease to be valid in either of these cases:
9.1 If the required surveys are not completed within the periods specified in Regulation 5.1;
9.2 If the certificate is not endorsed in accordance with Regulation 5.1.3 or 5.1.4;
9.3 If a ship is transferred to the flag of another country. A new certificate shall be issued only when the Government issuing the new certificate is satisfied that the ship fully complies with the requirements of Regulation 5.4. When the transfer is between Convention countries and a request is made within three months after the transfer has taken place, the Government whose flag the ship was formerly entitled to fly shall, as soon as possible, provide the new Administration with a copy of the certificate held by the ship before the transfer and a copy of the relevant survey reports, if available.

International Energy Efficiency Certificate

10 The International Energy Efficiency Certificate shall be valid for the lifetime of the ship, subject to the provisions of Subsection 11 below.
11 An International Energy Efficiency Certificate issued in accordance with this Annex shall cease to be valid in any of the following cases:
11.1 if the ship is taken out of service or if a new certificate is issued following major modifications to the ship; or
11.2 if the ship is transferred to the flag of another country. A new certificate shall be issued only when the Government issuing the new certificate is satisfied that the ship fully complies with the requirements of Section IV. When the transfer is between Convention countries and a request is made within three months after the transfer has taken place, the Government whose flag the ship was formerly entitled to fly shall, as soon as possible, provide the new Administration with a copy of the certificate held by the ship before the transfer and a copy of the relevant survey reports, if available.
11.3 if during the survey the ship's equipment, systems, appliances, arrangements or materials have been changed without the express approval of the Administration, as determined in Regulation 5.5 of this Annex, unless Regulation 3 of this Annex applies.

Declaration of conformity - Reporting of fuel consumption and the operational CO2 intensity assessment

12 The declaration of conformity according to Regulation 6.6 of this Annex shall be valid for the calendar year in which it is issued and for the first five months of the following calendar year. The declaration of conformity in accordance with Regulation 6.7 of this Annex shall be valid in the calendar year in which it is issued, in the following calendar year and in the first five months of the following calendar year. All declarations of conformity shall be kept on board for at least the period for which they are valid.

S Regulation 10 Port State control of operational requirements

1 A ship which is in a port or offshore terminal under the jurisdiction of another Contracting Party shall be subject to control by officers authorised by that Contracting Party in respect of operational requirements under this Annex,[10)] when there are clear grounds for believing that the master or the crew are not familiar with essential shipboard procedures for the prevention of air pollution from ships.
2 In the circumstances referred to in Subsection 1, the Contracting Party shall take steps to ensure that the ship does not depart until the conditions are rectified in accordance with the requirements of this Annex.
3 For the purposes of this Regulation, the procedures for port State control as prescribed in Article 5 of the MARPOL Convention shall apply.
4 Nothing in this Regulation shall be construed as limiting the rights and obligations of a Convention country in relation to the exercise of control of operational requirements specifically prescribed in the MARPOL Convention.
5 For the purposes of Section IV, all port State control inspections shall, where appropriate, be limited to verifying the presence on board of a valid declaration of conformity for reporting fuel consumption and a valid International Energy Efficiency Certificate in accordance with Article 5 of the MARPOL Convention.
6 Regardless of the requirements of Subsection 5 of this Regulation, any port State control inspector may inspect whether the Ship Energy Efficiency Management Plan is properly implemented on board the ship in accordance with Regulation 28 of this Annex.

S/M Regulation 11 Infringement and enforcement

1 Contracting Parties shall cooperate in the detection of violations and in the enforcement of the provisions of this Annex using all appropriate methods of detection and environmental monitoring, reporting and collection of evidence.
2 A ship covered by this Annex, while in the port or offshore terminal of another Contracting State, may be investigated by officers designated or authorised by that State Party to determine whether the ship has discharged any of the substances covered by this Annex in violation of the provisions of this Annex. If the investigation indicates such a violation, a report shall be submitted to the Administration, which may take appropriate action.
3 A Contracting Party shall communicate to the Administration any evidence that the ship has discharged one or more substances covered by this Annex in violation of the provisions of this Annex. Where practicable, the competent authority of the former State shall inform the master of the ship of the alleged violation.
4 Upon receipt of such evidence, the Administration shall investigate the matter further and, where appropriate, request the other Contracting Party to provide additional or better evidence of the alleged violation. If the Administration is satisfied that there is sufficient evidence to justify prosecution of the alleged violation, it shall promptly initiate proceedings in accordance with applicable law. The Administration shall promptly notify the Contracting Party that reported the violation and the Organisation of the action taken.
5 A Contracting Party may also inspect a ship to which this Annex applies when it enters a port or offshore terminal under its jurisdiction if it has received a request for inspection from a Contracting Party and sufficient evidence that the ship has discharged one or more of the substances covered by this Annex in violation of its provisions. Information concerning such an investigation shall be communicated to the requesting State and to the Administration, which may take appropriate action under the Convention.
6 The international provisions for the prevention, reduction and control of pollution of the marine environment from ships, including those relating to enforcement and legal protection, which may be in force at the time of application of this Annex, shall, all other things being equal, apply to the regulations and standards set out in this Annex.

Section III Provisions for the control of emissions from ships

S/M Regulation 12 Ozone-depleting substances (ODS)

1 This Regulation does not apply to equipment which is permanently leak-proof and does not contain refrigerant charging connections or mobile components containing ODS.
2 Subject to the provisions of Regulation 3.1, any intentional discharge of ODS is prohibited. Intentional release includes emissions associated with the maintenance, checking, repair or disposal of systems or equipment, except for those minimal releases that may occur during the recovery or recycling of an ODS. Emissions resulting from the release of an ODS, whether intentional or unintentional, may be regulated by the Contracting Parties.
3.1 Installations containing ODS, with the exception of installations containing hydrochlorofluorocarbons (HCFCs), are prohibited:
3.1.1 on ships built on or after 19 May 2005; or
3.1.2 on ships built before 19 May 2005 which have a contractual delivery date for the equipment on or after 19 May 2005 or, in the absence of a contractual delivery date, an actual delivery date for the equipment on or after 19 May 2005.
This exception does not apply to ships registered in Denmark. [11)]
3.2 Installations containing HCFCs are prohibited:
3.2.1 on ships built on or after 1 January 2020; or
3.2.2 on ships built before 1 January 2020, which have a contractual delivery date for the equipment on or after 1 January 2020 or, in the absence of a contractual delivery date, the actual delivery date for the equipment on or after 1 January 2020.
4 The substances referred to in this Regulation and equipment containing such substances shall be delivered to appropriate reception facilities when they are removed from a ship.
5 Every ship to which Regulation 6.1 applies shall maintain a list of equipment containing ODS.[12)]
6 Every ship to which Regulation 6.1 applies which has recharging systems containing ODS shall keep a record of ODS. This record may be part of an existing logbook or of an electronic logbook as approved by

the Administration. An electronic record-keeping system as referred to in 12.6 and as adopted by Resolution MEPC. 176(58) shall be considered as an electronic logbook provided that the electronic record-keeping system is approved by the Administration on or before the first renewal survey of the International Air Pollution Prevention Certificate (IAPP) carried out on 1 October 2020 or later, but not later than 1 October 2025, taking into account the guidelines established by the Organisation[13)].
7 ODS records in the ODS logbook shall be entered by mass (kg) of substance and entered immediately for each of the following occasions:
7.1 full or partial recharge of equipment containing ODS;
7.2 repair or maintenance of equipment containing ODS;
7.3 release of ODS into the atmosphere:
7.3.1 intentionally; or
7.3.2 unintentionally;
7.4 discharges of ODS to land-based reception facilities; and
7.5 introduction of ODS into the ship.

M Regulation 13 Nitrogen oxides (NOx)

Application

1.1 This Regulation applies to:
1.1.1 any marine diesel engine of more than 130 kW installed on board a ship; and
1.1.2 any marine diesel engine with a power output of more than 130 kW, which has undergone a major conversion on or after 1 January 2000, except when it is demonstrated to the satisfaction of the Administration that it is an identical replacement of an engine, and that it is not otherwise covered by this Regulation's Subsection 1.1.1.
1.2 This Regulation does not apply to:
1.2.1 marine diesel engines intended solely for emergency use or to power devices or equipment intended solely for emergency use on board the ship on which they are installed or marine diesel engines installed in lifeboats intended solely for emergency use; and
1.2.2 marine diesel engines on ships operating exclusively in waters under the sovereignty or jurisdiction of the State whose flag the ship is entitled to fly, provided that such engines are subject to an alternative NO_x control established by the Administration.
1.3 Regardless of the provisions of Subsection 1.1, the Administration may allow a marine diesel engine to be exempted from this Regulation if it is installed on a ship which was built or underwent a major alteration before 19 May 2005, provided that the ship operates only to ports or offshore terminals within the State whose flag the ship is entitled to fly.

Major conversion

2.1 For the application of this Regulation, a "major conversion" means a modification to a marine diesel engine on or after 1 January 2000, which has not already been approved to the standards specified in Subsections 3, 4 or 5.1.1 of this Regulation, where:
2.1.1 the engine is replaced with a marine diesel engine or an additional marine diesel engine is installed; or
2.1.2 a substantial change is made to the engine as defined in the NO_x Code of 2008; or
2.1.3 the maximum continuous power output of the engine is increased by more than 10% compared to the engine's originally certified maximum continuous power output.
2.2 For a major conversion involving the replacement of a marine diesel engine with a non-identical marine diesel engine or the installation of an additional marine diesel engine, the standards of this Regulation that were in effect when the engine was replaced or when the additional engine was installed apply.
For the purposes of this Regulation, an installation of a marine diesel engine that replaces a steam system shall be considered a replacement engine. Only in the case of replaced engines, if it is not possible for such replaced engine to comply with the standards described in Subsection 5.1.1 of this Regulation (Tier III, as applicable), then the replaced engine shall comply with the standards described in Subsection 4 of this Regulation (Tier II), taking into account the guidelines developed by the Organisation[14)]. The Administration shall notify the Organisation in those cases where a Tier II instead of a Tier III replacement engine has been installed on or after 1 August 2025 in accordance with the provisions of this Subsection.
2.3 A marine diesel engine referred to in Subsection 2.1.2 or 2.1.3 shall meet the following standards:
2.3.1 for ships built before 1 January 2000, the standards mentioned in Section 3 of this Regulation apply;

and
2.3.2 for ships built on or after 1 January 2000, the standards in force at the time of construction of the ship.
Tier I [15)]
3 Subject to the provision of Regulation 3, the use of any marine diesel engine installed on a ship built on or after 1 January 2000, and before 1 January 2011, is prohibited unless the emission of nitrogen oxides from the engine (calculated as the weighted emission of NO_2) is within the following limits, where n = rated engine speed (crankshaft revolutions per minute)
3.1 17.0 g/kWh when n is less than 130 rpm;
3.2 45.0 x $n^{(-0.2)}$ g/kWh when n is 130 rpm or more but less than 2000 rpm;
3.3 9.8 g/kWh when n is 2000 rpm or more.
Tier II
4 Subject to the provision of Regulation 3, the use of any marine diesel engine installed on a ship built on or after 1 January 2011 is prohibited unless the emission of nitrogen oxides from the engine (calculated as the weighted emission of NO_2) is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):
4.1 14.4 g/kWh when n is less than 130 rpm;
4.2 44.0 x $n^{(-0.23)}$ g/kWh when n is 130 rpm or more but less than 2000 rpm;
4.3 7.7 g/kWh when n is 2000 rpm or more.
Tier III
5.1 Subject to the provision of Regulation 3, the application in an emission control area designated for Tier III NOx control under Subsection 6 of this Regulation (NOx Tier III emission control area) of any marine diesel engine installed on a ship:
5.1.1 prohibited unless the emission of nitrogen oxides from the engine (calculated as the total weighted emission of NO_2) is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):
5.1.1.1 3.4 g/kWh when n is less than 130 rpm;
5.1.1.2 9 x $n^{(-0.2)}$ g/kWh when n is 130 rpm or more but less than 2000 rpm;
5.1.1.3 2.0 g/kWh when n is 2000 rpm or more.
When:
5.1.2 the ship is built:
5.1.2.1 on or after 1 January 2016 and operates in the North American Emission Control Area or the United States Caribbean Sea Emission Control Area; or
5.1.2.2 on or after 1 January 2021 and operating in the Baltic Sea Emission Control Area or the North Sea Emission Control Area.
5.1.3 The ship operates in a NOx Tier III emission control area, which is not an emission control area described in this Regulation's Subsection 5.1.2, and the ship is built on or after the date of adoption of such an emission control area or on a later date, as may be specified in the amendment designating the Tier III NOx emission control area, whichever is the latest.
5.2 The standards mentioned in Subsection 5.1.1 of this Regulation shall not apply to:
5.2.1 a marine diesel engine installed on a ship of less than 24 metres in length (L) - as defined in Regulation 1.19 of Annex I of the MARPOL Convention - when designed and used exclusively for recreational craft; or
5.2.2 a marine diesel engine installed on a ship with a combined diesel engine propulsion power (as indicated on the nameplate) under 750 kW, if it is demonstrated to the satisfaction of the Administration that the ship cannot meet the standards mentioned in this Regulation's Subsection 5.1.1 due to design or construction limitations; or
5.2.3 a marine diesel engine installed on a ship built before 1 January 2021 of less than 500 gross tonnage, with a length (L) as defined in Annex 1, Regulation 1.19, of 24 metres or more when designed and used exclusively for recreational craft.
5.3 In respect of marine diesel engines installed on board ships covered by this Regulation, Subsection 5.1, and which are certified for both Tier II and Tier III, or solely certified for Tier II, their tier and status of being switched on or off must be recorded in the logbook or electronic logbook[16)] prescribed by the Administration when the ships enter and exit a NOx Tier III emission control area, or when the status of the engines being switched on or off changes in such an area, as well as the date, time, and ship's position must

be recorded.
5.4 Emissions of nitrogen oxides from a marine diesel engine covered by this Regulation's Subsection 5.1, which occur immediately after construction and sea trials with a newly built ship or before and after conversion, repair and/or maintenance of the ship or maintenance or repair of a Tier II engine or a dual-fuel engine, where it is a requirement that the ship does not have gas fuel or gas cargo on board for safety reasons, for which the activities take place at a shipyard or other repair facility located in a NOx Tier III emission control area, are temporarily exempted, provided that the following conditions are met:
5.4.1 the engine meets the Tier II NOx limits;
5.4.2 the ship sails directly to or from a shipyard or other repair facility, does not load or unload cargo during the exemption period and follows any additional specific route requirements specified by the port State in which the shipyard or other repair facility is located, if applicable.
5.5 The exception described in Subsection 5.4 of this Regulation only applies during the following period:
5.5.1 for a newly built ship; the period that begins when the ship is delivered from the shipyard, including sea trials, and ends as soon as the ship leaves the NO_x Tier III emission control area or areas, or – in the case of a ship equipped with a dual-fuel engine – as soon as the ship leaves the NO_x Tier III emission control area or areas or proceeds directly to the nearest facility to facilitate gas fuel bunkering, which is relevant for a ship located in a NO_x Tier III emission control area or areas;
5.5.2 for a ship with a Tier II engine under conversion, maintenance or repair; the period starting when the ship enters a NO_x Tier III emission control area or areas and proceeding directly to the shipyard or other repair facility and ends when the ship leaves the shipyard or other repair facility and directly exits a NO_x Tier III emission control area or areas after having been on any test voyage; or sea trials, if any; or
5.5.3 for a ship with a dual-fuel engine undergoing conversion, maintenance or repair, where it is a requirement that the ship does not have gas fuel or gas cargo on board for safety reasons; the period that begins when the ship enters a NO_x Tier III emission control area or areas, or when it is degassed in the NO_x Tier III emission control area or areas and continues directly to a shipyard or other repair facility, and ends when the ship leaves the shipyard or other repair facility and directly leaves the NO_x Tier III emission control area or areas or continues directly to the nearest facility to facilitate bunkering of the type of gas fuel relevant for a ship in the NO_x Tier III emission control area or areas.
Emission control area
6 For the purpose of this Regulation, a NO_x Tier III emission control area is any sea area, including any port area, designated by the Organisation in accordance with the criteria and procedures specified in MARPOL Annex VI, Appendix III. The NO_x Tier III Emission Control Areas are as follows:
6.1 the North American Emission Control Area, which means the area described by the coordinates given in MARPOL Annex VI Appendix VII;
6.2 the United States Caribbean Sea Emission Control Area, which means the area described by the coordinates set out in MARPOL Annex VI Appendix VII;
6.3 the Baltic Sea Emission Control Area as defined in MARPOL Annex I, Regulation 1.11.2; and
6.4 the North Sea Emission Control Area as defined in MARPOL Annex V, Regulation 1.14.6.
Marine diesel engines installed on ships built before 1 January 2000
7.1 Regardless of Subsection 1.1.1 of this Regulation, a marine diesel engine with an output exceeding 5000 kW and a cylinder capacity of 90 litres or more, installed on a ship built on or after 1 January 1990 but before 1 January 2000, shall comply with the emission limits referred to in Subsection 7.4 provided that the Administration of a Contracting Party has certified an approved method[17)] for the engine and submitted information thereon to the Organisation[18)]. Compliance with this Subsection shall be demonstrated by one of the following means:
7.1.1 installation of the certified approved method, as confirmed by a survey where the verification procedure specified in the approved method document, including the endorsement of the International Air Pollution Prevention Certificate, on the presence of the approved method; or
7.1.2 certification of the engine to confirm that it operates within the limits specified in this Regulation's Subsections 3, 4 or 5.1.1, as well as an appropriate endorsement of the international air pollution prevention certificate regarding the engine's certification.
7.2 Subsection 7.1 shall apply not later than the first renewal survey 12 months or more after the deposit of the endorsement referred to in Subsection 7.1. If an owner of a ship on which an approved method is to be

installed can prove to the satisfaction of the Administration that the approved method was not available on the market although every effort was made to obtain it, the approved method shall be installed on the ship not later than the next annual survey of the ship after the approved method is available on the market.
7.3 In the case of a marine diesel engine with an output exceeding 5000 kW and a cylinder capacity of 90 litres or more installed on a ship built on or after 1 January 1990 but before 1 January 2000, the International Air Pollution Prevention Certificate for a marine diesel engine to which Subsection 7.1 of this Regulation applies, shall state one of the following:
7.3.1 that an approved method has been used in accordance with Subsection 7.1.1 of this Regulation,
7.3.2 that the engine is certified in accordance with this Regulation's Subsection 7.1.2,
7.3.3 that an approved method is not yet available on the market as described in this Regulation's Subsection 7.2, or
7.3.4 an approved method is not practical.
7.4 Subject to the provision of Regulation 3, the use of any marine diesel engine described in Subsection 7.1 shall be prohibited unless the emission of nitrogen oxides from the engine (calculated as the weighted emission of NO_2) is within the following limits, where n = rated engine speed (crankshaft revolutions per minute):
7.4.1 17.0 g/kWh when n is less than 130 rpm;
7.4.2 45 x $n^{(-0.2)}$ g/kWh when n is 130 rpm or more but less than 2000 rpm;
7.4.3 9.8 g/kWh when n is 2000 rpm or more.
7.5 Certification of an approved method shall be in accordance with Chapter 7 of the Revised NO_x Code of 2008 and shall include verification:
7.5.1 by the designer of the fundamental marine diesel engine to which the approved method applies that the calculated effect of the approved method will not decrease engine performance by more than 1%, increase fuel consumption by more than 2% as measured in accordance with the relevant test cycle referred to in the revised NO_x Code of 2008, or have a negative effect on engine's service life or reliability; or
7.5.2 the cost of the approved method is not unusually high, as determined by comparing the amount of NO_x reduced by the approved method to achieve the standard referred to in Subsection 7.4 with the cost of purchasing and installing such an approved method[19)]

Certification

8 The revised NO_x Code of 2008 shall be applied in the certification, testing, and measurement procedures for the standards mentioned in this Regulation.
9 It is intended that the procedures for determining NO_x emissions referenced in the 2008 Revised NO_x Code be representative of normal engine operation. Manipulation devices and irrational emission control strategies undermine this intent and are not permitted. This Regulation shall not prevent the use of auxiliary control measures to protect the engine and/or its ancillary equipment from operating conditions that could cause damage or failure, or to facilitate starting the engine.

S/M Regulation 14 Sulphur Oxide (SOx) and Particulate Matter

General provisions

1 The sulphur content of fuel oils used and stored on board ships shall not exceed 0.5% (weight percentage).
2 The worldwide average sulphur content of fuel oil supplied for use in ships shall be monitored in accordance with guidelines developed by the Organisation[20)].

Requirements in emission control areas

3 For the purpose of this Regulation, an emission control area shall comprise any sea area, including any port area, designated by the Organisation in accordance with the criteria and procedures specified in MARPOL Annex VI, Appendix III.
Emission control areas covered by this Regulation are:
3.1 The Baltic Sea area, as defined in Regulation 1.11.2 of MARPOL, Annex I of this Convention;
3.2 The North Sea as defined in Regulation 1.14.6 of MARPOL Annex V of this Convention;
3.3 The North American Emission Control Area, as described in MARPOL Annex VI, Appendix VII of this Convention,
3.4 The United States Caribbean Emission Control Area, as described in MARPOL Annex VI, Appendix VII of this Convention.
3.5 The Mediterranean Emission Control Area, as described in MARPOL Annex VI, Appendix VII of this

Convention.
4 When a ship is in an emission control area, the sulphur content of the fuel oil used on the ship shall not exceed 0.10% (by weight).
5 The sulphur content of fuel oil referred to in Subsections 1 and 4 shall be documented by the supplier in accordance with the provisions of Regulation 18 of this Annex.
6(S) Ships using fuel oils segregated to comply with Subsection 4 and entering or leaving an emission control area referred to in Subsection 3, shall have a written procedure showing how the changeover to a different fuel oil is to be carried out which allows sufficient time for the fuel oil system to be completely flushed of all oils with a sulphur content above that specified in Subsection 4 before the ship enters an emission control area. Upon completion of an operation involving a change from one type of fuel to another, the quantity of low sulphur fuel oil in each tank, as well as the date and time and the position of the ship, shall be recorded in a logbook or electronic logbook[21)] as prescribed by the Administration.
7 During the first 12 months after the entry into force of an amendment to this Protocol designating a special emission control area in accordance with Subsection 3.2 of this Regulation, ships sailing in such an emission control area are exempt from the requirements of Subsections 4 and 6 and from the requirement of Subsection 5 in so far as Subsection 4 is concerned.
"In-service" and "On-board" oil trials and tests.
8 If a representative of the Administration requires an analysis of either the in-use or the on-board sample, this shall be done in accordance with the verification procedure set out in Appendix VI of MARPOL Annex VI to determine whether the oil used or stored for use meets the requirements of Subsection 1 or 4 of this Regulation. The "in-use" test shall be carried out in accordance with the instructions issued by the Organisation[22)]. The "on-board" sample shall be taken in accordance with the instructions issued by the Organisation[23).]
9 The sample shall be sealed by the competent authority representative with a unique identification in the presence of the ship's representative. The ship shall be given the opportunity to take a similar sample. The ship must be given the opportunity to take an equivalent sample.
"In use" oil sampling
10 For ships to which Regulation 5 and 6 of this Annex apply, the location of the sampling point shall be adapted or designated for the purpose of taking representative samples of the fuel oil used on board in accordance with the guidelines issued by the Organisation2[4).]
11 For ships built before 1 April 2022, the sampler referred to in Subsection 10 shall be installed or designated at the first renewal survey, as identified in Regulation 5.1.2 of this Annex, on or after 1 April 2023.
12 The provisions of Subsections 10 and 11 above shall not apply to fuel systems designed to use low flash point fuels or gaseous fuels.
13 The Administration representative shall, where appropriate, use the sampler(s) installed or designated for the purpose of taking representative samples of the fuel oil used on board to verify that the oil meets the requirements of this Annex. The taking of a representative sample by the representative of the Administration shall be done promptly and without causing undue delay to the ship.
S/M Regulation 15 Volatile organic compounds
1 If the discharge of volatile organic compounds (VOCs) from tankers is to be regulated in ports or terminals under the jurisdiction of a Contracting Party, it shall be regulated in accordance with the provisions of this Regulation.
2 A Contracting Party regulating tanker VOC emissions shall notify the Organisation[25)] thereof. Such notification shall be accompanied by information on the size of the tankers to be controlled, the cargoes for which emission control systems are required and the date on which the Regulation enters into force. The notification shall be provided at least six months before the date of entry into force.
3 A Contracting Party which designates ports or terminals where VOC discharges from tankers are to be regulated shall ensure that the designated ports and terminals have discharge control systems approved by that Contracting Party in accordance with the safety standards developed by the Organisation[26)], and that they are operated safely and in such a manner that ships are not unduly delayed.
4 The Organisation shall circulate a list of the ports and terminals designated by the Contracting Parties to other Contracting Parties and to Member States of the Organisation for information.

5 All tankers to which Subsection 1 applies shall be fitted with a gas discharge containment system approved by the Administration in accordance with the safety standards established by the Organisation[27)], and shall use the system when loading the relevant cargoes. Ports or terminals where discharge control systems are installed in accordance with this Regulation may accept existing tankers not fitted with gas containment systems for three years after the date of entry into force referred to in Subsection 2.
6 Tankers carrying crude oil shall have on board and implement a VOC management plan approved by the Administration[28)]. Such plan shall be developed taking into account the guidelines developed by the Organisation. The plan shall be specific to each ship and shall at least:
6.1 include written procedures for the control of VOC emissions during loading, sailing and discharge of cargo;
6.2 take into account additional VOCs generated during the flushing of crude oil;
6.3 designate a person responsible for implementing the plan; and
6.4 for ships engaged in international trade, be written in the working language of the master and officers and, if their working language is not English, French or Spanish, include a translation into one of these languages.
7 This Regulation shall apply to gas tankers only when the type of loading and storage systems used makes it safe to retain non-methane VOCs on board or to discharge them ashore[29)].
S/M Regulation 16 Burning on board ships
1 Except as specified by the provisions in Subsection 4, the burning of waste on board ships shall be permitted only in incinerators.
2 It is prohibited to burn the following substances on board ships:
2.1 Residues from cargoes regulated in Annex I, II or III of the MARPOL Convention or related contaminated packing materials;
2.2 polychlorinated biphenyl (PCB);
2.3 wastes, as defined in Annex V of the MARPOL Convention, containing more than trace amounts of heavy metals; and
2.4refined petroleum products containing halogens;
2.5 sewage sludge and oil sludge not generated on board the ship; and
2.6 residues from exhaust gas cleaning systems.
3 The incineration of polyvinyl chloride (PVC) is prohibited except in incinerators for which IMO Type Approval Certificates have been issued[30)].
4 The burning of sewage sludge and oil sludge generated during the normal operation of the ship is permitted in main and auxiliary boilers, but not in ports and estuaries.
5.1 Nothing in this Regulation affects prohibitions or other requirements in the "Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972" as amended and the associated Protocol of 1996.
5.2 Nothing in this Regulation precludes the development, installation or use of alternative equipment for the thermal treatment of waste, which meets or exceeds the requirements of this Regulation.
6.1 Except as specified in the provision in Subsection 6.2, any incinerator in a ship built on or after 1 January 2000 or installed in a ship on or after 1 January 2000 shall comply with the requirements of Appendix IV of MARPOL Annex VI. All incinerators to which this Subsection applies shall be approved by the Administration in accordance with the standard specifications for shipboard incinerators developed by the Organisation[31)]; or
6.2 The Administration may allow that the requirements of Subsection 6.1 need not be complied with for an incinerator installed in a ship before 19 May 2005, provided that the ship operates only in waters under the sovereignty or jurisdiction of the State whose flag the ship is entitled to fly.
7 Incinerators installed in accordance with the requirements of Subsection 6.1 shall be accompanied by a manufacturer's manual, which shall be kept with the incinerator, describing how to operate the incinerator to operate within the limits described in Subsection 2 of MARPOL Annex VI Appendix IV.
8 The personnel responsible for the operation of incinerators installed in accordance with the requirements of Subsection 6.1 shall be trained and capable of performing what is specified in the manufacturer's operating instructions.
9 For incinerators installed in accordance with the requirements of this Regulation's Subsection 6.1, the flue

gas discharge temperature must be monitored at all times when the incinerator is operating. Continuous feed incinerators shall not be fed with waste when the exhaust gas outlet temperature is below 850ºC. For batch feed incinerators, the unit shall be designed so that the exhaust gas outlet temperature reaches 600ºC within five minutes after start-up and then stabilises at a temperature not lower than 850ºC.

M Regulation 17 Receiving facilities

1 Each Contracting Party undertakes to ensure that adequate facilities are available to receive:

1.1 ODS and equipment containing such substances when removed from ships using its repair ports;

1.2 residues from ships using its ports, terminals or repair ports after exhaust gas cleaning in an approved system;

without unduly delaying ships, and to receive

1.3 ODS and equipment containing such substances when removed from ships at recycling yards.

2 The following States may fulfil the provisions of Subsection 1 of this Regulation through regional arrangements when, because of their special circumstances, such arrangements constitute the only practical way in which those circumstances can meet these requirements.

2.1 Small Island Developing States; and

2.2 States which have coastline on Arctic waters, provided that the regional arrangements only apply to ports within the Arctic waters of these States.

Parties participating in a regional scheme shall prepare a regional reception facility plan taking into account the guidelines developed by the Organisation.

The Government of any Party participating in the scheme shall consult with the Organisation with a view to circulating the following information to Contracting Parties to the MARPOL Convention:

2.3 How the regional reception facilities plan takes into account the guidelines;

2.4 details of the identified regional ship-generated waste reception centres taking into account the guidelines developed by the Organisation; and

2.5 details of ports with only limited facilities.

3 If, taking into account guidelines to be developed by the Organisation, a particular port or terminal of a Contracting State is located far from or lacks the infrastructure required to handle and process the substances referred to in Subsection 1, and is therefore unable to accept them, it shall inform the Organisation accordingly, so that the information may be circulated to all Contracting Parties and to the Member States of the Organisation for information and necessary action. All Contracting Parties which have communicated such information to the Organisation shall also inform the Organisation of the ports and terminals equipped with reception facilities capable of handling and processing such substances.

4 Each Contracting Party shall inform the Organisation of all cases where the facilities referred to in this Regulation do not exist or do not have sufficient capacity so that the Organisation may communicate this information to Members.

S/M Regulation 18 Availability and quality of fuel oil

Availability of fuel oil

1 Each Contracting Party shall take all reasonable measures to promote the availability of fuel oil complying with the provisions of this Annex and shall inform the Organisation of the availability of such fuel oil in the ports and terminals of that Contracting Party.

2.1 If a Contracting Party considers that a ship does not comply with the fuel oil standards specified in this Annex, the competent authority of that Contracting Party has the right to require the ship to:

2.1.1 provide a record of the actions taken to comply with the requirements; and

2.1.2 provide evidence that it has attempted to purchase compliant fuel oil in accordance with the sailing timetable and, if such oil was not available at the planned location of the intended location, that it has endeavoured to locate alternative sources of such fuel oil and that such oil was not available on the market, although all reasonable steps were taken to obtain it.

2.2 The ship should not be required to deviate from the planned voyage or unreasonably delay the voyage to comply with the provisions.

2.3 If a ship provides the information referred to in Subsection 2.1, a Contracting Party shall take into account all relevant circumstances and the evidence presented in order to determine the appropriate action to be taken, including not taking control measures.

2.4 A ship shall inform its Administration and the competent authority of the relevant port of destination

when it is unable to purchase fuel oil that complies with the provisions.
2.5 A Contracting Party should inform the Organisation when a ship has presented evidence that fuel oil that complies with the provisions was not available.
Quality of fuel oil
3 Fuel oil delivered and used for combustion on board ships to which this Annex applies shall fulfil the following requirements:
3.1 except as specified in 3.2:
3.1.1 the fuel oil shall consist of hydrocarbons obtained by oil refining. This does not preclude the addition of small quantities of additives to improve utilisation;
3.1.2 the fuel oil shall be free of inorganic acid; and
3.1.3 the fuel oil shall not contain additives or chemical waste that:
3.1.3.1 jeopardises the safety of the ship or adversely affects the performance of the machinery; or
3.1.3.2 is harmful to personnel; or
3.1.3.3 contributes overall to additional air pollution.
3.2 fuel oil derived by methods other than oil refining shall not:
3.2.1 have a sulphur content exceeding that specified in Regulation 14;
3.2.2 cause an engine to exceed the NO_x emission limits specified in Subsections 3, 4, 5.11 and 7.4 of Regulation 13;
3.2.3 contain inorganic acid; or
3.2.4.1 jeopardise the safety of ships or adversely affect the performance of machinery; or
3.2.4.2 be harmful to personnel; or
3.2.4.3 contribute overall to additional air pollution.
4 This Regulation does not apply to coal in solid form or to nuclear fuel. This Regulation's Subsections 5.1, 8.1 and 8.2 do not apply to fuels or gas fuel with a low flashpoint.
5 For every ship to which Regulations 5 and 6 apply, details of the fuel oil delivered for combustion on board shall be recorded in a bunker delivery note containing at least the information specified in Appendix 1 to this Annex.
5.1 For every ship to which Regulations 5 and 6 apply, details of the low flashpoint fuel or gas fuel delivered for combustion on board shall be entered in a bunker delivery note containing at least the information specified in Subsections 1 to 6 of Appendix 1 to this Annex, the density as determined by a test method appropriate to the fuel type together with the associated temperature and a statement signed and certified by the fuel supplier's representative that the fuel complies with Subsection 3 of this Regulation. In addition, the sulphur content of low flash point fuel and gas fuel delivered for combustion on board shall be documented in the bunker delivery note by the supplier as either the actual value as determined by a test method appropriate to the fuel type, or by agreement with the appropriate port authority of delivery, a statement that the sulphur content when tested by the appropriate test method is less than 0.001% m/m.
6 The bunker delivery note shall be kept on board in a place where it is readily available for inspection at all reasonable times. It shall be retained for three years after the fuel oil has been delivered.
7.1 The competent authority of a Contracting State may verify the bunker delivery notes on board any ship to which this Annex applies while the ship is in its port or offshore terminal, and may take a copy of each note and require the master or the person in command of the ship to confirm the accuracy of the copy. The authority may also confirm the contents of each note by consulting the port where the note was issued.
7.2 The review and copying of bunker delivery notes by the authority shall be carried out as soon as possible without unduly delaying the ship.
8.1 The bunker delivery note shall be accompanied by a representative oil sample from the fuel oil delivered in accordance with guidelines established by the Organisation[34)]. The oil sample shall be sealed and signed by the supplier's representative and the master or officer in charge of bunkering when completed and shall be retained in the ship until the fuel oil is consumed, but in any case not less than 12 months after the date of delivery.
8.2 If an Administration requires an analysis of a representative sample, it shall be carried out in accordance with the verification procedure described in Appendix VI of MARPOL Annex VI to determine whether the fuel oil meets the requirements of this Annex.
9 Contracting Parties undertake to ensure that the Designated Authority:

9.1maintains a register of local fuel oil suppliers;
9.2 requires local suppliers to provide the bunker delivery note and, if applicable, the MARPOL sample required by this Regulation and confirmation from the bunker supplier that the fuel oil fulfils the requirements of Regulations 14 and 18 of this Annex;
9.3require local suppliers to keep a copy of the bunker delivery note for at least three years for verification by the port State if necessary;
9.4 take appropriate action against fuel oil suppliers who are found to supply fuel oil that does not comply with the bunker delivery note;
9.5 inform the Administration of any ship which has received fuel oil which is shown not to comply with the requirements of Regulations 14 and 18; and
9.6 inform the Organisation of all cases where suppliers of fuel oil have failed to comply with the requirements specified in Regulations 14 and 18 so that this information can be communicated to Contracting Parties and Member States of the Organisation.
10 In the context of port State control carried out by Contracting Parties, the Parties further undertake to:
10.1 inform a Contracting Party or non-Contracting Party under whose jurisdiction a bunker delivery note has been issued of cases where fuel oil has been delivered which does not fulfil the applicable requirements, providing all relevant information; and
10.2 take appropriate corrective action when it is discovered that the oil delivered does not fulfil the requirements.
11 For all ships of 400 gross tonnage and above engaged on regular scheduled services with frequent and regular port calls, the Administration may, upon application to and consultation with the States concerned, determine that compliance with Subsection 6 of this Regulation may be demonstrated by an alternative means providing equivalent assurance of compliance with Regulations 14 and 18.

SECTION IV - CO2 INTENSITY RULES FOR INTERNATIONAL SHIPPING

S Regulation 19 – Application

1 This Section applies to all ships of 400 gross tonnage and above.
2 The provisions of this Section shall not apply to:
2.1 ships operating exclusively in waters under the sovereignty or jurisdiction of the ship's flag State. However, each Party to the Convention should ensure, through the adoption of appropriate measures, that such ships are constructed and operate in a manner consistent with the provisions of Section IV as far as is reasonable and practicable.
2.2 Ships not propelled by mechanical means and platforms, including FPSOs and FSUs and drilling platforms, regardless of their means of propulsion.
3 Regulations 22, 23, 24 and 25 of this Annex shall not apply to ships with non-conventional propulsion. However, Regulations 22 and 24 shall apply to cruise ships with non-conventional propulsion and LNG tankers with conventional or non-conventional propulsion delivered on or after 1 September 2019, as defined in Regulation 2.2.1, and Regulations 23 and 25 shall apply to cruise ships with non-conventional propulsion and LNG tankers with conventional and non-conventional propulsion. Regulations 22, 23, 24, 25 and 28 shall not apply to Category A ships as defined in the Polar Code.
4 Subject to the provisions of Subsection 1 of this Regulation, the Administration may exempt ships of 400 gross tonnage or more from complying with Regulations 22 and 24.
5 The provision of Subsection 4 of this Regulation shall not apply to ships of 400 gross tonnage and above:
5.1 where the building contract was signed on or after 1 January 2017; or
5.2 if a building contract does not exist where the keel is laid or where the structure is at a similar stage of construction on or after 1 July 2017; or
5.3 where delivery takes place on or after 1 July 2019; or
5.4 in the case of a major conversion of a new or existing ship, as defined in Regulation 2.2.17 of this Annex, on or after 1 January 2017, to which Regulations 5.4.2 and 5.4.3 of Section II apply.
6The Administration of a Contracting Party to the MARPOL Convention, which allows the application of Subsection 4 or excludes, revokes or declines the application of this Subsection to a ship registered in that Convention country, shall immediately inform the Organisation in order that it may communicate the details thereof to the Contracting Parties to the MARPOL Convention.

S Regulation 20 – Purpose

The purpose of this Section is to reduce the CO2 intensity of international shipping, working towards the ambition levels set out in the Initial IMO Strategy on reduction of GHG emissions from ships[35].

S Regulation 21 Functional requirements

In order to fulfil the purpose described in Regulation 20 of this Annex, a ship subject to the provisions of this Annex shall, to the extent practicable, comply with the following functional requirements to reduce its CO2 intensity:

1 the technical requirements for CO2 intensity in accordance with Regulations 22, 23, 24 and 25 of this Annex; and

2 the operational requirements for CO2 intensity in accordance with Regulations 26, 27 and 28 in this annex.

Regulation 22 – Attained Energy Efficiency Design Index (Attained EEDI)

1 The achieved EEDI shall be calculated for:

1.1 all new ships;

1.2 all new ships that have undergone major refit; and

1.3 all new or existing ships which have undergone a major conversion so extensive that the ship is considered by the Administration to be a new ship,

which falls within one or more of the categories in Regulations 2.2.5, 2.2.7, 2.2.9, 2.2.11, 2.2.14 to 2.2.16, 2.2.20, 2.2.22 and 2.2.26 to 2.2.29 in this Annex. The resulting EEDI shall be specific to each ship and shall indicate the estimated performance of the ship in energy efficiency terms, and shall be supplemented by the EEDI technical file containing the information required to calculate the resulting EEDI and showing the calculation process. The obtained EEDI shall be verified based on the EEDI technical file either by the Administration or by an organisation duly authorised by it[36].

2 The EEDI obtained shall be calculated taking into account the guidelines developed by the Organisation[37].

3 For any ship to which Regulation 24 of this Annex applies, the Administration or a recognised organisation shall report by electronic message to the Organisation the required and achieved EEDI values and relevant information, taking into account the guidelines issued by the Organisation[38]:

3.1 within seven months of the final survey required under Regulation 5.4 of this Annex; or

3.2 within seven months after 1 April 2022 for a ship delivered before 1 April 2022.

S Regulation 23 Achieved Energy Efficiency Design Index Existing Ships (Achieved EEXI)

1 The Achieved EEXI shall be calculated for:

1.1 all ships;

1.2 all ships that have undergone a major refit; and

which falls within one or more of the categories in Regulations 2.2.5, 2.2.7, 2.2.9, 2.2.11, 2.2.14 to 2.2.16, 2.2.20, 2.2.22 and 2.2.26 to 2.2.29 in this Annex. The achieved EEXI shall be specific to each ship and shall indicate the estimated performance of the ship in energy efficiency terms, and shall be complemented by the EEXI technical file containing the information required to calculate the achieved EEDI and showing the calculation process. The obtained EEXI shall be verified based on the EEXI technical file either by the Administration or by an organisation duly authorised by it[39].

2 The EEXI obtained shall be calculated taking into account the guidelines established by the Organisation[40].

3 Regardless of the requirements of Subsection 1 of this Regulation, for a ship to which Regulation 22 of this Annex applies, the EEDI obtained and verified by the Administration or by an organisation duly authorised by it in accordance with Regulation 22.1 of this Annex may be used as the EEXI obtained if the value of the EEDI obtained is equal to or less than the EEXI required in accordance with Regulation 25 of this Annex. In this case, the obtained EEXI shall be verified based on the EEDI technical file.

Regulation 24 – Required EEDI

1 For:

1.1 all new ships;

1.2 all new ships that have undergone major refit; and

1.3 any new or existing ship which has undergone major alterations to such an extent that the Administration considers the ship to be a newly constructed ship falling within one of the categories of Regulations 2.2.5, 2.2.7, 2.2.9, 2.2.11, 2.2.14 to 2.2.16, 2.2.22 and 2.2.26 to 2.2.29, and to which this Section applies, the achieved EEDI shall be as follows:

- Achieved EEDI $\leq$ Required EEDI = (1-X/100) x reference line value

- where X is the reduction factor specified in Table 1 for the required EEDI compared to the EEDI reference line.

2 For each new and existing ship which has undergone a major conversion so extensive that the ship is considered by the Administration to be a newly constructed ship, the EEDI obtained shall be calculated and fulfil the requirement of Regulation 21.1 by the applicable reduction factor corresponding to the type and size of the ship under conversion at the date of the conversion contract or, in the absence of a contract, at the date of commencement of the conversion.

Table 1. Reduction factors (in per cent) EEDI in relation to the EEDI reference line

Ship type	**Size**	**Phase 0 1 Jan 2013- 31 Dec 2014**	**Phase 1 1 Jan 2015- 31 Dec 2019**	**Phase 2 1 Jan 2020 - 31 Mar 2022**	**Phase 2 1 Jan 2020- 31 Dec 2024**	**Phase 3 1 Apr 2022 and onwards**	**Phase 3 1 Jan 2025 and onwards**
Bulk carrier	20,000 DWT and above	0	10		20		30
	10,000 DWT but less than 20,000 DWT	n/a	0-10*		0-20*		0-30*
Gas tanker	15,000 DWT and above	0	10	20		30	
	10,000 DWT and above but less than 15,000 DWT	0	10		20		30
	2,000 and above but less than - 10,000 DWT	n/a	0-10*		0-20*		0-30*
Tankers	20,000 DWT and above	0	10		20		30
	4,000 DWT and above but less than 20,000 DWT	n/a	0-10*		0-20*		0-30*
Container ship	200,000 DWT and above	0	10	20		50	
	120,000 DWT and above, but below 200,000 DWT	0	10	20		45	
	80,000 DWT and above but below 120,000 DWT	0	10	20		40	
	40,000 DWT and above but below 80,000 DWT	0	10	20		35	
	15,000 DWT and above but below 40,000 DWT	0	10	20		30	
	10,000 DWT and above but below 15,000 DWT	n/a	0-10*	0-20*		15-30*	
General cargo ship	15,000 DWT and above	0	10	15		30	
	3,000 DWT and above but below 15,000 DWT	n/a	0-10*	0-15*		0-30*	
Refrigerated ship	5,000 DWT and above	0	10		15		30
	3,000 DWT and above but below 5,000 DWT	n/a	0-10*		0-15*		0-30*
Combination vessel	20,000 DWT and above	0	10		20		30

	4,000-20,000 DWT	n/a	0-10*		0-20*		0-30*
LNG tanker***	10,000 DWT and above	n/a	10**	20		30	
Ro-ro cargo ship (car ferry)***	10,000 DWT and above	n/a	5**		15		30
Ro-ro cargo ship***	2,000 DWT and above	n/a	5**		20		30
	1,000 DWT and above but below -2,000 DWT	n/a	0-5*,**		0-20*		0-30*
Ro-ro passenger ship***	1,000 DWT and above	n/a	5**		20		30
	250 DWT and above but below 1,000 DWT	n/a	0-5*,**		0-20*		0-30*
Cruise ship *** with non-conventional propulsion	85,000 GT and above	n/a	5**	20		30	
	25,000 DWT and above but below 85,000 GT	n/a	0-5*,**	0-20*		0-30*	

* The reduction factor should be linearly interpolated between the two values, depending on the size of the ship. The lower value of the reduction factor should be used for smaller ship sizes.

** Phase 1 begins for these ships on 1 September 2015.

*** The reduction factor applies to ships delivered on 1 September 2019, as defined in Regulation 2.1 of Regulation 2

Note: n/a means that a required EEDI does not apply.

3 The reference line values shall be calculated as follows:

Reference line value = $a \times b^{-c}$

where a, b and c are the parameters given in Table 2.

Table 2. Parameters for determining reference values for different ship types

Ship type as defined in Regulation 2	a	b	c
2.25 Bulk carrier	961.79	DWT of the ship where DWT is ≤ 279,000 279,000 where DWT > 279,000	0.477
2.2.7 Combination ship	1,219.00	Ship's DWT	0.488
2.2.9 Container ship	174.22	Ship's DWT	0.201
2.2.11 Cruise ship with non-conventional propulsion	170.84	Ship's DWT	0.214
2.2.14 Gas tanker	1,120.00	Ship's DWT	0.456
2.2.15 General cargo ship	2,107.48	Ship's DWT	0.216
2.2.16 LNG tanker	2,253.7	Ship's DWT	0.474

2.2.22 Refrigerated ship	227.01	Ship's DWT	0.244
2.2.26 Ro-ro cargo ships	1,405.15	Ship's DWT	
	1,686.17*	Ship DWT where DWT ≤ 17,000*	0.498
2.2.27 Ro-ro cargo ship (car ferry)	(DWT/BT)-0.7 ● 780.36, where DWT/BT<0.3 1,812.63, where DWT/BT>0.3	Ship's DWT	0.471
2.2.28 Ro-ro Passenger ship	752.16	Ship's DWT	
	902.59	Ship DWT where DWT ≤ 10,000* 10,000 where DWT > 10,000*	0.381
2.2.29 Tanker	1,218.80	Ship's DWT	0.488

* To be used from Phase 2 onwards.

4 If the design of a ship allows it to belong to more than one of the above ship definitions, the required EEDI for the ship shall be the most stringent (the lowest) required EEDI.

5 For each ship to which this Regulation applies, the installed propulsion power must not be lower than the propulsion power necessary to maintain the ship's manoeuvrability under adverse conditions, as defined in guidelines to be developed by the Organisation[41)].

6 At the beginning of Phase 1 and in the middle of Phase 2, the Organisation shall review the status of technological developments and, if necessary, amend the time periods, the EEDI reference line parameters for relevant ship types and the reduction rates specified in this Regulation.

S Regulation 25 Required EEXI

1.1 all ships;

1.2 all ships that have undergone a major refit; and

which fall within one or more of the categories in Regulations 2.2.5, 2.2.7, 2.2.9, 2.2.11, 2.2.14 to 2.2.16, 2.2.20, 2.2.22 and 2.2.26 to 2.2.29, and to which this Section applies, the achieved EEXI shall be as follows:

- Achieved EEXI ≤ Required EEXI = (1-Y/100) x EEDI reference line value
- where Y is the reduction factor specified in Table 3 for the required EEXI compared to the EEDI reference line.

Table 3 - Reduction factor in per cent for EEXI compared to EEDI reference line

Ship type	Size	Reduction factor
Bulk carrier	200,000 DWT and above	15
	20,000 and above but less than 200,000 DWT	20
	10,000 and above but less than 20,000 DWT	0-20*
Gas tanker	15,000 DWT and above	30
	10,000 and above but less than 15,000 DWT	20

	2,000 and above but less than 10,000 DWT	0-20*
Tankers	200,000 DWT and above	15
	20,000 and above but less than 200,000 DWT	20
	4,000 and above but less than 20,000 DWT	0-20*
Container ship	200,000 DWT and above	50
	120,000 and above but less than 200,000 DWT	45
	80,000 and above but less than 120,000 DWT	35
	40,000 and above but less than 80,000 DWT	30
	15,000 and above but less than 40,000 DWT	20
	10,000 and above but less than 15,000 DWT	0-20*
General cargo ship	15,000 DWT and above	30
	3,000 and above but less than 15,000 DWT	0-30*
Refrigerated ship	5,000 DWT and above	15
	3,000 and above but less than 5,000 DWT	0-15*
combination vessel	20,000 DWT and above	20
	4,000 and above but less than 20,000 DWT	0-20*
LNG tanker	10,000 DWT and above	30
Ro-ro cargo ship (car ferry)	10,000 DWT and above	15
Ro-ro cargo ship	2,000 DWT and above	5
	1,000 and above but less than 2,000 DWT	0-5*
Ro-ro passenger ship	1,000 DWT and above	5
	250 and above but less than 1,000 DWT	0-5*
Cruise ship with non-conventional propulsion	85,000 GT and above	30
	25,000 and above but less than 85,000 GT	0-30*

* The reduction factor shall be linearly interpolated between the two values depending on the size of the ship. The lower value of the reduction factor should be used for smaller ship sizes.
2 The value of the EEDI reference line shall be calculated in accordance with Regulations 24.3 and 24.4 of this Annex. For ro-ro cargo ships and ro-ro passenger ships, the reference line from Phase 2 of Regulation 24.3 of this Annex shall apply.
3. An evaluation shall be completed by 1 January 2026 by the Organisation to assess the effectiveness of this Regulation taking into account the guidance developed by the Organisation. If, based on the evaluation, Contracting Parties decide to accede to the amendments to this Regulation, the accession and the amendments shall enter into force in accordance with the provisions of Article 16 of the MARPOL Convention.

S Regulation 26 - Ship energy efficiency operational programme (SEEMP)

1 All ships must have a Ship Energy Efficiency Operational Management Plan (SEEMP) on board. This plan may be part of the ship's safety management system (SMS). The SEEMP shall be developed and revised taking into account the guidelines adopted by the Organisation[42)].
2 For ships of 5,000 gross tonnage and above, the SEEMP shall include a description of the method used to collect data in accordance with Regulation 27.1 of this Annex and the process that will be used to report the data to the flag State.
3 For ships of 5,000 gross tonnage or more falling into one or more of the categories in Regulations 2.2.5, 2.2.7, 2.2.9, 2.2.11, 2.2.14 to 2.2.16, 2.2.22 and 2.2.26 to 2.2.29 of this Annex:
3.1 Before or not later than 1 January 2023, the ship specific operations management plan (SEEMP) shall include:
3.1.1 a description of the method used to calculate the ship's achieved annual operational CII required by Regulation 28 of this Annex and the process used to report the CII value to the ship's flag State.
3.1.2 for the next three years, the required annual operational CII as described in Regulation 28 of this Annex
3.1.3 an implementation plan documenting how the required annual operational CII will be achieved over the next three years; and
3.1.4 a self-assessment and improvement procedure
3.2 For ships categorised as "D" for three consecutive years or "E" in accordance with Regulation 28 of this Annex, the ship-specific operations management plan (SEEMP) shall be evaluated in accordance with Regulation 28.8 of this Annex for incorporation of necessary corrective actions to achieve the required annual operational CII.
3.3 The SEEMP shall be subject to verification and company audits, taking into account the guidelines adopted by the Organisation.

S Regulation 27 - Collection and reporting of ship fuel consumption data

1 As from the calendar year 2019, all ships of 5000 gross tonnage and above, shall collect the information specified in MARPOL Convention ANNEX VI, Appendix IX, for that and each subsequent calendar year or part thereof in accordance with the methodology included in the Ship Energy Efficiency Management Plan (SEEMP).
2 Except as specified by the provisions in Subsections 4, 5 and 6 of this Regulation, at the end of each calendar year, the ship shall compile the information collected during that calendar year or part thereof, as appropriate.
3 Except as specified in the provisions of Subsections 4, 5 and 6 of this Regulation, the ship shall, within three months after the end of each calendar year, report to the Administration or an organisation authorised by it[43)], the total value of each of the items of information specified in Appendix IX of ANNEX VI of the MARPOL Convention by electronic communication using a standardised format established by the Organisation[44)].
4 If a ship is transferred from one Administration to another, the ship shall, on the date of transfer or as close as practicable to that date, report the compiled information for the part of the calendar year applicable to that Administration concerned, as detailed in Appendix XV to ANNEX VI of the MARPOL Convention, to the transferring Administration or an organisation authorised by it[45)] and report the individual data upon prior request by that Administration.
5 In the case of a transfer from one shipping company to another, the ship shall, on the date of the transfer or as near thereto as practicable, report the compiled information for the part of the calendar year applicable to

that shipping company concerned as detailed in Appendix IX of ANNEX VI of the MARPOL Convention, to the transferring Administration or an organisation authorised by it[46], and report the individual data upon prior request by that Administration.
6 In the event of simultaneous transfer from one Administration to another and from one shipping company to another, Subsection 4 of this Regulation applies.
7 The information shall be verified in accordance with procedures established by the Administration, having regard to guidelines developed by the Organisation[47].
8With the exception of the provisions in Subsections 4, 5 and 6 of this Regulation, the individual data underlying the reported information as detailed in the MARPOL Convention ANNEX VI, Appendix IX for the preceding calendar year, shall be readily available for a period of not less than 12 months from the end of that calendar year and shall be made available to the Administration on request.
9 The Administration shall ensure that the information referred to in MARPOL ANNEX VI, Appendix IX, reported by its ships of 5000 gross tonnage and above, is transferred to the IMO's ship fuel consumption database by electronic communication using a standardised format developed by the Organisation within one month of the issue of the declarations of conformity to those ships.
10 On the basis of the information reported to the IMO Ship Fuel Consumption Database, the Secretary-General of the Organisation shall prepare an annual report to the IMO Environment Committee (MEPC) summarising the information collected, the status of missing information and any other relevant information requested by the MEPC.
11 The Secretary-General of the Organisation shall provide the flag State of a ship to which Regulation 28 of this Annex applies with access to all previously reported data for that ship from the previous calendar year reported to the IMO Ship Fuel Consumption Database.
12 The Secretary-General of the Organisation shall maintain an anonymised database so that it is not possible to identify a particular ship. The Parties shall only have access to the anonymised information for analysis and consideration.
13 The IMO Ship Fuel Consumption Database shall be established and maintained by the Secretary-General of the Organisation in accordance with guidelines developed by the Organisation.
14 The Secretary-General of the Organisation may, on an ad hoc basis, share data with analytical consultancies and research entities under strict confidentiality rules.
15 The Secretary-General of the Organisation shall, upon request from a shipping company, provide public access to the fuel consumption reports of the ships owned by the company in a non-anonymous form.

S Regulation 28 Operational CO2 intensity

Attained annual operational CO2 intensity indicator (Attained annual operational CII)

1 After the end of the calendar year 2023 and after the end of each subsequent calendar year, for each ship of 5,000 gross tonnage and above falling within one or more of the categories referred to in Regulations 2.2.5, 2.2.7, 2.2.9, 2.2.11, 2.2.14 to 2.2.16, 2.2.22 and 2.2.26 to 2.2.29 of this Annex, the annual achieved operational CII shall be calculated over a 12-month period from 1 January to 31 December of the preceding calendar year using data collected in accordance with Regulation 27 of this Annex, taking into account the guidelines adopted by the Organisation.
2 The ship shall report to its Administration or a recognised organisation within three months from the end of each calendar year its achieved operational CII by electronic message using a standardised format developed by the Organisation.
3 Regardless of the provisions of Subsections 1 and 2, in the case of a change of flag of a ship to which Regulations 27.4, 27.5 and 27.6 apply after 1 January 2023, the ship shall, after the end of the calendar year in which the change of flag took place, calculate and report the achieved annual operational CII for the total 12-month period from 1 January to 31 December of the year in which the change of flag took place in accordance with Regulations 28.1 and 28.2 for verification in accordance with Regulation 6.6 of this Annex, taking into account the guidelines adopted by the Organisation. Nothing in these Regulations shall exempt a ship from complying with its reporting obligations under Regulation 27 or 28 of this Annex.

Required annual operational CO2 idensity indicator (required annual operational CII)

4For ships of 5,000 gross tonnage and above falling into one or more of the categories referred to in Regulations 2.2.5, 2.2.7, 2.2.9, 2.2.11, 2.2.14 to 2.2.16, 2.2.22 and 2.2.26 to 2.2.29 of this Annex, the required annual operational CII shall be calculated as follows:

Annual required operational CII = (1- Z/100) x CII_R
Where:
Z is the annual reduction factor for continuous improvement of the ship's operational CO2 intensity within a specific assessment level, and
CII_R is the reference value
5 The annual reduction factor Z[48)] and the reference value CII_R shall be the values defined on the basis of guidelines to be developed by the Organisation.
Operational CO2 intensity assessment
6 The achieved annual operational CII shall be documented and verified against the required annual operational CII to determine the operational CO2 intensity rating A, B, C, D or E, indicating significant improvement, minor improvement, moderate, poor improvement or poor performance levels, by either the Administration or an appropriately authorised organisation, taking into account the guidelines adopted by the Organisation. The midpoint of the "C" rating must be equal to the required annual value for the operational CII, as set out in Subsection 4 of this Regulation.
Corrective actions and incentives
7 A ship that has been assessed as "D" for three consecutive years or assessed as "E" shall develop a corrective action plan to achieve the required annual operational CII.
8 The ship-specific operations management plan (SEEMP) must be updated to include a corrective action plan taking into account guidelines to be developed by the Organisation. The updated SEEMP shall be submitted to the Administration or an appropriately authorised organisation for verification, preferably at the same time as, but not later than one month after reporting the achieved annual operational CII in accordance with Subsection 2 of this Regulation.
9 A ship which has been assessed as "D" for three consecutive years, or assessed as "E", shall undertake the planned corrective actions described in the ship-specific operational management plan (SEEMP)
10 Administrations, port authorities and other relevant Parties are encouraged to reward ships assessed as "A" or B" where appropriate".
Evaluation
11 An evaluation shall be completed by 1 January 2026 by the Organisation to assess:
11.1 the effectiveness of this Regulation in reducing the CO2 intensity of international shipping
11.2 the need for further strengthening of the corrective actions or other methods of mitigation, including the possibility of additional EEXI requirements
11.3 the need for further development of enforcement methods
11.4 the need for further development of the data collection system, and
11.5 Revision of the factor Z and CII_R values.
If, based on the evaluation, Contracting Parties decide to accede to the amendments to this Regulation, the accession and the amendments shall enter into force in accordance with the provisions of Article 16 of the MARPOL Convention.
S Regulation 29 - Promotion of technical cooperation and transfer of technology to improve the energy efficiency of ships [49)]
1 Administrations shall, in cooperation with the Organisation and other international bodies, promote and provide support, directly or through the Organisation, as appropriate, to States, in particular developing States, which request technical assistance.
2 The Administrations of Contracting States shall actively cooperate with other Contracting States, subject to their national laws, regulations and policies, to promote the development and transfer of technology and the exchange of information to countries requesting technical assistance, particularly developing countries, for the implementation of measures to meet the requirements of Section IV of this Annex, in particular Regulations 19.4 to 19.6.
Section V Verification of compliance with the provisions of the MARPOL Convention
S Regulation 30 Application
Contracting Parties shall apply the provisions of the Implementation Code when performing their obligations and assuming their responsibilities under the MARPOL Convention.
S Regulation 31 Verification of compliance
1 Each Contracting Party shall be subject to periodic audits by the Organisation in accordance with the Audit

Standard to verify compliance with and implementation of the MARPOL Convention.
2The Secretary General of the Organisation shall be responsible for the administration of the audit scheme on the basis of the guidelines established by the Organisation[50].
3Each charter party shall be responsible for facilitating the conduct of the audit and the implementation of an action programme to address observations based on the guidelines developed by the Organisation[51)].
4 Audits of all Contracting Parties shall:
4.1be based on an overall timetable prepared by the Secretary General of the Organisation, taking into account the guidelines prepared by the Organisation;[52)] and
4.2carried out at periodic intervals taking into account the guidelines established by the Organisation[53].

Appendix 1

Information to be included in the bunker delivery note (Regulation 18.5)

1) Name and IMO number of the receiving ship
2) Port
3) Date of commencement of delivery
4) Name, address and telephone number of the marine fuel oil supplier
5) Product name(s)
6) Quantity (metric tonnes)
7) Density[54)] at 15ºC (kg/m^3)
8) Sulphur content[55)](weight percentage)
9) Flash point (°C) as determined in accordance with the standards accepted by the Organisation, or a statement that the flash point has been measured at 70°C or above.
10) A statement signed and certified by the representative of the fuel supplier confirming that the fuel complies with Regulation 18.3 of this Annex and that the sulphur content of the fuel supplied does not exceed:
- the limit value specified in Regulation 14.1 of this Annex;
- the limit value specified in Regulation 14.4 of this Annex; or
- the purchaser's specified limit of ___ (% m/m), as completed by the fuel supplier's representative and based on the purchaser's indication that the fuel will be used:
a) together with an equivalent means of fulfilment in accordance with Regulation 4 of this Annex; or
b) covered by an appropriate exemption for a ship from conducting limited sulphur oxide emission testing and control technology research in accordance with Regulation 3.2 of this Annex.
The declaration shall be completed by the fuel supplier's representative by ticking the relevant box(es).
Official notes

Annex 1

[1)] At MEPC 59, it was agreed (MEPC 59/24, Subsection 6.18) that the clarification of the requirements of MARPOL Annex I, Regulation 12A, also applies to major refits as defined in Regulation 1.28.9.
[2)] Refer to the "Framework and Procedures for the IMO Member State Audit Scheme" as adopted by the Organisation by resolution
[3)] Refers to the operational guidance given in Section 2 of the Guidelines for verification of damage stability requirements for tankers (MSC. 1/Circ. 1461).
[4)] Reference is made to *the Guideline for exemption of unmanned non-self-propelled barges from certain survey and certification requirements under the MARPOL Convention (MEPC. 1/Circ. 892)*
[5)]The provision is included for practical reasons to ensure consistency in the reproduction of the international regulations. For the European Union, the relationship is governed by Directive 2009/15/EC of the European Parliament and of the Council on common regulations and standards for ship inspection and survey organisations and for the relevant activities of maritime administrations, as amended by Commission Implementing Directive 2014/111/EU, and by Regulation (EC) No. 391/2009 of the European Parliament and of the Council on common regulations and standards for ship inspection and survey organisations, as amended by Commission Implementing Regulation (EU) No. 1355/2014.
[6)] Please refer to Procedures for port state control, 2017 Resolution A. 1119(30)
[7)] At MEPC 58, it was decided (MEPC 58/23, Subsection 6.10) that Regulation 12A, with regard to conversion from single-hull oil tankers to bulk/ore ships, shall apply to all bulk/ore ships, i.e. both new and existing fuel oil tanks.

[8)] For symmetrical tank arrangements, damage is only taken into account on one side of the ship. All "y" dimension calculations must therefore be made for the same side. For asymmetrical tank arrangements, refer to the Explanatory Notes on Accidental Oil Discharge as adopted by the Organisation by Resolution MEPC. 122(52) and amended by Resolution MEPC. 146(54).
[9)] Refer to the Recommendation on international performance and test specification for oily-water separating equipment and oil content meters Resolution A. 393(X)), Guidelines and specifications for pollution prevention equipment for machinery space bilges of ships Resolution MEPC. 60(33)), 2011 Guidelines and specifications for add-on equipment for upgrading Resolution MEPC. 60(33)-compliant oil filtering equipment Resolution MEPC. 205(62)), or Revised guidelines and specification for pollution prevention equipment for machinery space bilges of ships Resolution MEPC. 107(49), as amended by Resolution MEPC. 285(70)).
[10)] Refer to the Recommendation on international performance and test specification for oily-water separating equipment and oil content meters Resolution A. 393(X)), Guidelines and specifications for pollution prevention equipment for machinery space bilges of ships Resolution MEPC. 60(33)), 2011 Guidelines and specifications for add-on equipment for upgrading Resolution MEPC. 60(33)-compliant oil filtering equipment Resolution MEPC. 205(62)), or Revised guidelines and specification for pollution prevention equipment for machinery space bilges of ships Resolution MEPC. 107(49), as amended by Resolution MEPC. 285(70)).
[11)] This does not apply to Danish territorial waters, where any discharge of oil is prohibited, cf. the Marine Environment Protection Act.
[12)] Reference is made to "Guideline for the use of electronic record books under MARPOL, MEPC. 312(74)"
[13)] Reference is made to Appendix III of MARPOL Annex I.
[14)] For oil content meters installed in tankers constructed before 2 October 1986, see Recommendation on international performance and test specifications for oily-water separating equipment and oil content meters, adopted by Resolution A. 393(X). For oil content meters forming part of discharge monitoring and control systems installed in tankers constructed on or after 2 October 1986, see 'Guidelines and specifications for oil discharge monitoring and control systems for oil tankers', adopted by Resolution A. 586(14). For oil content gauges installed in tankers, the keel of which is laid or the ship is at a similar stage of construction on or after 1 January 2005, reference is made to the Revised Guidelines and specifications adopted by Resolution MEPC 108(49) as amended by MEPC 240(65).
[15)] Reference is made to Resolution A. 495(XII) for the standard format of the Handbook.
[16)] Refer to MSC-MEPC. 5/Circ. 5 on 'Unified Interpretations on measurement of distances'.
[17)] Reference is made to the Revised Interim Guidelines for the approval of alternative methods of design and construction of oil tankers as adopted by MEPC 110(49).
[18)] Reference is made to the 2006 amendments adopted by the Organisation by Resolution MSC. 216(82).
[19)] Reference is made to the American Society for Testing and Material's Standard Test Method (Designation D86).
[20)] Reference is made to the American Society for Testing and Material's Specification for Number Four Fuel Oil Design (Designation D396) or heavier.
[21)] For symmetrical tank arrangements, only damage on one side of the ship is taken into account. All "y" dimension calculations must therefore be made for the same side. For asymmetrical tank arrangements, reference is made to the Explanatory Notes on Accidental Oil Discharge as adopted by the Organisation by Resolution MEPC. 122(52) as amended by MEPC. 146(54)
[22)] Reference is made to the Explanatory Notes on accidental oil spills as adopted by the Organisation by Resolution MEPC. 122(52) and amended by MEPC. 146(54).
[23)] θf is the angle of heel at which openings in superstructures, which cannot be closed weathertight, are submerged. Small openings where gradual water filling cannot occur shall not be considered open.
[24)] Reference is made to Section B, Chapter 4 of the International Code of Intact Stability, 2008 (2008 IS Code), as amended; Guidelines for the Approval of Stability Instruments (MSC. 1/Circ. 1229), Annex, Section 4, as amended; and the technical standards defined in Section 1 of the 'Guidelines for verification of damage stability requirements for tankers' (MSC. 1/Circ. 1461).
[25)] Reference is made to MARPOL Annex 1, Appendices to Unified Interpretations, Appendix 4.
[26)] For oil content meters installed in tankers constructed before 2 October 1986, see Recommendation on

international performance and test specifications for oily-water separating equipment and oil content meters, adopted by Resolution A. 393(X). For oil content meters forming part of discharge monitoring and control systems installed in tankers constructed on or after 2 October 1986, see 'Guidelines and specifications for oil discharge monitoring and control systems for oil tankers', adopted by Resolution A. 586(14). For oil content gauges installed in tankers with a keel laid or at a similar stage of construction on or after 1 January 2005, reference is made to the Revised Guidelines and specifications adopted by Resolution MEPC 108(49) as amended by MEPC 240(65).

[27)] Reference is made to the 'Guidelines and Specifications for Oil Discharge Monitoring and Control Systems for Oil Tankers adopted by the Organisation' adopted by Resolution A. 496(XII) or the 'Revised Guidelines and Specifications for Oil Discharge Monitoring and Control Systems for Oil Tankers adopted by the Organisation' adopted by Resolution A. 586(14) or "Revised Guidelines and Specifications for Oil Discharge Monitoring and Control Systems for Oil Tankers adopted by the Organisation" adopted by Resolution MEPC. 108(49) as amended by MEPC 240(65).

[28)] Reference is made to Resolution MEPC. 5(XIII) 'Specifications for oil/water interface detectors'.

[29)] Reference is made to "Specifications for the design, operation and control of crude oil washing systems" adopted by Resolution A. 446(XI) and amended by Resolution A. 497(XII) and later by Resolution A. 897(21).

[30)] *This does not apply to Danish territorial waters, where any discharge of oil is prohibited, cf. the Marine Environment Protection Act.*

[31)] Reference is made to Regulation 38.6.

[32)] Reference is made to Resolution MEPC. 3(XII), "Standard format of the Crude Oil Washing Operation and Equipment Manual", as amended by MEPC. 81(43).

[33)] Refer to Guideline for the use of electronic record books under MARPOL, MEPC. 312(74)

[34)] Reference is made to Appendix III of MARPOL Annex I.

[35)] Reference is made to 'Guidelines for the development of shipboard oil pollution emergency plans adopted by the Organisation by Resolution MEPC. 54(32)' as amended by MEPC. 86(44).

[36)] Reference is also made to the "General Principles for Ship Reporting Systems and Ship Reporting Requirements, including Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants" adopted by the Organisation by Resolution A. 851(20), as amended by MEPC. 138(53).

[37)] Reference is made to Resolution MEPC. 83(44), 'Guidelines for ensuring the adequacy of port waste reception facilities'.

[38)] Reference is made to Resolution MEPC. 221(63) 'Guidelines for the development of a regional reception facilities plan'.

[39)] Reference is made to Resolution MEPC. 83(44), 'Guidelines for ensuring the adequacy of port waste reception facilities'.

[40)] The MEPC decided, by Resolution MEPC. 168(56), that the discharge requirements for the Gulf's special area set out in Regulations 15 and 34 of this Annex would take effect on 1 August 2008.

[41)] Reference is made to the 'Guidelines for the application of the revised MARPOL Annex I requirements to FPSOs and FSUs' adopted by the Organisation by Resolution MEPC. 139(53) and amended by Resolution MEPC. 142(54).

[42)] Refer to Annex 1, Chapter 7 and Article 56 of UNCLOS, which is applicable and describes these operations.

[43)] IMO's 'Manual on Oil Pollution, Section 1, Prevention' as amended, and the ICS and OCIMF 'Ship to Ship Transfer Guide, Petroleum', fourth edition, 2005.

[44)] Revised Annex I to the MARPOL Convention, Chapters 3 and 4 (Resolution MEPC. 117(52)); requirement to record bunker and oil cargo transfers in the Oil logbook and records as may be required by the STS Operations Plan.

[45)] The national contact point listed in document MSC-MEPC. 6. (Circ. 4 of 31 December 2007 or subsequent amendments thereto.

[46)] Refer to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).

[47)] Refer to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the

Organisation by Resolution A. 1067(28).
[48)] Refer to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).
[49)] Refer to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).

Annex 2

[1)] Refer to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).
[2)] The provision is included for practical reasons to ensure consistency in the reproduction of the international regulations. For the European Union, the relationship is governed by Directive 2009/15/EC of the European Parliament and of the Council on common regulations and standards for ship inspection and survey organisations and for the relevant activities of maritime administrations, as amended by Commission Implementing Directive 2014/111/EU, and by Regulation (EC) No. 391/2009 of the European Parliament and of the Council on common regulations and standards for ship inspection and survey organisations, as amended by Commission Implementing Regulation (EU) No. 1355/2014.
[3)] An overview and reproduction of relevant updated certificates can be found on the IMO website under the Global Integrated Shipping Information System (GISIS), Survey and Certification, Certificate specimens and E-Certificates.
[4)] Reference is made to the "CODE FOR THE TRANSPORT AND HANDLING OF HAZARDOUS AND NOXIOUS LIQUID SUBSTANCES IN BULK ON OFFSHORE SUPPORT VESSELS (OSV CHEMICAL CODE)", as adopted by the Organisation by Resolution A. 1122(30).
[5)] Reference is made to "Guideline for the use of electronic record books under MARPOL, MEPC. 312(/74)
[6)] Reference is made to "Procedures for port state control" adopted by the Organisation by Resolution A. 1119(30) and A 30/Res. 1119/Corr. 1.
[7)] Refer to "Procedures for port state control" adopted by the Organisation by Resolution A. 1119(30) and A 30/Res. 1119/Corr. 1.
[8)] Refers to "Guidelines for the Development of the shipboard marine pollution emergency plan for oil and/or Noxious Liquid Substances", as adopted by the Organisation by MEPC. 85(44) and amended by MEPC. 137(53).
[9)] Reference is made to the "General Principles for Ship Reporting Systems and Ship Reporting Requirements, including Guidelines for Reporting incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants" adopted by the Organisation by Resolution A. 851(20), and amended by MEPC. 138(53).
[10)] Refers to the *2018 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships* (Resolution MEPC. 308(73), as amended by Resolutions MEPC. 322(74) and MEPC. 332(76)).
[11)] Reference is made to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).
[12)] Reference is made to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).
[13)] Refer to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).
[14)] Refer to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).

Annex 3

[1)] Reference is made to IMDG code (Resolution MSC. 122(75) as amended
[2)] Refer to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).
[3)] Reference is made to B VII of the Executive Order on the Construction and Equipment of Ships, etc., implementing the International Convention for the Safety of Life at Sea (SOLAS).
[4)] Reference is made to the IMDG Code as adopted by the Organisation by Resolution MSC. 122(75), as amended by the IMO Maritime Safety Committee (MSC), most recently MSC. 442(99).
[5)] Refers to 'documents' in this Regulation do not preclude the use of electronic data processing (EDP) and

electronic data interchange (EDI) transmission techniques to support paper documentation.
[6)] Refer to Port State Control Procedures 2017 as adopted by the Organisation by Resolution A. 1119(30).
[7)] Refer to the Framework and Procedures for the IMO Member State Audit Scheme as adopted
[8)] Reference is made to Class 7 as defined in Chapter 2.7 of the IMDG Code.
[9)] The criteria are based on the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) of the United Nations, as amended. For definitions of acronyms or technical terms used in this Annex, reference is made to the relevant sections of the IMDG Code.

Annex 4

[1)] Reference is made to Assembly Resolution A. 927(22), 'Guidelines for the designation of special areas under MARPOL and guidelines for the identification and designation of particularly sensitive sea areas'.
[2)] Refer to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).
[3)] Reference is made to MEPC 52 (11-15 October 2004), which confirmed 27 September 2003 as the date of entry into force of MARPOL Annex IV (cf. MEPC 52/24, Sections 6.16 - 6.19).
[4)] Does not apply to ships engaged in domestic trade in Greenland.
[5)] Refers to "*Guideline for exemption of unmanned non-self-propelled barges from certain survey and certification requirements under the MARPOL Convention (MEPC. 1/Circ. 892)*".
[6)] Reference is made to "Global and uniform implementation of the harmonised system of survey and certification (HSSC)", as adopted by the Assembly of the Organisation by Resolution A. 883(21), "the Survey guidelines under the harmonised system of survey and certification, 2007", as adopted by the Assembly of the Organisation by Resolution A. 997(25), as may be amended by the Organisation. Reference is made to MSC/Circ. 1010 - MEPC/Circ. 382 on Communication of information on the authorisation of recognised organisations (ROs), and the information collected via the Global Integrated Shipping Information System (GISIS).
[7)] Reference is made to the Guidelines for the authorisation of organisations acting on behalf of the Administration, as adopted by the Organisation by Resolution A. 739(18), as amended by Resolution MSC. 208(81), and the Specifications on the survey and certification functions of recognised organisations acting on behalf of the Administration, as adopted by the Organisation by Resolution A. 789(19), as may be amended by the Organisation.
[8)] Reference is made to »Guidance on the timing of replacement of existing certificates issued after the entry info force of amendments to certificates in IMO instruments (MSC-MEPC. 5/Circ. 6)«.
[9)] Reference is made to the "2012 Guidelines on Implementation of Effluent Standards and Performance Tests for Sewage Treatment Plants" adopted by the Environment Protection Committee (MEPC) of the Organisation by Resolution MEPC. 227(64), as amended by MEPC. 284(70).
[10)] Reference is made to "2012 Guidelines on Implementation of Effluent Standards and Performance Tests for Sewage Treatment Plants" adopted by the Environmental Protection Committee (MEPC) of the Organisation by Resolution MEPC. 227(64), as amended by MEPC. 284(70).
[11)] Reference is made to "Recommendation on standards for the rate of discharge of untreated sewage from ships" as adopted by the Environment Protection Committee of the Organisation (MEPC) by Resolution MEPC. 157(55).
[12)] Reference is made to Consolidated guidelines for port reception facility providers and users (MEPC. 1/Circ. 834)
[13)] Refer to Port State Control Procedures 2017 as adopted by the Organisation by Resolution A. 1119(30).
[14)] Refer to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).
[15)] Refer to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).
[16)] Refer to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).
[17)] Refer to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).

Annex 5

[1)] Refer to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the

Organisation by Resolution A. 1067(28).
[2)] Reference is made to "Guide to good practice for port reception facility providers and users", MEPC. 1/Circ. 834.
[4)] Reference is made to Port State Control Procedures 2017 as adopted by the Organisation by Resolution A. 1119(30).
[5)] Reference is made to "Guidelines for the development of garbage management plans" adopted by the Organisation by Resolution MEPC. 220(63).
[6)] Reference is made to Table 1 of the "2017 Guidelines for the Implementation of MARPOL Annex V" adopted by the Organisation by Resolution MEPC. 295(71).
[7)] Reference is made to "Guidelines for the development of garbage management plans" adopted by the Organisation by Resolution MEPC. 220(63).
[8)] Reference is made to "Guideline for the use of electronic record books under MARPOL, MEPC. 312(/74)
[9)] Reference is made to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).
[10)] Reference is made to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).
[11)] Reference is made to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).
[12)] Reference is made to the Framework and Procedures for the IMO Member State Audit Scheme as adopted by the Organisation by Resolution A. 1067(28).

Annex 6

[1)] Reference is made to the Framework and Procedures for the IMO Member State Audit Scheme (Resolution A. 1067(28)).
[2)] Reference is made to the *Guidelines for the use of electronic record books under MARPOL* (Resolution MEPC. 312(74)).
[3)] Reference is made to ISO 8754:2003 Petroleum products - Determination of sulphur content - Energy-dispersive X-ray fluorescence spectrometry.
[4)] Reference is made to the *Guidelines for exemption of unmanned non-self-propelled* (UNSP) *barges from the survey and certification requirements under the MARPOL Convention* (MEPC. 1/Circ. 892).
[5)] Reference is made to the "2021 Guidelines for exhaust gas cleaning systems" adopted by Resolution MEPC. 340(77).
[6)] Reference is made to the "Code for Recognised Organisations (RO Code)" adopted by the Organisation by Resolution MEPC. 237(65), as may be amended by the Organisation. Reference is also made to the "Survey Guidelines under the Harmonised System of Survey and Certification (HSSC), 2021" (Resolution A. 1156(31)).
[7)] Reference is made to the *2014 Guidelines on survey and certification of the Energy Efficiency Design Index* (Resolution MEPC. 254(67), as amended by Resolutions MEPC. 261(68) and MEPC. 309(73)); consolidated text: MEPC. 1/Circ. 855/Rev. 2, as may be further amended.
[8)] Reference is made to the Code for Recognised Organisations (RO Code), as adopted by the Organisation by Resolution MEPC. 237(65), as may be amended by the Organisation.
[9)] ISO 2719:2016, Determination of flash point - Pensky-Martens closed cup method, Procedure A (for Distillate Fuels) or Procedure B (for Residual Fuels).
[10)] Refer to the *Procedures for port State control, 2019* (Resolution A. 1138(31)). Refer also to the *2019 Guidelines for port State control under MARPOL Annex VI Chapter 3* (Resolution MEPC. 321(74)).
[11)] HCFCs are no longer allowed in ships flying the EU flag as a result of EU Regulation No. 1005/2009 of 29 June 2000 on substances that deplete the ozone layer.
[12)] See Appendix I, Supplement to International Air Pollution Prevention Certificate (IAPP Certificate), Section 2.1.
[13)]Reference is made to the *Guidelines for the use of electronic record books under MARPOL* (Resolution MEPC. 312(74)).
[14)] Reference is made to the *2013 Guidelines as required by Regulation 13.2.2 of MARPOL Annex VI in respect of non-identical replacement engines not required to meet the Tier III limit* (Resolution MEPC. 230(65)).

[15)] Reference is made to the *Guidelines for the application of the NOx Technical Code relative to certification and amendments of Tier I engines* (MEPC. 1/Circ. 679).
[16)] Reference is made to the *Guidelines for the use of electronic record books under MARPOL* (Resolution MEPC. 312(74)).
[17)] Reference is made to the *2014 Guidelines on the approved method process* (Resolution MEPC. 243(66)).
[18)] Reference is made to the *2014 Guidelines in respect of the information to be submitted by an Administration to the Organisation covering the certification of an approved method as required under Regulation 13.7.1 of MARPOL Annex VI* (Resolution MEPC. 242(66)).
[19)] The cost of an approved method shall not exceed 375 Special Drawing Rights/metric tonne NOx calculated in accordance with the cost-effectiveness (Ce) formula below:
Ce=Cost of approved method * 106Power (KW) ' 0.768 * 6,000 (hours/year) * 5 (years) * ΔNOx (g/kWh)
Reference is made to *the Definitions for the cost-effectiveness formula in Regulation 13.7.5 of the revised MARPOL Annex VI* (MEPC. 1/Circ. 678).
[20)] Reference is made to *the 2020 Guidelines for monitoring the worldwide average sulphur content of fuel oils supplied for use on board ships* (Resolution MEPC. 326(75)).
[21)] Reference is made to *the Guidelines for the use of electronic record books under MARPOL* (Resolution MEPC. 312(74)).
[22)]Reference is made to the *2019 Guidelines for on board sampling for the verification of the sulphur content of the fuel oil used on board ships* (MEPC. 1/Circ. 864/Rev. 1).
[23)] Reference is made to the *2020 Guidelines for on board sampling of fuel oil intended to be used or carried for use on board a ship* (MEPC. 1/Circ. 889).
[24)] Reference is made to the *2019 Guidelines for on board sampling for the verification of the sulphur content of the fuel oil used on board ships* (MEPC. 1/Circ. 864/Rev. 1).
[25)] Reference is made to the *Notification to the Organisation on ports or terminals where volatile organic compounds (VOCs) emissions are to be regulated* (MEPC. 1/Circ. 509).
[26)] Reference is made to the *Standards for vapour emission control systems* (MSC/Circ. 585).
[27)] Reference is made to Refer to the *Standards for vapour emission control systems* (MSC/Circ. 585).
[28)] Reference is made to *the Guidelines for the development of a VOC management plan* (Resolution MEPC. 185(59)). Refer also to the *Technical information on systems and operation to assist development of VOC management plans* (MEPC. 1/Circ. 680), and the *Technical information on a vapour pressure control system in order to facilitate the development and the update of VOC management plans* (MEPC. 1/Circ. 719).
[29)] Reference is made to the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk.
[30)] Reference is made to Type Approval Certificates issued in accordance with the *Revised guidelines for the implementation of Annex V of MARPOL* (Resolution MEPC. 59(33), as amended by Resolution MEPC. 92(45)), or *Standard specification for shipboard incinerators* (Resolution MEPC. 76(40), as amended by Resolution MEPC. 93(45)), or the *2012 Guidelines for the implementation of MARPOL Annex V* (Resolution MEPC. 219(63), as amended by Resolution MEPC. 239(65)), or the *2014 Standard specification for shipboard incinerators* (Resolution MEPC 244(66)), or the *2017 Guidelines for the implementation of MARPOL Annex V* (Resolution MEPC. 295(71)).
[31)] Reference is made to the *2014 Standard specification for shipboard incinerators* (Resolution MEPC. 244(66)), or *Standard specification for shipboard incinerators* (Resolution MEPC. 76(40), as amended by Resolution MEPC. 93(45)), and *Type approval of shipboard incinerators* (MEPC. 1/Circ. 793).
[34)] Reference is made to *2009 Guidelines for the sampling of fuel oil for determination of compliance with the revised MARPOL Annex VI* (Resolution MEPC. 182(59)).
[35)] *Initial IMO Strategy on reduction of GHG emissions from ships* (Resolution MEPC. 304(72)).
[36)] Reference is made to the Code for Recognised Organisations (RO Code), as adopted by the Organisation by Resolution MEPC. 237(65), as may be amended by the Organisation.
[37)] Reference is made to the *2018 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships* (Resolution MEPC. 308(73), as amended by Resolutions MEPC. 322(74) and MEPC. 332(76)).
[38)] Reference is made to the *2018 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships* (Resolution MEPC. 308(73), as amended by Resolutions MEPC. 322(74)

and MEPC. 332(76)).
[39)]Reference is made to the Code for Recognised Organisations (RO Code), as adopted by the Organisation by Resolution MEPC. 237(65), as may be amended by the Organisation.
[40)] Reference is made to the 2021 *Guidelines on the method of calculation of the attained Energy Efficiency Existing Ship Index* (EEXI) (Resolution MEPC. 333(76)).
[41)] Reference is made to the *2013 Interimguidelines for determining minimum propulsion power to maintain the manoeuvrability of ships in adverse conditions* (Resolution MEPC. 232(65), as amended by Resolutions MEPC. 255(67) and MEPC. 262(68)): consolidated text: MEPC. 1/Circ. 850/Rev. 2, and the *Guidelines for determining minimum propulsion power to maintain the manoeuvrability of ships in adverse conditions* (MEPC. 1/Circ. 850/Rev. 3).
[42)] Reference is made to the 2022 *Guidelines for the development of a ship energy efficiency management plan (SEEMP)* (Resolution MEPC. 346(78)).
[43)] Reference is made to the Code for Recognised Organisations (RO Code), as adopted by the Organisation by Resolution MEPC. 237(65), as may be amended by the Organisation.
[44)] Reference is made to *the 2016 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP Guidelines)* (Resolution MEPC. 282(70)).
[45)] Reference is made to the Code for Recognised Organisations (RO Code), as adopted by the Organisation by Resolution MEPC. 237(65), as may be amended by the Organisation.
[46)] Reference is made to the Code for Recognised Organisations (RO Code), as adopted by the Organisation by Resolution MEPC. 237(65), as may be amended by the Organisation.
[47)] Reference is made to *the 2017 Guidelines for Administration verification of ship fuel oil consumption data* (Resolution MEPC. 292(71)).
[48)] The annual reduction factor is specific to each category of ship. This factor is defined to increase progressively to meet the objectives of the *Initial IMO Strategy on reduction of GHG emissions from ships* (Resolution MEPC. 304(72)).
[49)] Reference is made to *Promotion of technical cooperation and transfer of technology relating to the improvement of energy efficiency of ships* (Resolution MEPC. 229(65)), and the *Model agreement between governments on technological cooperation for the implementation of the Regulations in Chapter 4 of MARPOL Annex VI* (MEPC. 1/Circ. 861).
[50)] Reference is made to *the Framework and procedures for the IMO Member State Audit Scheme* (Resolution A. 1067(28)).
[51)]Reference is made to *the Framework and procedures for the IMO Member State Audit Scheme* (Resolution A. 1067(28)).
[52)] Reference is made to *the Framework and procedures for the IMO Member State Audit Scheme* (Resolution A. 1067(28)).
[53)] Reference is made to *the Framework and procedures for the IMO Member State Audit Scheme* (Resolution A. 1067(28)).
[54)] Fuel oil shall be tested in accordance with ISO 3675:1998 or ISO 12185:1996.
[55)] Fuel oil shall be tested in accordance with ISO 8754:2003.