

Standards for the Double Hull Construction of Oil Tankers

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1	January 1, 2003	Sections 2, 3, 6, 7, 15, 16, 17, 18, 19, 20, 21 amended and section 27 added		Requirements revised to incorporate amendments to regulation 13G of Annex I of MARPOL
2	April 5, 2005	Sections 2, 10, 15, 16, 17, 19, 20 and 27 amended		Requirements revised to incorporate amendments to regulation 13G of Annex I of MARPOL and an additional new regulation 13H which called for further acceleration of the phase-out scheduled for single-hulled tankers, a ban on the carriage of heavy grades of oil by single hulled tankers and an extended application of the Condition Assessment Scheme as contained in resolutions MEPC.111(50) and MEPC.112(50).

Important Notices and Disclaimers

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PREAMBLE

Recognizing the need to improve the requirements for the design and construction of oil tankers to prevent accidental oil pollution in the event of collision or grounding, Transport Canada adopted Standards for the construction of new and existing Canadian tankers, and for new and existing non-Canadian registered oil tankers, when such non-Canadian-registered tankers operate in Canadian waters and the fishing zones of Canada in 1993.

These Standards were developed from two sources, namely

- the International Maritime Organization's (IMO) International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), specifically Regulations 13F, 13G and 13H to Annex I of MARPOL 73/78 for new tankers and existing large tankers and

- the U.S. *Oil Pollution Act of 1990*, with specific reference to the United States Coast Guard Interim Final Rule on Double Hull Standards for Vessels Carrying Oil in Bulk, issued 12 August 1992 for smaller existing tankers.

In 1995, the *Oil Pollution Prevention Regulations* were amended to incorporate these Standards by reference in section 14.2, which states "Any oil tanker that is engaged in voyages that take place in waters under Canadian jurisdiction shall comply with Standards for the Double Hull Construction of Oil Tankers, TP 11710, published by the Canadian Coast Guard on July 6, 1993, as amended from time to time, other than sections 3 and 5 and subparagraphs 24(a)(i), (b)(i) and (c)(i) of those Standards".

Subsequent to the sinking of the ERIKA off the coast of France in 1999, amendments were made to Regulation 13G of Annex I of MARPOL in resolution MEPC.95(46) in order to bring the international requirements more in line with OPA 90 requirements, including the phase out of smaller tankers and the elimination of single-hulled tankers by 2015. Following the PRESTIGE oil spill in 2002, further amendments were made to regulation 13G of Annex I of MARPOL and a new regulation 13H was added. These amendments incorporated further acceleration of the phase-out scheduled for single-hulled tankers, a ban on the carriage of heavy grades of oil by single hulled tankers and an extended application of the Condition Assessment Scheme. The amendments are contained in resolutions MEPC.111(50) and MEPC.112(50).

The U.S. have indicated that they will continue to apply OPA 90 and will, therefore, not implement the amendment to Regulation 13G of Annex I of MARPOL.

These Standards have been amended to incorporate the new Annex I provisions for existing tankers but, recognizing that the US will still apply OPA 90 and that the two schemes are close but not identical, will also continue to include OPA 90 provisions in certain instances.

OPA 90 phase out provisions will continue to be applied to the following existing tankers:

- Canadian tankers on domestic trade or only trading to the U.S.
- U.S. tankers trading only to Canada or in transit through waters under Canadian jurisdiction
- Canadian tankers that are less than 5000 DWT, except tankers over 600 DWT on international trade carrying heavy grade oil as cargo
- non-Canadian tankers on the coasting trade
- non-Canadian tankers on international trade calling at Canadian ports that are less than 5000 DWT, except tankers over 600 DWT carrying heavy grade oil as cargo

MARPOL Annex I phase out provisions will be applied to other existing tankers:

- Canadian tankers over 5000 DWT requiring international certification
- non-Canadian tankers over 5000 DWT on international trade in waters under Canadian jurisdiction
- tankers over 600 DWT on international trade carrying heavy grade oil as cargo

Section 6 of the *Oil Pollution Prevention Regulations* specifies that non-Canadian tankers must carry international certification. Canadian tankers must carry either Canadian certification, if they operate exclusively in waters under Canadian jurisdiction, or international certification if they operate outside these waters; in many cases Canadian tankers carry both certificates. Canadian Oil Pollution Prevention Certificates (COPP) will reflect the OPA 90 phase out dates

whereas International Oil Pollution Prevention Certificates (IOPP) issued to Canadian tankers will reflect the MARPOL Annex I phase out dates. Ship operators would not be prohibited from changing the service of a tanker in order to take advantage of any delayed phase out under either the OPA 90 or MARPOL regimes, but tankers would be required to meet all other applicable requirements. In particular, a Canadian domestic tanker with a COPP Certificate would be expected to meet all requirements of a non-Canadian going tanker before being issued an IOPP Certificate.

The 1993 version of this document as amended on January 1, 2003 shall be used until April 5, 2005, after which time the version as amended on April 5, 2005 shall be used. Irrespective of the provisions of these Standards, a tanker that reaches its phase-out date under Part III of these Standards prior to 5 April 2005 shall use that phase-out date for the purposes of that Part.

STANDARDS FOR THE DOUBLE HULL CONSTRUCTION OF OIL TANKERS

Short Title

1. These Standards may be cited as the Oil Tanker Double Hull Construction Standards.

Interpretation

2. (1) In these Standards,

"Act" means the *Canada Shipping Act*;

"Administration" means with respect to non-Canadian ships, the Government of the State under whose authority the ship is operating and non-governmental organizations which are authorized to act on the Government's behalf;

"Annex I" means Annex I to the Pollution Convention;

"breadth" (*B*) means the maximum breadth of the ship, measured amidships to the moulded line of the frame in a ship with a metal shell and to the outer surface of the hull in a ship with a shell of any other material;

"Board" means the Board of Steamship Inspection;

"Canadian waters" has the same meaning as in section 2 of the *Canada Shipping Act*;

"Category 1 oil tanker" means an oil tanker of 20,000 tonnes deadweight and above carrying crude oil, fuel oil, heavy diesel oil or lubricating oil as cargo, and of 30,000 tonnes deadweight and above carrying oil other than the above, which does not comply with the requirements for new oil tankers as defined in regulation 1(26) of Annex I;

"Category 2 oil tanker" means an oil tanker of 20,000 tonnes deadweight and above carrying crude oil, fuel oil, heavy diesel oil or lubricating oil as cargo, and of 30,000 tonnes deadweight and above carrying oil other than the above, which complies with the requirements for new oil tankers as defined in regulation 1(26) of Annex I;

"Category 3 oil tanker" means an oil tanker of 5,000 tonnes deadweight and above but less than that specified for a Category 1 or a Category 2 oil tanker;

"combination carrier" means a ship designed to carry either oil or solid cargoes in bulk;

"crude oil" means any liquid hydrocarbon mixture occurring naturally in the earth whether or not treated to render it suitable for transportation and includes:

(a) crude oil from which certain distillate fractions may have been removed, and

(b) crude oil to which certain distillate fractions may have been added;

"crude oil tanker" means an oil tanker engaged in the trade of carrying crude oil;

"deadweight" (DWT) means the difference in tonnes between the displacement of a ship at the load waterline corresponding to the assigned summer freeboard and the lightweight of that ship;

"existing oil tanker for the purposes of double hulling" means an oil tanker which is not a new oil tanker for the purposes of double hulling;

"fishing zone" means a fishing zone prescribed pursuant to section 16 of the *Oceans Act*;

“fuel oil” means heavy distillates or residues from crude oil or blends of such materials intended for use as a fuel for the production of heat or power of a quality equivalent to the specification acceptable to the IMO (refer to the American Society for Testing and Material’s Specification for Number Four Fuel Oil (Designation D396) or heavier);

"gross tonnage" has the same meaning as in section 2 of the *Canada Shipping Act*;

“heavy diesel oil” means diesel oil other than those distillates of which more than 50 per cent by volume distils at a temperature not exceeding 340°C when tested by the method acceptable to the IMO (refer to the American Society for Testing and Material’s Standard Test Method (Designation D86));

“heavy grade oil” means any of the following:

- (a) crude oils having a density at 15°C higher than 900 kg/m³;
- (b) fuel oils having either a density at 15°C higher than 900 kg/m³ or a kinematic viscosity at 50°C higher than 180 mm²/s;
- (c) bitumen, tar and their emulsions;

"IMO" means International Maritime Organization;

"Lt" means the length in metres between the forward and after extremities of the cargo tanks;

"length"(L) means 96 per cent of the total length on a waterline at 85 per cent of the least moulded depth measured from the top of the keel, or the length from the foreside of the stem to the axis of the rudder stock on that waterline, if that be greater; in ships designed with a rake of keel the waterline on which this length is measured shall be parallel to the designed waterline;

"lightweight" means the displacement of a ship in tonnes without cargo, fuel, lubricating oil, ballast water, fresh water and feed water in tanks, consumable stores, and passengers and crew and their effects;

"major conversion", for the purposes of these Standards and the *Oil Pollution Prevention Regulations*, means a conversion of an existing ship

- (a) which substantially alters the dimensions or carrying capacity of the ship, except a conversion that includes only the installation of segregated ballast tanks, dedicated clean ballast tanks, a crude oil washing system, double sides, a double bottom, a double hull or an approved alternative design in lieu of a double hull; or
- (b) which changes the type of the ship; or
- (c) the intent of which in the opinion of the Board is substantially to prolong its life; or
- (d) which otherwise so alters the ship that, if it were a new ship, it would become subject to relevant provisions of the present Pollution Convention not applicable to it as an existing ship;

“new oil tanker as defined in regulation 1(26) of Annex I” means an oil tanker:

- (a) for which the building contract is placed after 1 June 1979; or
- (b) in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction after 1 January 1980; or
- (c) the delivery of which is after 1 June 1982; or

- (d) which has undergone a major conversion:
 - (i). for which the contract is placed after 1 June 1979; or
 - (ii). in the absence of a contract, the construction work of which is begun after 1 January 1980; or
 - (iii). which is completed after 1 June 1982;

"new oil tanker for the purposes of double hulling" means an oil tanker

- (a) for which the building contract is placed on or after 6 July 1993, or
- (b) in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction on or after 6 January 1994, or
- (c) the delivery of which is on or after 6 July 1996, or
- (d) which has undergone a major conversion:
 - (i) for which the contract is placed on or after 6 July 1993; or
 - (ii) in the absence of a contract, the construction work of which is begun on or after 6 January 1994; or
 - (iii) which is completed on or after 6 July 1996;

"oil" has the same meaning as in section 673 of the *Canada Shipping Act*;

"oil fuel" means any oil used as fuel in connection with the propulsion and auxiliary machinery of the ship in which such oil is carried;

"oil tanker" means a self-propelled ship that is constructed or adapted primarily to carry oil in bulk in its cargo spaces, and includes a combination carrier or a chemical tanker when the carrier or tanker is carrying a cargo or part cargo of oil in bulk;

"Pollution Convention" means the International Convention for the Prevention of Pollution from Ships, 1973, signed at London on November 2, 1973, and the Protocol of 1978 relating thereto, signed at London on February 17, 1978, and any amendments, whenever made, to Protocol I, the Annexes or Appendices to that Convention (MARPOL 73/78);

"product carrier" means an oil tanker engaged in the trade of carrying oil other than crude oil;

"segregated ballast" means the ballast water introduced into a tank which is completely separated from the cargo oil and oil fuel system and which is permanently allocated to the carriage of ballast or to the carriage of ballast or cargoes other than oil or noxious substances as variously described in the Annexes of the present Pollution Convention;

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

"wing tank" means any tank adjacent to the side shell plating.

(2) Unless specifically defined in subsection 2(1), all other words and expressions used in these Standards have the same meaning as in the *Canada Shipping Act*.

PART I

GENERAL

Application

3. (1) These Standards apply to

(a) all Canadian-registered oil tankers; and

(b) all oil tankers registered in a country other than Canada, when operating in Canadian waters and the fishing zones of Canada prescribed pursuant to the *Oceans Act*.

(2) These Standards do not apply in respect of any warship, naval auxiliary or other ship that is owned or operated by a state and used in government non-commercial service.

Responsibility

4. The owner and operator of every oil tanker shall ensure that the vessel complies with all the applicable provisions of these Standards, in addition to the applicable regulations under the *Canada Shipping Act* and the *Arctic Waters Pollution Prevention Act*.

Equivalentents

5. (1) Subject to subsection (2) where these Standards require that a particular fitting, material, appliance, apparatus, item of equipment or type thereof shall be fitted or carried on an oil tanker, or that any particular provision shall be made, or any procedure or arrangement shall be complied with, the Board may allow any other fitting, material, appliance, apparatus, item of equipment or type thereof to be fitted or carried, or any other provision, procedure or arrangement to be made on the oil tanker, if it is satisfied by trial thereof or otherwise that such fitting, material, appliance, apparatus, item of equipment or type thereof or that any particular provision, procedure or arrangement is at least as effective as that required by these Standards.

(2) Approval of an equivalent arrangement may be revoked at any time if it is found that the chosen arrangement is not satisfactory.

PART II

DOUBLE HULL CONSTRUCTION REQUIREMENTS FOR NEW OIL TANKERS

Application

6. The requirements of this Part shall apply to new oil tankers for the purposes of double hulling.

7. Unless it is subject to the provisions of sections 9 or 10, every new oil tanker for the purposes of double hulling shall comply with the requirements of section 8 and also comply, if applicable, with the requirements of section 11.

Dimensions of Protective Spaces

8. (1) The entire cargo tank length shall be protected by ballast tanks or spaces other than cargo and oil fuel tanks as follows:

Wing Tanks or Spaces

(a) wing tanks or spaces shall extend either for the full depth of the ship's side or from the top of the double bottom to the uppermost deck, disregarding a rounded gunwale where fitted, and arranged such that the cargo tanks are located inboard of the moulded line of the side shell plating, nowhere less than the distance w which, as shown in figure 1, is measured at any cross-section at right angles to the side shell, specified as follows:

(i) ships of 5,000 tonnes deadweight (DWT) and above

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

or 2.0 m whichever is the lesser, with a minimum value of $w = 1.0$ m;

(ii) ships of less than 5,000 tonnes deadweight (DWT)

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

with minimum value of $w = 0.76$ m;

Double Bottom Tanks or Spaces

(b) at any cross-section the depth of each double bottom tank or space shall be such that the distance h between the bottom of the cargo tanks and the moulded line of the bottom shell plating measured at right angles to the bottom shell plating as shown in figure 1 is not less than specified as follows:

(i) oil tankers of 5,000 tonnes deadweight (DWT) and above

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

or 2.0 m, whichever is the lesser,
with a minimum value of $h = 1.0$ m;

(ii) oil tankers of less than 5,000 tonnes deadweight (DWT)

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

but in no case less than 0.76 m;

(c) at the turn of the bilge area, or at locations without a clearly defined turn of the bilge, when the distances h and w are different,

(i) for oil tankers of 5,000 tonnes deadweight and above, the distance w shall have preference at levels exceeding $1.5h$ above the baseline as shown in figure 1; and

(ii) for oil tankers of less than 5,000 tonnes deadweight, the cargo tank boundary line shall run not less than the distance h above and parallel to the line of the midship flat bottom as shown in figure 2, and at levels greater than h above the line of the midship flat bottom, the cargo tanks shall be located not less than the distance w inboard of the moulded line of the side shell plating as shown in figure 2.

Figure 1 Cargo tank boundary lines for the purpose of section 8

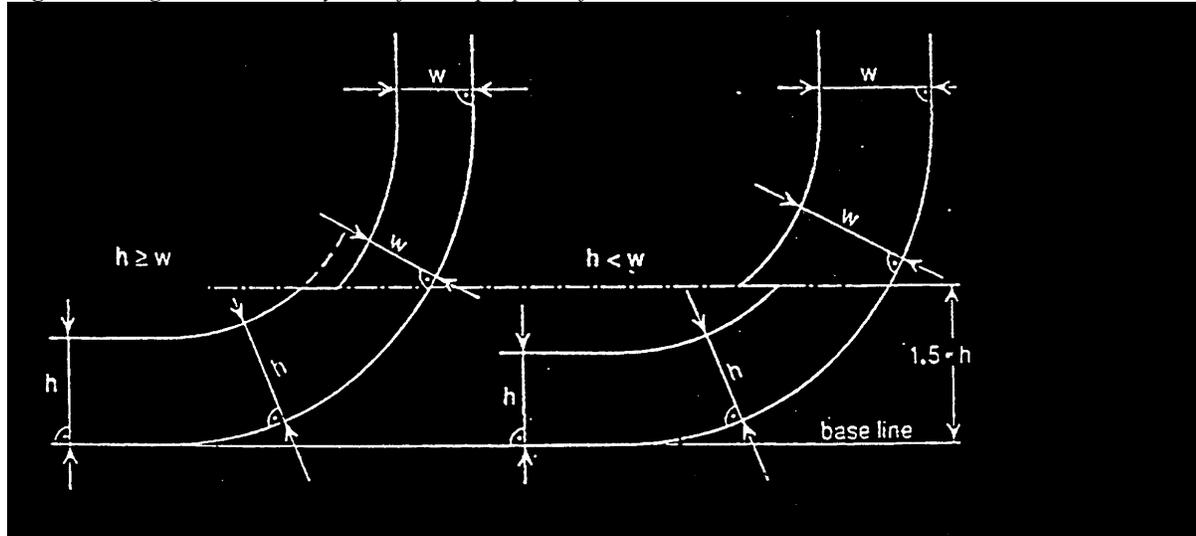
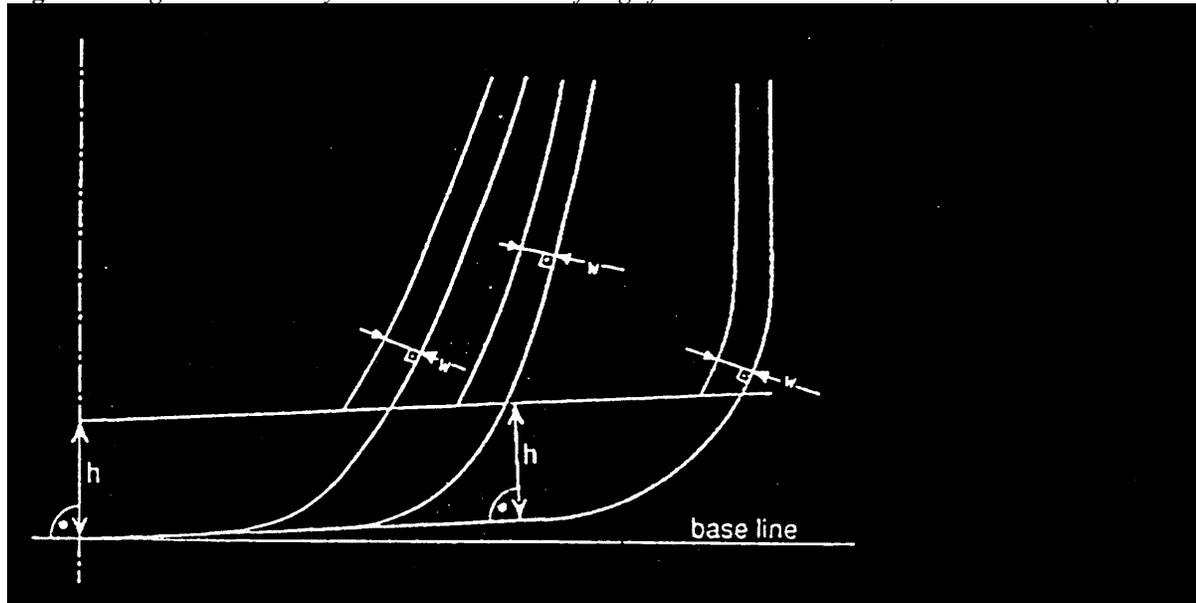


Figure 2 Cargo tank boundary lines within the turn of bilge for oil tankers under 5,000 tonnes deadweight



(2) On crude oil tankers of 20,000 tonnes deadweight and above and product carriers of 30,000 tonnes deadweight and above, the aggregate capacity of wing tanks, double bottom tanks, forepeak tanks and afterpeak tanks shall not be less than the capacity of segregated ballast tanks necessary to meet the requirements of Regulation 13 of Annex 1 of the Pollution Convention, and wing tanks or spaces and double bottom tanks used to meet the requirements of Regulation 13 shall be located as uniformly as practicable along the cargo tank length; additional segregated ballast capacity provided for reducing longitudinal hull girder bending stress, trim, etc., may be located anywhere within the ship.

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

(4) Ballast piping and other piping such as sounding and vent piping to ballast tanks shall not pass through cargo tanks; nor shall cargo piping and piping to cargo tanks pass through ballast tanks, except that exemptions may be granted for short lengths of piping, provided that they are completely welded or equivalent.

Alternative Arrangements For Double Bottom Spaces

9. (1) Double bottom tanks or spaces as required by paragraph 8(1)(b) may be dispensed with, provided that the design of the tanker is such that the cargo and vapour pressure exerted on the bottom shell plating forming a single boundary between the cargo and the sea does not exceed the external hydrostatic water pressure, as expressed by the following formula:

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

where:

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

ρ_c = maximum cargo density (tonnes per cubic metre, t/m^3)

d_n = minimum operating draught under any expected loading condition (metres)

ρ_s = density of seawater (tonnes per cubic metre, t/m^3)

Δp = maximum set pressure of pressure/vacuum valve provided for the cargo tank (kilopascals, kPa)

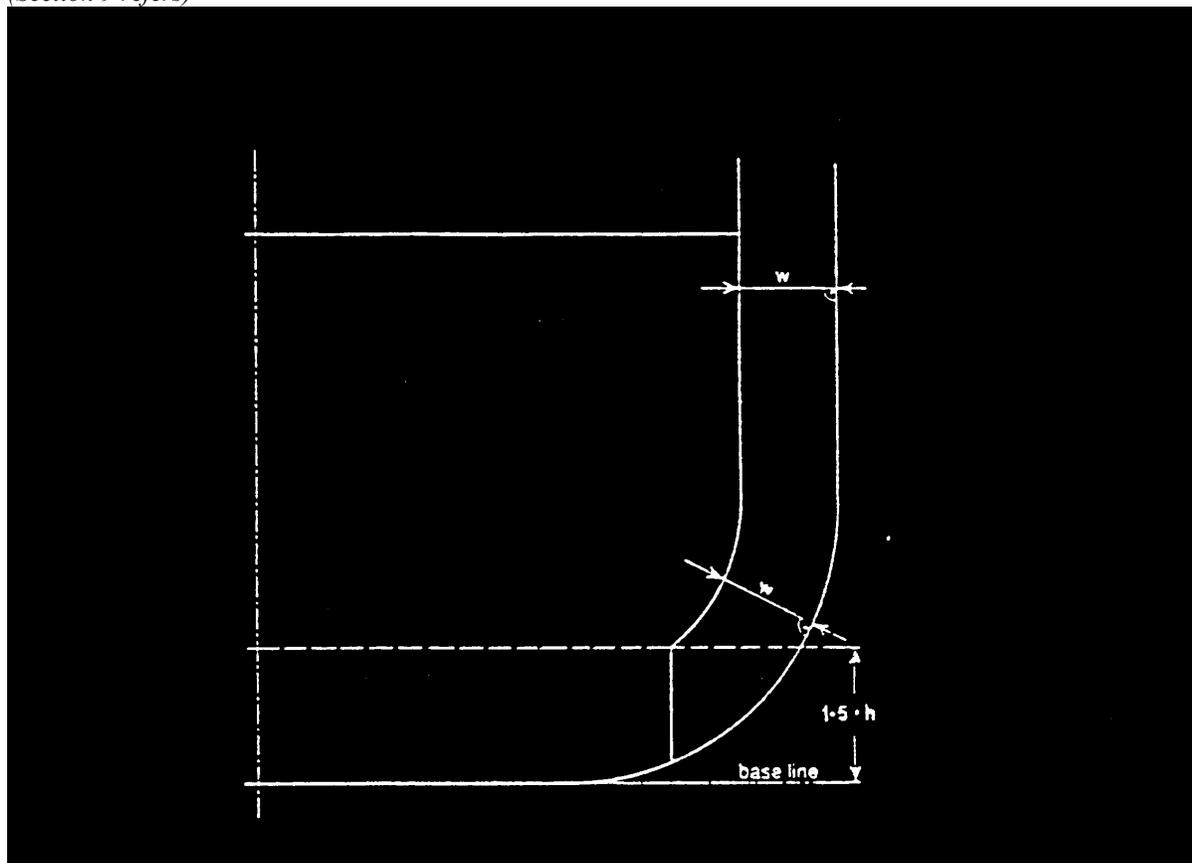
f = safety factor = 1.1

g = standard acceleration due to gravity (9.81 metres per second squared, m/sec^2).

(2) Any horizontal partition necessary to fulfil the above requirements shall be located at a height of not less than $B/6$ or 6 m, whichever is the lesser, but not more than $0.6D$, above the baseline where D is moulded depth amidships.

(3) The location of wing tanks or spaces shall be as defined in paragraph 8(1)(a) except that below a level $1.5 h$ above the baseline, where h is as defined in paragraph 8(1)(b), the cargo tank boundary line may be vertical down to the bottom plating, as shown in figure 3.

Figure 3 Cargo tank boundary lines for oil tankers adopting alternative arrangements for double bottom spaces (Section 9 refers)



Alternative Designs

10. Other methods of design and construction of oil tankers may also be accepted by the Board as alternatives to the requirements prescribed in section 8, provided that such methods ensure at least the same level of protection against oil pollution in the event of collision or stranding and are approved in principle by the Marine Environment Protection Committee of the International Maritime Organization, based on guidelines developed by the Organization (resolution MEPC.110(49) as may be amended from time to time).

Assumptions For Bottom Raking Damage

11. For oil tankers of 20,000 tonnes deadweight and above the damage assumptions prescribed in Regulation 25(2)(b) of Annex I of the Pollution Convention shall be supplemented by the following assumed bottom raking damage:

- (a) longitudinal extent shall be
 - (i) for ships of 75,000 tonnes deadweight and above, $0.6L$ measured from the forward perpendicular, and
 - (ii) for ships of less than 75,000 tonnes deadweight, $0.4L$ measured from the forward perpendicular;
- (b) transverse extent shall be $B/3$ anywhere in the bottom; and
- (c) vertical extent shall only include breach of the outer hull.

Cargo Location Relative to Collision Bulkhead

12. Oil shall not be carried in any space extending forward of a collision bulkhead located in accordance with regulation II-1/11 of the *International Convention for the Safety of Life at Sea, 1974*, as amended, and an oil tanker that is not required to have a collision bulkhead in accordance with that regulation shall not carry oil in any space extending forward of the transverse plane perpendicular to the centreline that is located as if it were a collision bulkhead located in accordance with that regulation.

General Safety Aspects

13. In approving the design and construction of oil tankers to be built in accordance with the provisions of these Standards, due regard shall be given to the general safety aspects including the need for the maintenance and inspections of wing and double bottom tanks or spaces.

Limitation of Size and Arrangement of Cargo Tanks

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

(a) where no longitudinal bulkhead is provided inside the cargo tanks,

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

but is not to exceed $0.2L$; or

(b) where a centreline longitudinal bulkhead is provided inside the cargo tanks,

$$\ell = \left(0.25 \frac{b_i}{B} + 0.15\right)L ; \text{ or}$$

(c) where two or more longitudinal bulkheads are provided inside the cargo tanks,

(i) for wing cargo tanks,

$$\ell = 0.2L, \text{ and}$$

(ii) for centre cargo tanks,

(a) if $\frac{b_i}{B}$ is equal to or greater than one fifth,

then $\ell = 0.2L$, or

(b) if $\frac{b_i}{B}$ is less than one fifth, then,

where no centreline longitudinal bulkhead is provided,

$$\ell = \left(0.5 \frac{b_i}{B} + 0.1\right)L ; \text{ or}$$

where a centreline longitudinal bulkhead is provided,

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

where:

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

" B " means "breadth" as defined in section 2; and

" L " means "length" as defined in section 2.

PART III

INTERNATIONAL REQUIREMENTS FOR EXISTING OIL TANKERS OF 5,000 TONNES DEADWEIGHT AND ABOVE AND FOR EXISTING OIL TANKERS OF 600 TONNES DEADWEIGHT AND ABOVE CARRYING HEAVY GRADE OIL AS CARGO

Application

15. (1) The requirements of this Part shall

(a) for the purposes of sections 16 to 19, apply to Category 1, Category 2 and Category 3 existing oil tankers for the purposes of double hulling;

(b) apply to Canadian existing oil tankers for the purposes of double hulling for the purposes of issuing an International Oil Pollution Prevention Certificate;

(c) not apply to existing oil tankers for the purposes of double hulling to which Part IV of these Standards apply;

(d) not apply to existing oil tankers for the purposes of double hulling complying with Part II of these Standards;

(e) not apply to existing oil tankers for the purposes of double hulling covered by paragraph (a) above which comply with paragraphs 8(1)(a) and (b) or sections 9 and 10 (regulation 13F(3)(a) and (b) or 13F(4) or 13F(5) of Annex I), except that the requirement for minimum distances between the cargo tank boundaries and the ship side and bottom plating need not be met in all respects, provided that the side protection distances are not less than those specified in the International Bulk Chemical Code for type 2 cargo tank location and the bottom protection distances at centerline shall comply with Regulation 13E(4)(b) of Annex I of the Pollution Convention; and

(f) for the purposes of section 20, apply to oil tankers of 600 tonnes deadweight and above on international trade.

(2) The requirements of this Part shall take effect as from April 5, 2005.

Inspection

16. (1) An oil tanker to which this Part applies shall be subject to an enhanced programme of inspections during periodical, intermediate and annual surveys, the scope and frequency of which shall at least comply with the guidelines developed by the IMO (resolution A.744(18), as amended by resolution MSC.49(66), by resolution 2 of the 1997 Conference of Contracting Governments to SOLAS, by resolution MSC.105(73), by resolution MSC.125(75) and by resolution MSC.144(77) and as may be amended from time to time).

(2) An oil tanker over five years of age to which this Part applies shall have on board a complete file of the survey reports, including the results of all scantling measurement required, as well as the statement of structural work carried out.

(3) This file shall be accompanied by a condition evaluation report, containing conclusions on the structural condition of the ship and its residual scantlings, endorsed to indicate that it has been accepted by the Board or by or on behalf of the flag Administration if the tanker is of non-Canadian registry; this file and condition evaluation report shall be prepared in a standard format as contained in the guidelines developed by the IMO.

(4) A Category 2 or 3 oil tanker of 15 years and over after the date of its delivery shall comply with the Condition Assessment Scheme adopted by the Marine Environment Protection Committee by resolution MEPC.94 (46), as amended by resolution MEPC.99(48) and resolution MEPC.112(50), and as may be amended from time to time.

(5) The Board may allow continued operation of a Canadian Category 2 or 3 oil tanker beyond the date specified in section 17 of this Standard, if satisfactory results of the Condition Assessment Scheme warrant that, in the opinion of the Board, the ship is fit to continue such operation, provided that the operation shall not go beyond the anniversary of

the date of delivery of the ship in 2015 or the date on which the ship reaches 25 years after the date of its delivery, whichever is the earlier date.

(6) A non-Canadian Category 2 or 3 oil tanker may operate in Canadian waters and the fishing zones of Canada until a date beyond the date specified in section 17 of this Standard (Regulation 13G(4) of Annex I) if such continued operation has been allowed by or on behalf of its flag Administration under Regulation 13G(7) of Annex I.

Requirements for Category 1, Category 2 and Category 3 Oil Tankers

17. (1) An oil tanker to which this Part applies shall comply with the requirements of regulation 13F of Annex I not later than 5 April 2005 or the anniversary of the date of delivery of the ship on the date or in the year specified in the following table:

Category of oil tanker	Year
Category 1	5 April 2005 for ships delivered on 5 April 1982 or earlier 2005 for ships delivered after 5 April 1982
Category 2 and Category 3	5 April 2005 for ships delivered on 5 April 1977 or earlier 2005 for ships delivered after 5 April 1977 but before 1 January 1978 2006 for ships delivered in 1978 and 1979 2007 for ships delivered in 1980 and 1981 2008 for ships delivered in 1982 2009 for ships delivered in 1983 2010 for ships delivered in 1984 or later

(2) Notwithstanding the provisions of subsection (1) of this section, in the case of a Canadian Category 2 or 3 oil tanker fitted with only double bottoms or double sides not used for the carriage of oil and extending to the entire cargo tank length or double hull spaces which are not used for the carriage of oil and extend to the entire cargo tank length, but does not fulfill conditions specified in paragraph 15(1)(e) of this Standard, the Board may allow continued operation of such a ship beyond the date specified in subsection (1) of this section, provided that:

- (a) the ship was in service on 1 July 2001;
- (b) the Board is satisfied by verification of the official records that the ship complied with the conditions specified above;
- (c) the conditions of the ship specified above remain unchanged; and
- (d) such continued operation does not go beyond the date on which the ship reaches the anniversary of the date of delivery of the ship in 2015 or the date on which the ship reaches 25 years after the date of its delivery, whichever is the earlier date.

(3) Subject to section 19 of this Standard, a non-Canadian Category 2 or 3 oil tanker may operate in Canadian waters and the fishing zones of Canada until a date beyond the date specified in subsection (1) of this section (Regulation 13G(4) of Annex I) if such continued operation has been allowed by or on behalf of its flag Administration under Regulation 13G(5) of Annex I.

18. A Category 1 oil tanker of 25 years and over after the date of its delivery shall comply with either of the following provisions

- (a) wing tanks or double bottom spaces, not used for the carriage of oil and meeting the width and height requirements of Regulation 13E(4) of Annex I of the Pollution Convention, cover at least 30% of L_t , for the full depth of the ship on each side or at least 30% of the projected bottom shell area within the length L_t , where L_t is as defined in Section 2, or

(b) the tanker operates with hydrostatically balanced loading, taking into account the guidelines developed by the IMO (refer to the Guidelines for Approval of Alternative Structural or Operational Arrangements adopted by resolution MEPC.64(36)).

19. A non-Canadian tanker operating in accordance with paragraph 13G(5) of Annex I beyond the anniversary of the date of delivery of the ship in 2015 shall be denied entry into ports or offshore terminals situated in Canadian waters and the fishing zones of Canada.

Prevention of Oil Pollution from Oil Tankers Carrying Heavy Grade Oil as Cargo

20. (1) This section shall apply to oil tankers of 600 tonnes deadweight and above carrying heavy grade oil as cargo regardless of the date of delivery.

(2) An oil tanker to which this section applies shall comply with the provisions of subsections (3) to (7) of this section in addition to complying with the applicable provisions of this Part.

(3) Subject to the provisions of subsections (4), (5), (6) and (7) of this section, an oil tanker to which this section applies shall:

(a) if 5,000 tonnes deadweight and above, comply with the requirements of Part II of this Standard (regulation 13F of Annex I) not later than 5 April 2005; or

(b) if 600 tonnes deadweight and above but less than 5,000 tonnes deadweight, be fitted with both double bottom tanks or spaces complying with the provisions of subparagraphs 8(1)(b)(ii) and 8(1)(c)(ii) of this Standard (regulation 13F(7)(a) of Annex I), and wing tanks or spaces arranged in accordance with paragraph 8(1)(a) of this Standard (regulation 13F(3)(a) of Annex I) and complying with the requirement for distance *w* as referred to in subparagraph 8(1)(a)(ii) (regulation 13F(7)(b) of Annex I), not later than the anniversary of the date of delivery of the ship in the year 2008.

(4) In the case of a Canadian oil tanker of 5,000 tonnes deadweight and above, carrying heavy grade oil as cargo fitted with only double bottoms or double sides not used for the carriage of oil and extending to the entire cargo tank length or double hull spaces which are not used for the carriage of oil and extend to the entire cargo tank length, but does not fulfill conditions for being exempted from the provisions of paragraph 15(1)(e) (regulation 13H(1)(b) of Annex I), the Board may allow continued operation of such a ship beyond the date specified in subsection 3 of this section, provided that:

(a) the ship was in service on 4 December 2003;

(b) the Board is satisfied by verification of the official records that the ship complied with the conditions specified above;

(c) the conditions of the ship specified above remain unchanged; and

(d) such continued operation does not go beyond the date on which the ship reaches 25 years after the date of its delivery.

(5) The Board may allow continued operation of a Canadian oil tanker of 5,000 tonnes deadweight and above, carrying crude oil having a density at 15°C higher than 900 kg/m³ but lower than 945 kg/m³, beyond the date specified in paragraph (3)(a) of this section, if satisfactory results of the Condition Assessment Scheme referred to in subsection 16(5) of this Standard (regulation 13G(6) of Annex I) warrant that, in the opinion of the Board, the ship is fit to continue such operation, having regard to the size, age, operational area and structural conditions of the ship and provided that the operation shall not go beyond the date on which the ship reaches 25 years after the date of its delivery.

(6) The Board may allow continued operation of an oil tanker of 600 tonnes deadweight and above but less than 5,000 tonnes deadweight, carrying heavy grade oil as cargo, beyond the date specified in paragraph (3)(b) of this section, if, in the opinion of the Board, the ship is fit to continue such operation, having regard to the size, age, operational area and structural conditions of the ship, provided that the operation shall not go beyond the date on which the ship reaches 25 years after the date of its delivery.

(7) A non-Canadian oil tanker may operate in Canadian waters and the fishing zones of Canada until a date beyond the date specified in subsection 3 of this section (Regulation 13H(4) of Annex I) if such continued operation has been allowed by or on behalf of its flag Administration under Regulations 13H(5) or 13H(6) of Annex I.

PART IV**DOMESTIC REQUIREMENTS FOR EXISTING OIL TANKERS****Application**

21. The requirements of this Part shall

- (a) apply to Canadian existing oil tankers for the purposes of double hulling for the purpose of issuing a Canadian Oil Pollution Prevention Certificate;
- (b) apply to US registered existing oil tankers for the purposes of double hulling operating in Canadian waters and the fishing zones of Canada;
- (c) apply to existing oil tankers for the purposes of double hulling operating in the coasting trade as defined in the *Coasting Trade Act*;
- (d) apply to all existing tankers for the purposes of double hulling less than 5000 tonnes deadweight, except tankers on international trade of 600 tonnes deadweight and above carrying heavy grade oil as cargo; and
- (e) not apply to existing oil tankers for the purposes of double hulling complying with Part II of these Standards.

22. In this Part the age of the vessel is determined from the later of either

- (a) the date on which the vessel was delivered after original construction, or
- (b) after completion of a major conversion, where such a conversion was completed before 6 July 1996.

Construction Requirements for Existing Oil Tankers of Less Than 5,000 Tons Gross Tonnage

23. An oil tanker of less than 5,000 tons gross tonnage, for which a building contract or contract for major conversion was placed before 6 July 1993 or that is delivered under that contract before 6 July 1996, may not operate after January 1, 2015, unless the vessel is equipped with a double hull or with a double containment system determined by the Board to be as effective as a double hull for the prevention of a discharge of oil.

Timetable for Application of Part II Requirements for Existing Tankers 5,000 Tons Gross Tonnage and Over

24. An oil tanker for which a building contract or contract for major conversion was placed before 6 July 1993 or that is delivered under that contract before 6 July 1996 shall comply with the requirements of Part II of these Standards

- (a) in the case of a vessel of at least 5,000 tons gross tonnage but less than 15,000 tons gross tonnage,
 - (i) after January 1, 1995, if the vessel is 40 years old or older and has a single hull, or is 45 years old or older and has a double bottom or double sides;
 - (ii) after January 1, 1996, if the vessel is 39 years old or older and has a single hull, or is 44 years old or older and has a double bottom or double sides;
 - (iii) after January 1, 1997, if the vessel is 38 years old or older and has a single hull, or is 43 years old or older and has a double bottom or double sides;
 - (iv) after January 1, 1998, if the vessel is 37 years old or older and has a single hull, or is 42 years old or older and has a double bottom or double sides;
 - (v) after January 1, 1999, if the vessel is 36 years old or older and has a single hull, or is 41 years old or older and has a double bottom or double sides;

- (vi) after January 1, 2000, if the vessel is 35 years old or older and has a single hull, or is 40 years old or older and has a double bottom or double sides; and
 - (vii) after January 1, 2005, if the vessel is 25 years old or older and has a single hull, or is 30 years old or older and has a double bottom or double sides;
- (b) in the case of a vessel of at least 15,000 tons gross tonnage but less than 30,000 tons gross tonnage,
- (i) after January 1, 1995, if the vessel is 40 years old or older and has a single hull, or is 45 years old or older and has a double bottom or double sides;
 - (ii) after January 1, 1996, if the vessel is 38 years old or older and has a single hull, or is 43 years old or older and has a double bottom or double sides;
 - (iii) after January 1, 1997, if the vessel is 36 years old or older and has a single hull, or is 41 years old or older and has a double bottom or double sides;
 - (iv) after January 1, 1998, if the vessel is 34 years old or older and has a single hull, or is 39 years old or older and has a double bottom or double sides;
 - (v) after January 1, 1999, if the vessel is 32 years old or older and has a single hull, or 37 years old or older and has a double bottom or double sides;
 - (vi) after January 1, 2000, if the vessel is 30 years old or older and has a single hull, or is 35 years old or older and has a double bottom or double sides;
 - (vii) after January 1, 2001, if the vessel is 29 years old or older and has a single hull, or is 34 years old or older and has a double bottom or double sides;
 - (viii) after January 1, 2002, if the vessel is 28 years old or older and has a single hull or is 33 years old or older and has a double bottom or double sides;
 - (ix) after January 1, 2003, if the vessel is 27 years old or older and has a single hull, or is 32 years old or older and has a double bottom or double sides;
 - (x) after January 1, 2004, if the vessel is 26 years old or older and has a single hull, or is 31 years old or older and has a double bottom or double sides; and
 - (xi) after January 1, 2005, if the vessel is 25 years old or older and has a single hull, or is 30 years old or older and has a double bottom or double sides; and
- (c) in the case of a vessel of at least 30,000 tons gross tonnage,
- (i) after January 1, 1995, if the vessel is 28 years old or older and has a single hull, or 33 years old or older and has a double bottom or double sides;
 - (ii) after January 1, 1996, if the vessel is 27 years old or older and has a single hull, or is 32 years old or older and has a double bottom or double sides;
 - (iii) after January 1, 1997, if the vessel is 26 years old or older and has a single hull, or is 31 years old or older and has a double bottom or double sides;
 - (iv) after January 1, 1998, if the vessel is 25 years old or older and has a single hull, or is 30 years old or older and has a double bottom or double sides;

(v) after January 1, 1999, if the vessel is 24 years old or older and has a single hull, or 29 years old or older and has a double bottom or double sides; and

(vi) after January 1, 2000, if the vessel is 23 years old or older and has a single hull, or is 28 years old or older and has a double bottom or double sides.

Terminal Dates for Existing Tankers to Comply with Part II Requirements

25. (1) Except as provided in section 23 and paragraph (2) of this section a vessel that has a single hull may not operate after January 1, 2010.

(2) A vessel that has a double bottom or double sides may not operate after January 1, 2015.

Double Sides or Double Bottoms in Way of Cargo Compartments

26. For the purposes of Sections 24 and 25 double sides and double bottoms in way of the cargo compartment must be constructed in accordance with the requirements of Section 8.

Inspection

27. An oil tanker to which this Part applies shall be subject to an enhanced programme of inspections during periodical, intermediate and annual surveys, the scope and frequency of which shall at least comply with the guidelines developed by the IMO (resolution A.744(18), as amended by resolution MSC.49(66), by resolution 2 of the 1997 Conference of Contracting Governments to the *International Convention for the Safety of Life at Sea* (SOLAS), by resolution MSC.105(73), by resolution MSC.125(75) and by resolution MSC.144(77) and as may be amended from time to time).