

## Maritime Transport Act 1994

### MARINE PROTECTION AMENDMENT RULES 2009

Prevention of Pollution by Oil  
MARPOL Annex I

Prevention of Pollution by Garbage  
MARPOL Annex V

Parts 120, 121A, 121B, 123A, 170 and 200

Pursuant to sections 386, 387 and 388 of the Maritime Transport Act 1994  
I, Steven Joyce, Minister of Transport, hereby make the following marine protection  
rules.

Signed at Wellington

this *27<sup>th</sup>* day of *June* 2009

by STEVEN JOYCE

  
Minister of Transport

#### General

1 Entry into force

#### Amendment to Part 120 Discharge of Oil

2 Rule 120.2 Definitions

## ***Marine Protection Rules***

- 3 Rule 120.5 Discharge from oil tankers – outside special areas
- 4 Rule 120.6 Discharge from ships other than oil tankers – outside special areas

### **Amendments to Part 121A Ship Design and Construction—Oil Tankers**

- 5 Rule 121A.2 Definitions
- 6 Rule 121A.3 Application
- 7 Oil fuel tank protection

### **Amendments to Part 121B Ship Design and Construction—Ships other than Oil Tankers**

- 8 Rule 121B.3 Application
- 9 Oil fuel tank protection

### **Amendments to Part 123A Documents—Oil**

- 10 Part 123A, Appendix 2 (Form A) Supplement to the International Oil Pollution Prevention Certificate
- 11 Part 123A, Appendix 3 (Form B) Supplement to the International Oil Pollution Prevention Certificate

### **Amendments to Part 170 Prevention of Pollution from Garbage from Ships**

- 12 Part 170, Discharge of Garbage from Offshore Installations Within the Exclusive Economic Zone of New Zealand or Over the Continental Shelf of New Zealand
- 13 Part 170, Appendix, Form of Garbage Record Book

### **Amendments to Part 200 Offshore Installations —Discharges**

- 14 Rule 200.2 Definitions
- 15 Rule 200.26(2) Issue, duration and renewal of International Oil Pollution Prevention Certificate
- 16 Part 200, Schedule 3, Form of the International Oil Pollution Prevention Certificate and Form A Supplement to the International Oil Pollution Prevention Certificate (IOPP Certificate)
- 17 Part 200, Schedule 4, Form of the International Oil Pollution Prevention Certificate Supplement for FPSOs and FSUs

## **Part Objective**

The objective of the *Marine Protection Amendment Rules 2009 – Parts 120, 121A, 121B, 123A, 170 and 200* is to provide rules for preventing pollution of the sea by oil and garbage, aligning New Zealand with amendments to Annex I (oil) and annex V (garbage) of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL), and recommendations from International Maritime Organisation.

The amended rules provide that:

- all New Zealand ships must comply with restrictive operational discharge provisions governing machinery space oily wastes, and oil cargo residues in a defined area of Southern African waters, which have been designated under Annex I of MARPOL as a special area
- newly constructed or converted New Zealand ships with oil fuel tanks aggregating 600 cubic metres or above are required to have structural features (double hulls, protective location and limitations on the size of individual tanks) to limit the outflow of oil in the event of a grounding or collision
- shipboard certificates carried by ships (both New Zealand and foreign ships within New Zealand jurisdiction) must include details of fuel tank protective measures as part of their record of construction and equipment
- offshore installations that are floating production, storage and offtake facilities can be issued with a form of certificate for pollution prevention recommended by the International Maritime Organisation that takes in account the special features of such vessels.

Minor and technical amendments provide:

- that shipboard garbage record books must incorporate instructions for ships' crew on the categorisation and recording of operational discharges of cargo residues
- for revoking redundant provisions dealing with machinery space oily waste discharges and removal of duplication of rules for garbage discharges from offshore installations
- clarity in respect of the requirement that oily waste oil must be retained on board small ships for discharge ashore unless discharges into the sea can be made at 15 parts per million.

## **Extent of Consultation**

On 08 March 2008, Maritime New Zealand published in each of the daily newspapers in the four main centres of New Zealand a notice inviting comments on the proposed marine protection rules. A notice was also published in the Gazette on 06 March 2008. The invitation to comment and draft rules were then made available to the public with electronic and hard copies being sent to 187 interested parties. Maritime New Zealand also made the draft available on its website. Comments on the draft rules were requested by 28 April 2008.

Four written submissions were made on the proposed rules. All submissions were considered and the draft rules finalised.

## General

### 1. Entry into Force

These amendment rules come into force on the 30<sup>th</sup> of July 2009.

## Amendment to Part 120—Discharge of Oil

### 2. Rule 120.2 Definitions

Part 120.2 is amended by inserting in the definition of “special areas” the following paragraph -

“(i) the Southern South African waters comprising the sea area enclosed by the following coordinates -

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”

### 3. Rule 120.5 Discharge from oil tankers – outside special areas

Rule 120.5 is amended by revoking sub-rule (4).

### 4. Rule 120.6 Discharge from ships other than oil tankers – outside special areas

The sub-rules in rule 120.6 are revoked and replaced by the following -

- “(1) The discharge of oil and oily mixtures from any ship, other than an oil tanker, is permitted provided that -
- (a) the ship is proceeding en route; and
  - (b) the oil content of the effluent without dilution does not exceed 15 parts per million; and
  - (c) the ship has the appropriate oil filtering equipment, for that ship, in operation as required by rule 122.4.

- “(2) The owner and the master of any ship, other than an oil tanker, must ensure that no discharge into the sea made from the ship as permitted under this rule contains -
- (a) chemicals or other substances in quantities or concentrations which are hazardous to the marine environment; or
  - (b) chemicals or other substances introduced for the purpose of circumventing the conditions of discharge specified in rule 120.6.”

## **Amendments to Part 121A—Ship Design and Construction—Oil Tankers**

### **5. Rule 121A.2 Definitions**

Part 121A.2 is amended by substituting for paragraph (b) in the definition of heavy grade oil the following -

- “(b) oils, other than crude oils, having -
- (i) a density higher than 900 kg/m<sup>3</sup> at 15° C; or
  - (ii) a kinematic viscosity higher than 180 mm<sup>2</sup>/s at 50° C; or”

### **6. Rule 121A.3 application**

Rule 121A.3(1) is amended by substituting for “(1) Rules 121A.4 to 121A.17 inclusive apply to - “ the words “(1) Rules 121A.4 to 121A.17 inclusive and rules 121A.19 to 121A.21 inclusive apply to - “

### **7. Oil fuel tank protection**

Part 121A is amended by inserting the following new rules -

## **“Oil fuel tank protection**

### **“121A.19 Application of oil fuel tank protection requirements**

- “(1) Rule 121A.21 applies to every oil tanker with an aggregate oil fuel capacity of 600 m<sup>3</sup> and above -
- (a) for which the building contract is placed on or after 1 August 2007; or
  - (b) in the absence of a building contract, the keels of which are laid or which are at a similar stage of construction on or after 1 February 2008; or

- (c) the delivery of which is on or after 1 August 2010; or
  - (d) which has undergone a major conversion –
    - (i) for which the contract is placed on or after 1 August 2007; or
    - (ii) in the absence of contract, the construction work of which is begun on or after 1 February 2008; or
    - (iii) which is completed on or after 1 August 2010.
- “(2) The application of rule 121A.21 in determining the design, location and construction of tanks used to carry oil fuel does not affect the requirements of 121A.9 (dealing with cargo tank protection).
- “(3) These rules apply to the design, location and construction of all oil fuel tanks except small oil fuel tanks provided that the aggregate capacity of such excluded tanks is not greater than 600 m<sup>3</sup>.”

**“121A.20 Definitions for oil fuel tank protection rules**

“For the purposes of rules 121A.19 to 121A.21, the following definitions apply –

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

**“Breadth (B<sub>S</sub>)”** is the greatest moulded breadth of the ship, in metres, at or below the deepest load line draught (d<sub>S</sub>):

**“Breadth (B<sub>B</sub>)”** is the greatest moulded breadth of the ship, in metres, at or below the waterline (d<sub>B</sub>):

**“C”** is the ship’s total volume of oil fuel, including that of the small oil fuel tanks, in m<sup>3</sup>, at 98% tank filling:

**“Depth (D<sub>S</sub>)”** is the moulded depth, in metres, measured at mid-length to the upper deck at side. For the purpose of the application, “upper deck” means the highest deck to which the watertight transverse bulkheads except aft peak bulkheads extend:

**“Length (L)”** means 96% of the total length on a waterline at 85% of the least moulded depth measured from the top of the keel, or the length from the foreside of the stem to the axis of the rudder stock on that waterline, if that be greater. In ships designed with a rake of keel the waterline on which this length is measured shall be parallel to the designed waterline. The length (L) shall be measured in metres:

**“Load line draught (d<sub>S</sub>)”** is the vertical distance, in metres, from the moulded baseline at mid-length to the waterline corresponding to the summer freeboard

draught to be assigned to the ship:

**“Light ship draught”** is the moulded draught amidships corresponding to the Lightweight:

**“Oil fuel”** means any oil used as fuel oil in connection with the propulsion and auxiliary machinery of the ship in which such oil is carried:

**“Oil fuel capacity”** means the volume of a tank in m<sup>3</sup>, at 98% filling:

**“Oil fuel tank”** means a tank in which oil fuel is carried, but excludes those tanks which would not contain oil fuel in normal operation, such as overflow tanks:

**“Partial load line draught (d<sub>p</sub>)”** is the light ship draught plus 60% of the difference between the light ship draught and the load line draught d<sub>s</sub>. The partial load line draught (d<sub>p</sub>) shall be measured in metres:

**“Waterline (d<sub>w</sub>)”** is the vertical distance, in metres, from the moulded baseline at mid-length to the waterline corresponding to 30% of the depth D<sub>s</sub>:

**“Small oil fuel tank”** is an oil fuel tank with a maximum individual capacity not greater than 30 m<sup>3</sup>.

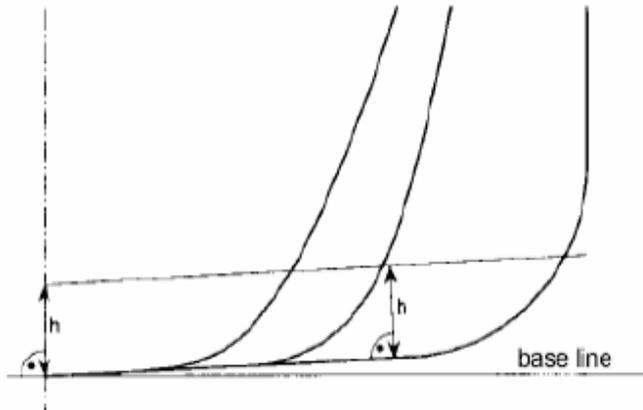
**“121A.21 Oil fuel tank protection**

“(1) Oil fuel tanks shall be located above the moulded line of the bottom shell plating nowhere less than the distance h as specified below-

$$h = B/20 \text{ m or,} \\ h = 2.0 \text{ m, whichever is the lesser.}$$

The minimum value of h = 0.76 m

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



**Figure 1 – Oil fuel tank boundary lines for oil tankers with oil fuel capacity of 600 m<sup>3</sup> or more but less than 5,000 m<sup>3</sup>**

- “(3) For ships having an aggregate oil fuel capacity of 600 m<sup>3</sup> or more but less than 5,000 m<sup>3</sup>, oil fuel tanks shall be located inboard of the moulded line of the side shell plating, nowhere less than the distance *w* which, as shown in Figure 2, is measured at any cross-section at right angles to the side shell, as specified below:

$$w = 0.4 + 2.4 C / 20,000 \text{ m}$$

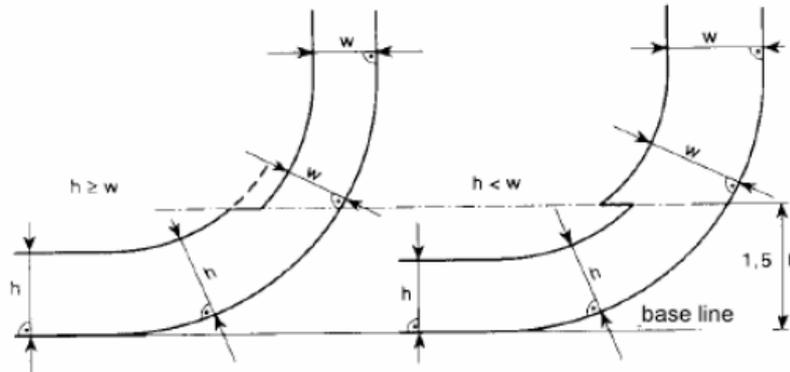
The minimum value of *w* = 1.0 m, however for individual tanks with an oil fuel capacity of less than 500 m<sup>3</sup> the minimum value is 0.76 m.

- “(4) For ships having an aggregate oil fuel capacity of 5,000 m<sup>3</sup> or more, oil fuel tanks shall be located inboard of the moulded line of the side shell plating, nowhere less than the distance *w* which, as shown in Figure 2, is measured at any cross-section at right angles to the side shell, as specified below:

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

$$w = 2.0 \text{ m, whichever is the lesser.}$$

The minimum value of *w* = 1.0 m



**Figure 2 – Oil fuel tank boundary lines for the purposes of subrules (3) and (4)**

- “(5) Lines of oil fuel piping located at a distance from the ship’s bottom of less than  $h$ , as defined in subrule (1), or from the ship’s side less than  $w$ , as defined in subrules (3) and (4) shall be fitted with valves or similar closing devices within or immediately adjacent to the oil fuel tank. These valves shall be capable of being brought into operation from a readily accessible enclosed space the location of which is accessible from the navigation bridge or propulsion machinery control position without traversing exposed freeboard or superstructure decks. The valves shall close in case of remote control system failure (fail in a closed position) and shall be kept closed at sea at any time when the tank contains oil fuel except that they may be opened during oil fuel transfer operations.
- “(6) Suction wells in oil fuel tanks may protrude into the double bottom below the boundary line defined by the distance  $h$  provided that such wells are as small as practicable and the distance between the well bottom and the bottom shell plating is not less than  $0.5 h$ .
- “(7) Alternatively to subrules (1) and either (3) or (4), ships shall comply with the accidental oil fuel outflow performance standard specified below:
- (a) The level of protection against oil fuel pollution in the event of collision or grounding shall be assessed on the basis of the mean oil outflow parameter as follows–
- |                                  |                                              |
|----------------------------------|----------------------------------------------|
| $O_M < 0.0157 - 1.14E-6 \cdot C$ | $600 \text{ m}^3 \leq C < 5,000 \text{ m}^3$ |
| $O_M < 0.010$                    | $C \geq 5,000 \text{ m}^3$                   |
- Where  $O_M$  = mean oil outflow parameter;  
 $C$  = total oil fuel volume.
- (b) The following general assumption shall apply when calculating the mean oil outflow parameter –

- (i) the ship shall be assumed loaded to the partial load line draught  $d_p$  without trim or heel;
- (ii) all oil fuel tanks shall be assumed loaded to 98% of their volumetric capacity;
- (iii) the nominal density of the oil fuel ( $\rho_n$ ) shall generally be taken as 1,000 kg/m<sup>3</sup>. If the density of the oil fuel is specifically restricted to a lesser value, the lesser value may be applied; and
- (iv) for the purpose of these outflow calculations, the permeability of each oil fuel tank shall be taken as 0.99, unless proven otherwise.

(c) The following assumptions shall be used when combining the oil outflow parameters –

- (i) The mean oil outflow shall be calculated independently for side damage and for bottom damage and then combined into a non-dimensional oil outflow parameter  $O_M$ , as follows –

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

where –

- $O_{MS}$  = mean outflow for side damage, in m<sup>3</sup>
- $O_{MB}$  = mean outflow for bottom damage, in m<sup>3</sup>
- $C$  = total oil fuel volume.

- (ii) For bottom damage, independent calculations for mean outflow shall be done for 0 m and 2.5 m tide conditions, and then combined as follows –

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

where –

- $O_{MB}(0)$  = mean outflow for 0 m tide condition, and
- $O_{MB}(2.5)$  = mean outflow for minus 2.5 m tide condition, in m<sup>3</sup>.

(d) The mean outflow for side damage  $O_{MS}$  shall be calculated as follows:

$$O_{MS} = \sum_i^n P_{S(i)} O_{S(i)} \text{ [m}^3\text{]}$$

where –

- $i$  = represents each oil fuel tank under consideration;
- $n$  = total number of oil fuel tanks;

$P_{S(i)}$  = the probability of penetrating oil fuel tank  $i$  from side damage, calculated in accordance with subrule (7)(f);

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

(e) The mean outflow for bottom damage shall be calculated for each tidal condition as follows:

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

where -

$i$  = represents each oil fuel tank under consideration;

$n$  = total number of oil fuel tanks;

$P_{B(i)}$  = the probability of penetrating oil fuel tank  $i$  from bottom damage, calculated in accordance with subrule (7)(g)

$O_{B(i)}$  = the outflow from oil fuel tank  $i$ , in  $m^3$ , calculated in accordance with subrule (7)(e)(iii) of this rule; and

$C_{DB(i)}$  = factor to account for oil capture as defined in subrule (7)(e)(iii)(dd).

$$(ii) \quad O_{MB(2.5)} = \sum_i^n P_{B(i)} O_{B(i)} C_{DB(i)} [m^3]$$

where -

$i$ ,  $n$ ,  $P_{B(i)}$  and  $C_{DB(i)}$  = as defined in this subrule

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

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

(aa) The ship shall be assumed stranded with zero trim and heel, with the stranded draught prior to tidal change equal to the partial load line draught  $d_p$ .

(bb) The oil fuel level after damage shall be calculated as follows:

$$hF = \{(d_p + tC - Zl)(\rho S)\} / \rho n$$

where:  $hF$  = the height of the oil fuel surface above  $Zl$ , in  $m$ ;

$tC$  = the tidal change, in  $m$ . Reductions in tide shall be expressed as negative values;

$Zl$  = the height of the lowest point in the oil fuel tank above the baseline, in  $m$ ;

$\rho_S$  = density of seawater, to be taken as  
1,025 kg/ m<sup>3</sup>; and,  
 $\rho_n$  = nominal density of the oil fuel, as  
defined in subrule (7)(b)(iii).

- (cc) The oil outflow  $O_{B(i)}$  for any tank bounding the bottom shell plating shall be taken to be not less than the sum of the following formula, but no more than the tank capacity:

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

where -

$H_W = 1.0$  m, when  $Y_B = 0$

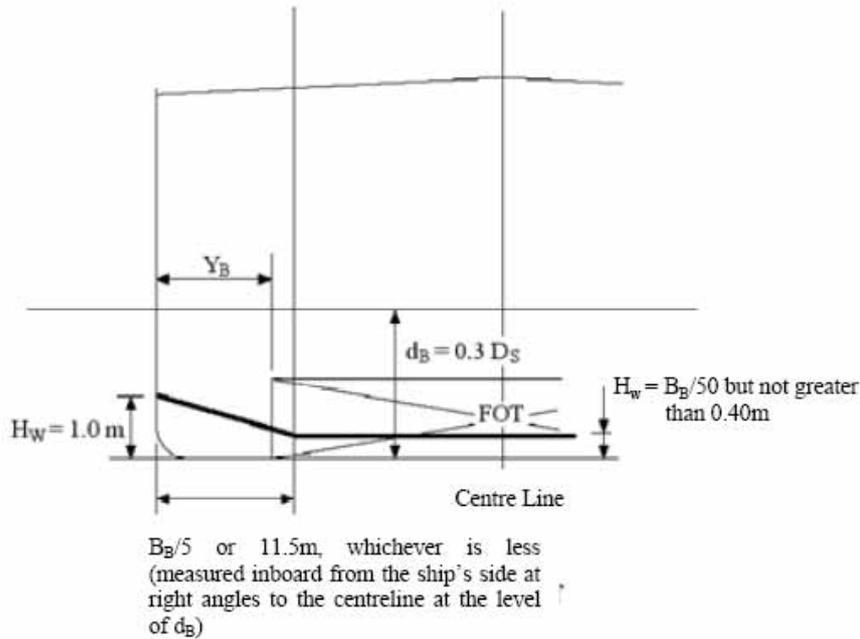
$H_W = B_B/50$  but not greater than 0.4 m, when  $Y_B$  is greater than  $B_B/5$  or 11.5 m, whichever is less

“ $H_W$ ” is to be measured upwards from the midship flat bottom line. In the turn of the bilge area and at locations without a clearly defined turn of the bilge,  $H_W$  is to be measured from a line parallel to the midship flat bottom, as shown for distance “h” in Figure 1.

For  $Y_B$  values outboard  $B_B/5$  or 11.5 m, whichever is less,  $H_W$  is to be calculated by linear interpolation.

$Y_B$  = the minimum value of  $Y_B$  over the length of the oil fuel tank, where at any given location,  $Y_B$  is the transverse distance between the side shell at waterline  $d_B$  and the tank at or below waterline  $d_B$ .

$A$  = the maximum horizontal projected area of the oil fuel tank up to the level of  $H_W$  from the bottom of the tank.



**Figure 3 – Dimensions for calculation of the minimum oil outflow for the purpose of subrule (7)(e)(iii)(cc)**

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

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

$C_{DB(i)} = 1$  otherwise.

- (f) The probability PS of breaching a compartment from side damage shall be calculated as follows–

(i)  $PS = P_{SL} \cdot P_{SV} \cdot P_{ST}$

where –

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

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

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

- (ii)  $P_{Sa}$ ,  $P_{Sf}$ ,  $P_{Su}$  and  $P_{Sl}$  shall be determined by linear interpolation from the table of probabilities for side damage provided in subrule (7)(f)(iii), and  $P_{Sy}$  shall be calculated from the formulas provided in that subrule, where -

$P_{Sa}$  = the probability the damage will lie entirely aft of location  $X_a/L$ ;  
 $P_{Sf}$  = the probability the damage will lie entirely forward of location  $X_f/L$ ;  
 $P_{Sl}$  = probability the damage will lie entirely below the tank;  
 $P_{Su}$  = probability the damage will lie entirely above the tank;  
 and  
 $P_{Sy}$  = probability the damage will lie entirely outboard the tank.

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

$X_a$  = the longitudinal distance from aft terminal of L to the aft most point on the compartment being considered, in m;  
 $X_f$  = the longitudinal distance from aft terminal of L to the foremost point on the compartment being considered, in m;  
 $Z_l$  = the vertical distance from the moulded baseline to the lowest point on the compartment being considered, in m.  
 Where  $Z_l$  is greater than  $D_s$ ,  $Z_l$  shall be taken as  $D_s$ ;  
 $Z_u$  = the vertical distance from the moulded baseline to the highest point on the compartment being considered, in m.  
 Where  $Z_u$  is greater than  $D_s$ ,  $Z_u$  shall be taken as  $D_s$ ; and,  
 $y$  = the minimum horizontal distance measured at right angles to the centreline between the compartment under consideration and the side shell, in m.<sup>1</sup>

In way of the turn of the bilge,  $y$  need not to be considered below distance  $h$  above baseline, where  $h$  is lesser of  $B/10$ , 3 m or the top of the tank.

- (iii) Table of probabilities for side damage

$X_a/L$	$P_{Sa}$	$X_f/L$	$P_{Sf}$	$Z_l/D_s$	$P_{Sl}$	$Z_u/D_s$	$P_{Su}$
0.00	0.000	0.00	0.967	0.00	0.000	0.00	0.968
0.05	0.023	0.05	0.917	0.05	0.000	0.05	0.952
0.10	0.068	0.10	0.867	0.10	0.001	0.10	0.931
0.15	0.117	0.15	0.817	0.15	0.003	0.15	0.905
0.20	0.167	0.20	0.767	0.20	0.007	0.20	0.873
0.25	0.217	0.25	0.717	0.25	0.013	0.25	0.836
0.30	0.267	0.30	0.667	0.30	0.021	0.30	0.789
0.35	0.317	0.35	0.617	0.35	0.034	0.35	0.733

<sup>1</sup> For symmetrical tank arrangements, damages are considered for one side of the ship only, in which case all "y" dimensions are to be measured from that side. For asymmetrical arrangements reference is made to the explanatory notes on matters related to the accidental oil outflow performance, adopted by the Organization by resolution MEPC.122(52).

0.40	0.367	0.40	0.567	0.40	0.055	0.40	0.670
0.45	0.417	0.45	0.517	0.45	0.085	0.45	0.599
0.50	0.467	0.50	0.467	0.50	0.123	0.50	0.525
0.55	0.517	0.55	0.417	0.55	0.172	0.55	0.452
0.60	0.567	0.60	0.367	0.60	0.226	0.60	0.383
0.65	0.617	0.65	0.317	0.65	0.285	0.65	0.317
0.70	0.667	0.70	0.267	0.70	0.347	0.70	0.255
0.75	0.717	0.75	0.217	0.75	0.413	0.75	0.197
0.80	0.767	0.80	0.167	0.80	0.482	0.80	0.143
0.85	0.817	0.85	0.117	0.85	0.553	0.85	0.092
0.90	0.867	0.90	0.068	0.90	0.626	0.90	0.046
0.95	0.917	0.95	0.023	0.95	0.700	0.95	0.013
1.00	0.967	1.00	0.000	1.00	0.775	1.00	0.000

$P_{Sy}$  shall be calculated as follows:

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

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

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

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

(g) The probability PB of breaching a compartment from bottom damage shall be calculated as follows:

(i)  $PB = PBL \cdot PBT \cdot PBV$  where -

$PBL = (1 - PBf - PBa)$  = probability the damage will extend into the longitudinal zone bounded by  $X_a$  and  $X_f$ ;  
 $PBT = (1 - PBp - PBS)$  = probability the damage will extend into transverse zone bounded by  $Y_p$  and  $Y_s$ ; and  
 $PBV = (1 - PBz)$  = probability the damage will extend vertically above the boundary defined by  $z$ ;

(ii)  $PBa$ ,  $PBf$ ,  $PBp$  and  $PBS$  shall be determined by linear interpolation from the table of probabilities for bottom damage provided in subrule (7)(g)(iii), and  $PBz$  shall be calculated from the formulas provided in that subrule, where -

$PBa$  = the probability the damage will lie entirely aft of location  $X_a/L$ ;  
 $PBf$  = the probability the damage will lie entirely forward of location  $X_f/L$ ;  
 $PBp$  = probability the damage will lie entirely to port of the tank;  
 $PBS$  = probability the damage will lie entirely to starboard the tank; and  
 $PBz$  = probability the damage will lie entirely below the tank.

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

$X_a$  and  $X_f$  as defined in subrule(7)(f)(ii);  
 $Y_p$  = the transverse distance from the port-most point on the compartment located at or below the waterline  $d_B$ , to a vertical plane located  $B_B/2$  to starboard of the ship's centreline;  
 $Y_s$  = the transverse distance from the starboard-most point on the compartment located at or below the waterline  $d_B$ , to a vertical plane located  $B_B/2$  to starboard of the ship's centreline; and  
 $z$  = the minimum value of  $z$  over the length of the compartment, where, at any given longitudinal location,  $z$  is the vertical distance from the lower point of the bottom shell at that longitudinal location to the lower point of the compartment at that longitudinal location.

(iii) Table of probabilities for bottom damage

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

$P_{Bz}$  shall be calculated as follows-

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

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

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

- (h) For the purpose of maintenance and inspection, any oil fuel tanks that do not border the outer shell plating shall be located no closer to the bottom

shell plating than 0.76 m and no closer to the side shell plating than the applicable value of  $w$  in subrule (3) or (4).

- “(8) Individual oil fuel tanks must not have a capacity of over 2,500m<sup>3</sup>.
- “(9) Before approving the design and construction of ships to be built in accordance with this rule, the Director must be satisfied that the design –
  - (a) has due regard to the need for maintenance and inspection of wing and double bottom tanks or spaces; and
  - (b) is such to ensure that the ship is seaworthy in all respects.”

## **Amendments to Part 121B—Ship Design and Construction—Ships other than Oil Tankers**

### **6. Rule 121B.3 application**

Rule 121B.3 is amended by substituting for “Part 121B applies to –”, the words “Rules 121B.4 to 121B.7 inclusive apply to –”

### **7. Oil fuel tank protection**

Part 121B is amended by inserting the following new rules –

## **“Oil fuel tank protection**

### **“121B.8 Application of oil fuel tank protection requirements**

- “(1) Rule 121B.10 applies to every ship that is not an oil tanker with an aggregate oil fuel capacity of 600 m<sup>3</sup> and above –
  - (a) for which the building contract is placed on or after 1 August 2007; or
  - (b) in the absence of a building contract, the keels of which are laid or which are at a similar stage of construction on or after 1 February 2008; or
  - (c) the delivery of which is on or after 1 August 2010; or
  - (d) which has undergone a major conversion:
    - (i) for which the contract is placed on or after 1 August 2007; or

- (ii) in the absence of contract, the construction work of which is begun on or after 1 February 2008; or
- (iii) which is completed on or after 1 August 2010.

“(2) These rules apply to the design, location and construction of all oil fuel tanks except small oil fuel tanks provided that the aggregate capacity of such excluded tanks is not greater than 600 m<sup>3</sup>.”

**“121B. 9 Definitions for oil fuel tank protection rules**

“For the purposes of rules 121B.8 to 121B.10, the following definitions apply –

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

“**Breadth (B<sub>S</sub>)**” is the greatest moulded breadth of the ship, in metres, at or below the deepest load line draught (d<sub>S</sub>):

“**Breadth (B<sub>B</sub>)**” is the greatest moulded breadth of the ship, in metres, at or below the waterline (d<sub>B</sub>):

“**C**” is the ship’s total volume of oil fuel, including that of the small oil fuel tanks, in m<sup>3</sup>, at 98% tank filling:

“**Depth (D<sub>S</sub>)**” is the moulded depth, in metres, measured at mid-length to the upper deck at side. For the purpose of the application, “upper deck” means the highest deck to which the watertight transverse bulkheads except aft peak bulkheads extend:

“**Length (L)**” means 96% of the total length on a waterline at 85% of the least moulded depth measured from the top of the keel, or the length from the foreside of the stem to the axis of the rudder stock on that waterline, if that be greater. In ships designed with a rake of keel the waterline on which this length is measured shall be parallel to the designed waterline. The length (L) shall be measured in metres:

“**Load line draught (d<sub>S</sub>)**” is the vertical distance, in metres, from the moulded baseline at mid-length to the waterline corresponding to the summer freeboard draught to be assigned to the ship:

“**Light ship draught**” is the moulded draught amidships corresponding to the Lightweight:

“**Oil fuel**” means any oil used as fuel oil in connection with the propulsion and auxiliary machinery of the ship in which such oil is carried:

“**Oil fuel capacity**” means the volume of a tank in m<sup>3</sup>, at 98% filling:

“**Oil fuel tank**” means a tank in which oil fuel is carried, but excludes those tanks which would not contain oil fuel in normal operation, such as overflow tanks:

“**Partial load line draught ( $d_p$ )**” is the light ship draught plus 60% of the difference between the light ship draught and the load line draught  $d_s$ . The partial load line draught ( $d_p$ ) shall be measured in metres:

“**Waterline ( $d_B$ )**” is the vertical distance, in metres, from the moulded baseline at mid-length to the waterline corresponding to 30% of the depth  $D_s$ .

“**Small oil fuel tank**” is an oil fuel tank with a maximum individual capacity not greater than 30 m<sup>3</sup>.”

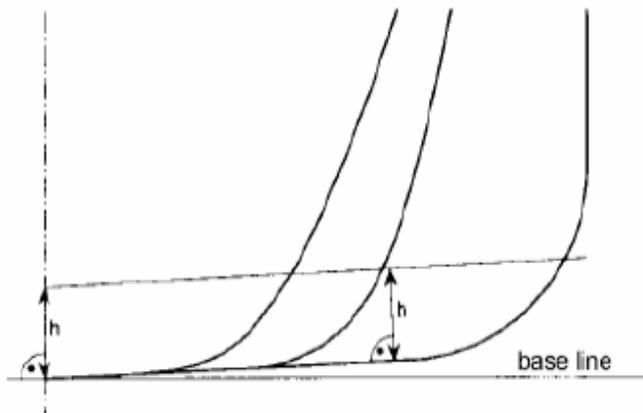
**“121B.10 Oil fuel tank protection**

“(1) Oil fuel tanks shall be located above the moulded line of the bottom shell plating nowhere less than the distance ( $h$ ) as specified below-

$$h = B/20 \text{ m or,}$$
$$h = 2.0 \text{ m, whichever is the lesser.}$$

The minimum value of  $h = 0.76 \text{ m}$

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



**Figure 1 – Oil fuel tank boundary lines for ships with oil fuel capacity of 600 m<sup>3</sup> or more but less than 5,000 m<sup>3</sup>**

“(3) For ships having an aggregate oil fuel capacity of 600 m<sup>3</sup> or more but less than 5,000 m<sup>3</sup>, oil fuel tanks shall be located inboard of the moulded line of the side shell plating, nowhere less than the distance  $w$  which, as shown in Figure 2, is measured at any cross-section at right angles to the side shell, as specified below:

$$w = 0.4 + 2.4 C/20,000 \text{ m}$$

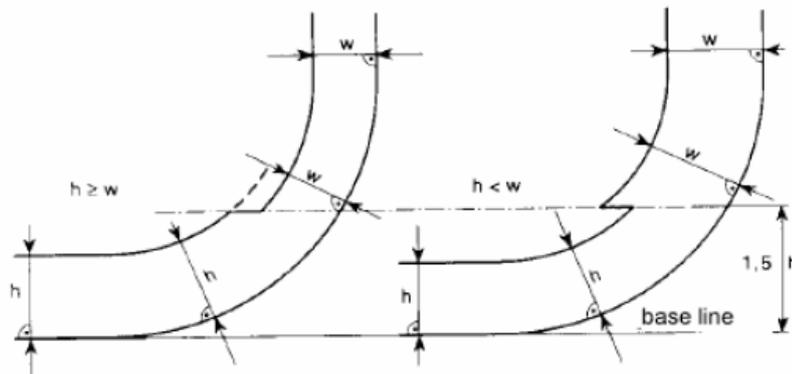
The minimum value of  $w = 1.0 \text{ m}$ , however for individual tanks with an oil fuel capacity of less than  $500 \text{ m}^3$  the minimum value is  $0.76 \text{ m}$ .

- “(4) For ships having an aggregate oil fuel capacity of  $5,000 \text{ m}^3$  or more, oil fuel tanks shall be located inboard of the moulded line of the side shell plating, nowhere less than the distance  $w$  which, as shown in Figure 2, is measured at any cross-section at right angles to the side shell, as specified below:

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

$$w = 2.0 \text{ m, whichever is the lesser.}$$

The minimum value of  $w = 1.0 \text{ m}$



**Figure 2 – Oil fuel tank boundary lines for the purposes of subrules (3) and (4)**

- “(5) Lines of oil fuel piping located at a distance from the ship’s bottom of less than  $h$ , as defined in subrule (1), or from the ship’s side less than  $w$ , as defined in subrules (3) and (4) shall be fitted with valves or similar closing devices within or immediately adjacent to the oil fuel tank. These valves shall be capable of being brought into operation from a readily accessible enclosed space the location of which is accessible from the navigation bridge or propulsion machinery control position without traversing exposed freeboard or superstructure decks. The valves shall close in case of remote control system failure (fail in a closed position) and shall be kept closed at sea at any time when the tank contains oil fuel except that they may be opened during oil fuel transfer operations.
- “(6) Suction wells in oil fuel tanks may protrude into the double bottom below the boundary line defined by the distance  $h$  provided that such wells are as small as practicable and the distance between the well bottom and the bottom shell plating is not less than  $0.5 h$ .

“(7) Alternatively to subrules (1) and either (3) or (4), ships shall comply with the accidental oil fuel outflow performance standard specified below –

- (a) The level of protection against oil fuel pollution in the event of collision or grounding shall be assessed on the basis of the mean oil outflow parameter as follows–

$$\begin{array}{ll} O_M < 0.0157 - 1.14E-6 \cdot C & 600 \text{ m}^3 \leq C < 5,000 \text{ m}^3 \\ O_M < 0.010 & C \geq 5,000 \text{ m}^3 \end{array}$$

Where  $O_M$  = mean oil outflow parameter;  
C = total oil fuel volume.

- (b) The following general assumption shall apply when calculating the mean oil outflow parameter:
- (i) the ship shall be assumed loaded to the partial load line draught  $d_p$  without trim or heel;
  - (ii) all oil fuel tanks shall be assumed loaded to 98% of their volumetric capacity;
  - (iii) the nominal density of the oil fuel ( $\rho_n$ ) shall generally be taken as 1,000 kg/m<sup>3</sup>. If the density of the oil fuel is specifically restricted to a lesser value, the lesser value may be applied; and
  - (iv) for the purpose of these outflow calculations, the permeability of each oil fuel tank shall be taken as 0.99, unless proven otherwise.

- (c) The following assumptions shall be used when combining the oil outflow parameters:

- (i) The mean oil outflow shall be calculated independently for side damage and for bottom damage and then combined into a non-dimensional oil outflow parameter  $O_M$ , as follows:

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

where –

$O_{MS}$  = mean outflow for side damage, in m<sup>3</sup>  
 $O_{MB}$  = mean outflow for bottom damage, in m<sup>3</sup>  
 C = total oil fuel volume.

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

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

where –

OMB(0) = mean outflow for 0 m tide condition, and  
 OMB(2.5) = mean outflow for minus 2.5 m tide  
 condition, in m<sup>3</sup>.

- (d) The mean outflow for side damage O<sub>MS</sub> shall be calculated as follows:

$$O_{MS} = \sum_i^n P_{S(i)} O_{S(i)} \text{ [m}^3\text{]}$$

where -

i = represents each oil fuel tank under consideration;  
 n = total number of oil fuel tanks;  
 P<sub>S(i)</sub> = the probability of penetrating oil fuel tank i from side damage, calculated in accordance with subrule (7)(f);  
 O<sub>S(i)</sub> = the outflow, in m<sup>3</sup>, from side damage to oil fuel tank i, which is assumed equal to the total volume in oil fuel tank i at 98% filling.

- (e) The mean outflow for bottom damage shall be calculated for each tidal condition as follows -

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

where -

i = represents each oil fuel tank under consideration;  
 n = total number of oil fuel tanks;  
 P<sub>B(i)</sub> = the probability of penetrating oil fuel tank i from bottom damage, calculated in accordance with subrule (7)(g);  
 O<sub>B(i)</sub> = the outflow from oil fuel tank i, in m<sup>3</sup>, calculated in accordance with subrule (7)(e)(iii) of this regulation; and  
 C<sub>DB(i)</sub> = factor to account for oil capture as defined in subrule (7)(e)(iii)(dd).

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

Where -

i, n, P<sub>B(i)</sub> and C<sub>DB(i)</sub> = as defined in this subrule  
 O<sub>B(i)</sub> = the outflow from oil fuel tank i, in m<sup>3</sup>, after tidal change.

- (iii) The oil outflow O<sub>B(i)</sub> for each oil fuel tank shall be calculated based on pressure balance principles, in accordance with the following assumptions-

- (aa) The ship shall be assumed stranded with zero trim and heel, with the stranded draught prior to tidal change equal to the partial load line draught  $d_P$ .
- (bb) The oil fuel level after damage shall be calculated as follows -

$$hF = \frac{\{(d_P + tC - ZI)(\rho_S)\}}{\rho_n}$$

where:  $hF$  = the height of the oil fuel surface above  $ZI$ , in m;  
 $tC$  = the tidal change, in m. Reductions in tide shall be expressed as negative values;  
 $ZI$  = the height of the lowest point in the oil fuel tank above the baseline, in m;  
 $\rho_S$  = density of seawater, to be taken as 1,025 kg/ m<sup>3</sup>; and,  
 $\rho_n$  = nominal density of the oil fuel, as defined in subrule (7)(b)(iii).

- (cc) The oil outflow  $O_{B(i)}$  for any tank bounding the bottom shell plating shall be taken to be not less than the sum of the following formula, but no more than the tank capacity -

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

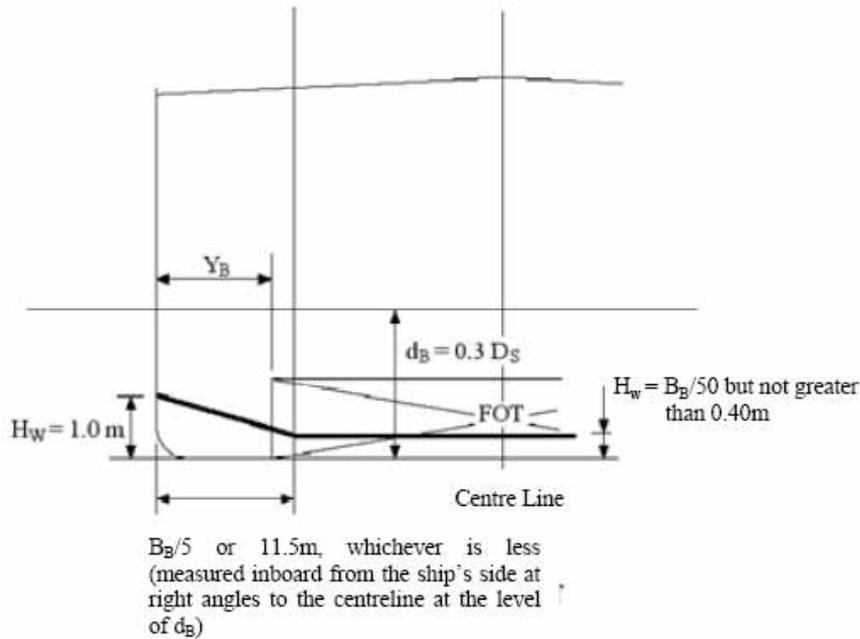
where -

$H_W = 1.0$  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; and,  
 $"H_W"$  is to be measured upwards from the midship flat bottom line. In the turn of the bilge area and at locations without a clearly defined turn of the bilge,  $H_W$  is to be measured from a line parallel to the midship flat bottom, as shown for distance  $"h"$  in Figure 1.

For  $Y_B$  values outboard  $B_B/5$  or 11.5 m, whichever is less,  $H_W$  is to be calculated by linear interpolation.

$Y_B$  = the minimum value of  $Y_B$  over the length of the oil fuel tank, where at any given location,  $Y_B$  is the transverse distance between the side shell at waterline  $d_B$  and the tank at or below waterline  $d_B$ .

$A$  = the maximum horizontal projected area of the oil fuel tank up to the level of  $H_W$  from the bottom of the tank.



**Figure 3 – Dimensions for calculation of the minimum oil outflow for the purpose of subrule (7)(e)(iii)(cc)**

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

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

$C_{DB(i)} = 1$  otherwise.

- (f) The probability PS of breaching a compartment from side damage shall be calculated as follows–

(i)  $PS = P_{SL} \cdot P_{SV} \cdot P_{ST}$

where –

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

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

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

- (ii)  $P_{Sa}$ ,  $P_{Sf}$ ,  $P_{Su}$  and  $P_{Sl}$  shall be determined by linear interpolation from the table of probabilities for side damage provided in subrule (7)(f)(iii), and  $P_{Sy}$  shall be calculated from the formulas provided in that subrule, where -

$P_{Sa}$  = the probability the damage will lie entirely aft of location  $X_a/L$ ;  
 $P_{Sf}$  = the probability the damage will lie entirely forward of location  $X_f/L$ ;  
 $P_{Sl}$  = probability the damage will lie entirely below the tank;  
 $P_{Su}$  = probability the damage will lie entirely above the tank;  
 and  
 $P_{Sy}$  = probability the damage will lie entirely outboard the tank.

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

$X_a$  = the longitudinal distance from aft terminal of L to the aft most point on the compartment being considered, in m;  
 $X_f$  = the longitudinal distance from aft terminal of L to the foremost point on the compartment being considered, in m;  
 $Z_l$  = the vertical distance from the moulded baseline to the lowest point on the compartment being considered, in m.  
 Where  $Z_l$  is greater than  $D_S$ ,  $Z_l$  shall be taken as  $D_S$ ;  
 $Z_u$  = the vertical distance from the moulded baseline to the highest point on the compartment being considered, in m.  
 Where  $Z_u$  is greater than  $D_S$ ,  $Z_u$  shall be taken as  $D_S$ ; and,  
 $y$  = the minimum horizontal distance measured at right angles to the centreline between the compartment under consideration and the side shell, in m.<sup>2</sup>

In way of the turn of the bilge,  $y$  need not to be considered below a distance  $h$  above baseline, where  $h$  is lesser of  $B/10$ , 3 m or the top of the tank.

- (iii) Table of probabilities for side damage

$X_a/L$	$P_{Sa}$	$X_f/L$	$P_{Sf}$	$Z_l/D_S$	$P_{Sl}$	$Z_u/D_S$	$P_{Su}$
0.00	0.000	0.00	0.967	0.00	0.000	0.00	0.968
0.05	0.023	0.05	0.917	0.05	0.000	0.05	0.952
0.10	0.068	0.10	0.867	0.10	0.001	0.10	0.931
0.15	0.117	0.15	0.817	0.15	0.003	0.15	0.905
0.20	0.167	0.20	0.767	0.20	0.007	0.20	0.873
0.25	0.217	0.25	0.717	0.25	0.013	0.25	0.836
0.30	0.267	0.30	0.667	0.30	0.021	0.30	0.789
0.35	0.317	0.35	0.617	0.35	0.034	0.35	0.733

<sup>2</sup> For symmetrical tank arrangements, damages are considered for one side of the ship only, in which case all "y" dimensions are to be measured from that side. For asymmetrical arrangements reference is made to the explanatory notes on matters related to the accidental oil outflow performance, adopted by the Organization by resolution MEPC.122(52).

0.40	0.367	0.40	0.567	0.40	0.055	0.40	0.670
0.45	0.417	0.45	0.517	0.45	0.085	0.45	0.599
0.50	0.467	0.50	0.467	0.50	0.123	0.50	0.525
0.55	0.517	0.55	0.417	0.55	0.172	0.55	0.452
0.60	0.567	0.60	0.367	0.60	0.226	0.60	0.383
0.65	0.617	0.65	0.317	0.65	0.285	0.65	0.317
0.70	0.667	0.70	0.267	0.70	0.347	0.70	0.255
0.75	0.717	0.75	0.217	0.75	0.413	0.75	0.197
0.80	0.767	0.80	0.167	0.80	0.482	0.80	0.143
0.85	0.817	0.85	0.117	0.85	0.553	0.85	0.092
0.90	0.867	0.90	0.068	0.90	0.626	0.90	0.046
0.95	0.917	0.95	0.023	0.95	0.700	0.95	0.013
1.00	0.967	1.00	0.000	1.00	0.775	1.00	0.000

$P_{Sy}$  shall be calculated as follows -

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

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

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

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

(g) The probability PB of breaching a compartment from bottom damage shall be calculated as follows -

(i)  $PB = PBL \cdot PBT \cdot PBV$  where -

$PBL = (1 - PBf - PBa)$  = probability the damage will extend into the longitudinal zone bounded by  $X_a$  and  $X_f$ ;  
 $PBT = (1 - PBp - PBS)$  = probability the damage will extend into transverse zone bounded by  $Y_p$  and  $Y_s$ ; and  
 $PBV = (1 - PBz)$  = probability the damage will extend vertically above the boundary defined by  $z$ ;

(ii)  $PBa$ ,  $PBf$ ,  $PBp$  and  $PBS$  shall be determined by linear interpolation from the table of probabilities for bottom damage provided in subrule (7)(g)(iii), and  $PBz$  shall be calculated from the formulas provided in that sub-rule, where -

$PBa$  = the probability the damage will lie entirely aft of location  $X_a/L$ ;  
 $PBf$  = the probability the damage will lie entirely forward of location  $X_f/L$ ;  
 $PBp$  = probability the damage will lie entirely to port of the tank;  
 $PBS$  = probability the damage will lie entirely to starboard the tank; and  
 $PBz$  = probability the damage will lie entirely below the tank.

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

$X_a$  and  $X_f$  as defined in subrule(7)(f)(ii);  
 $Y_p$  = the transverse distance from the port-most point on the compartment located at or below the waterline  $d_B$ , to a vertical plane located  $B_B/2$  to starboard of the ship's centreline;  
 $Y_s$  = the transverse distance from the starboard-most point on the compartment located at or below the waterline  $d_B$ , to a vertical plane located  $B_B/2$  to starboard of the ship's centreline; and  
 $z$  = the minimum value of  $z$  over the length of the compartment, where, at any given longitudinal location,  $z$  is the vertical distance from the lower point of the bottom shell at that longitudinal location to the lower point of the compartment at that longitudinal location.

(iii) Table of probabilities for bottom damage

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

$P_{Bz}$  shall be calculated as follows -

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

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

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

- (h) For the purpose of maintenance and inspection, any oil fuel tanks that do not border the outer shell plating shall be located no closer to the bottom

shell plating than 0.76 m and no closer to the side shell plating than the applicable value of  $w$  in subrule (3) or (4).

- “(8) Individual oil fuel tanks must not have a capacity of over 2,500m<sup>3</sup>.
- “(9) Before approving the design and construction of ships to be built in accordance with this rule, the Director must be satisfied that the design –
- (a) has due regard to the need for maintenance and inspection of wing and double bottom tanks or spaces; and
  - (b) is such to ensure that the ship is seaworthy in all respects.”

## **Amendments to Part 123A – Documents (Oil)**

### **10 Part 123A, Appendix 2 (Form A) Supplement to the International Oil Pollution Prevention Certificate**

Appendix 2 of Part 123A is amended by inserting in section 2 after item 2.5.2 the following -

“2A.1 The ship is required to be constructed according to regulation 12A and complies with the requirements of:

paragraphs 6 and either 7 or 8 (double hull construction)

paragraph 11 (accidental oil fuel outflow performance).

2A.2 The ship is not required to comply with the requirements of regulation 12A.  ”

### **11 Part 123A, Appendix 3 (Form B) Supplement to the International Oil Pollution Prevention Certificate**

Appendix 3 of Part 123A is amended by inserting in section 2 after item 2.5.2 the following -

“2A.1 The ship is required to be constructed according to regulation 12A and complies with the requirements of:

paragraphs 6 and either 7 or 8 (double hull construction)

paragraph 11 (accidental oil fuel outflow performance).

2A.2 The ship is not required to comply with the requirements of regulation 12A.  ”

## **Amendments to Part 170—Prevention of Pollution from Garbage from Ships**

### **12 Part 170, Discharge of Garbage from Offshore Installations Within the Exclusive Economic Zone of New Zealand or Over the Continental Shelf of New Zealand**

Rules 170.16 and 170.17 are revoked.

### **13 Part 170, Appendix, Form of Garbage Record Book**

The appendix of Part 170 is amended by -

- (a) substituting for item 4 of section 3, " the words "Cargo residues, paper products, rags, glass, metal, bottles, crockery etc."
- (b) amending paragraph 4.1(a)(ii) to read "(ii) Position of the ship (latitude and longitude). Note: for cargo residue discharges, include discharge start and stop positions."
- (c) inserting at the end of the note to the "Record of Garbage Discharges" form, the words "Discharges of cargo residues require start and stop positions to be recorded."

## **Amendments to Part 200—Offshore Installations Discharges**

### **14 Rule 200.2 Definitions**

Rule 200.2 is amended by inserting the following definitions in the appropriate places -

"FPSO means a floating production storage and offloading facility;"

"FSU means a floating storage unit;"

### **15 Rule 200.26(2) Issue, duration and renewal of International Oil Pollution Prevention Certificate**

Rule 200.26(2) is amended by substituting for subrule (2)(a) the following -

- "(a) must be in the form shown in Schedule 3, or, if the installation is an FPSO or an FSU, the supplement may be in the form shown in Schedule 4;"

**16 Part 200, Schedule 3, Form of the International Oil Pollution Prevention Certificate and Form A Supplement to the International Oil Pollution Prevention Certificate (IOPP Certificate)**

Schedule 3 is revoked and replaced by the following –

“Schedule 3

“FORM OF IOPP CERTIFICATE”

“INTERNATIONAL OIL POLLUTION PREVENTION CERTIFICATE

“(Note: This certificate must be supplemented by a Record of Construction and Equipment)

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

.....

by .....

(full designation of the competent person or organisation authorised under the provisions of the Convention)

“Particulars of ship<sup>\*</sup>

Name of ship .....

Distinctive number or letters .....

Port of registry .....

Gross tonnage .....

Deadweight of ship (metric tonnes)<sup>†</sup> .....

IMO Number<sup>♦</sup> .....

Type of ship:

Oil tanker\*

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

<sup>\*</sup> Alternatively, the particulars of the ship may be placed horizontally in boxes.

<sup>†</sup> For oil tankers.

<sup>♦</sup> Refer to the IMO Ship Identification Number Scheme adopted by the Organisation by resolution A.600(15).

\* Delete as appropriate.

Ship other than an oil tanker with cargo tanks coming under regulation 2(2) of Annex I of the Convention\*

Ship other than any of the above\*

“THIS IS TO CERTIFY:

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

This certificate is valid until dd/mm/yyyy.....<sup>□</sup>  
subject to surveys in accordance with regulation 6 of Annex I of the Convention.

Issued at .....  
(Place of issue of certificate)

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

.....  
(Signature of duly authorised official  
issuing the certificate)

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

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

**“ENDORSEMENT FOR ANNUAL AND INTERMEDIATE SURVEYS**

“THIS IS TO CERTIFY that at a survey required by regulation 6 of Annex I of the Convention the ship was found to comply with the relevant provisions of the Convention:

Annual survey: Signed.....  
(Signature of duly authorised official)  
Place.....  
Date. (dd/mm/yyyy).....

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

Annual\* /Intermediate\* survey: Signed.....  
(Signature of duly authorised official)  
Place.....  
Date (dd/mm/yyyy).....

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

Annual\*/Intermediate\* survey: Signed.....  
(Signature of duly authorised official)  
Place.....  
Date (dd/mm/yyyy).....

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

Annual survey: Signed.....  
(Signature of duly authorised official)  
Place.....  
Date (dd/mm/yyyy).....

*(Seal or stamp of the authority, as appropriate)”*

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\* Delete as appropriate

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

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

Signed .....  
(Signature of authorised official)

Place .....

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

(Seal or stamp of the authority, as appropriate)

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

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

Signed .....  
(Signature of authorised official)

Place .....

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

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

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

“The ship complies with the relevant provisions of the Convention, and this Certificate shall, in accordance with regulation 10.4 of Annex I of the Convention, be accepted as valid until .....

Signed .....  
(Signature of authorised official)

Place .....

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

\* Delete as appropriate (Seal or stamp of the authority, as appropriate)”

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

“This certificate shall, in accordance with regulation 10.5 or 10.6\* of Annex I of the Convention, be accepted as valid until .....

Signed .....  
(signature of authorised official)

Place .....

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

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

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

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

Signature .....  
(Signature of authorised person)

Place .....

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

(Seal or stamp of the authority, as appropriate)

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

Signature .....  
(Signature of authorised official)

Place .....

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

(Seal or stamp of the authority, as appropriate)

\* Delete as appropriate”

**“FORM A**

**“Supplement to the International Oil Pollution Prevention Certificate**

**“(IOPP Certificate)**

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

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

*“Notes:*

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

**“1. Particulars of ship**

- 1.1 Name of ship.....
- 1.2 Distinctive number or letters.....
- 1.3 Port of registry.....
- 1.4 Gross tonnage .....

- 1.5 Date of build:
  - 1.5.1 Date of building contract .....
  - 1.5.2 Date on which keel was laid or ship was at a similar stage of construction .....
  - 1.5.3 Date of delivery .....
- 1.6 Major conversion (if applicable):
  - 1.6.1 Date of conversion contract .....
  - 1.6.2 Date on which conversion was commenced .....
  - 1.6.3 Date of completion of conversion .....
- 1.7 The ship has been accepted by the Administration as a "ship delivered on or before 31 December 1979" under regulation 1.28.1 due to due to unforeseen delay in delivery

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

- 2.1 Carriage of ballast water in oil fuel tanks:
  - 2.1.1 The ship may under normal conditions carry ballast water in oil fuel tanks
- 2.2 Type of oil filtering equipment fitted:
  - 2.2.1 Oil filtering (15 ppm) equipment (regulation 14.6)
  - 2.2.2 Oil filtering (15 ppm) equipment with alarm and automatic stopping device (regulation 14.7)
- 2.3 Approval standards:
  - 2.3.1 The separating/filtering equipment:
    - .1 has been approved in accordance with resolution A.393(X)
    - .2 has been approved in accordance with resolution MEPC.60(33)
    - .3 has been approved in accordance with resolution MEPC.107(49)
    - .4 has been approved in accordance with resolution A.233(VII)
    - .5 has been approved in accordance with national standards not based upon resolution A.393(X) or A.233(VII)
    - .6 has not been approved
  - 2.3.2 The process unit has been approved in accordance with resolution A.444(XI)
  - 2.3.3 The oil content meter:

- .1 has been approved in accordance with resolution A.393(X)
- .2 has been approved in accordance with resolution MEPC.60(33)
- .3 has been approved in accordance with resolution MEPC.107(49)

2.4 Maximum throughput of the system is ..... m<sup>3</sup>/h

2.6 Waiver of regulation 14:

2.5.1 The requirements of regulation 14.1 or 14.2 are waived in respect of the ship in accordance with regulation 14.5.

2.5.1.1 The ship is engaged exclusively on voyages within special area(s) .....

2.5.1.2 The ship is certified under the International Code of Safety for High-Speed Craft and engaged on a scheduled service with a turn-around time not exceeding 24 hours .....

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

Tank identification	Tank location		Volume (m <sup>3</sup> )
	Frames (from)-(to)	Lateral position	
Total volume.....m <sup>3</sup>			

2A.1 The ship is required to be constructed according to regulation 12A and complies with the requirements of:  
 paragraphs 6 and either 7 or 8 (double hull construction)   
 paragraph 11 (accidental oil fuel outflow performance).

2A.2 The ship is not required to comply with the requirements of regulation 12A.

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

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

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

Tank identification	Tank location		Volume (m <sup>3</sup> )
	Frames (from)-(to)	Lateral position	
Total volume.....m <sup>3</sup>			

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

- 3.2.1 Incinerator for oil residues, capacity...../h
- 3.2.2 Auxiliary boiler suitable for burning oil residues
- 3.2.3 Tank for mixing oil residues with fuel oil, capacity ..... m<sup>3</sup>
- 3.2.4 Other acceptable means:.....
- 3.3 The ship is fitted with holding tank(s) for the retention on board of oily bilge water as follows:

Tank identification	Tank location		Volume (m <sup>3</sup> )
	Frames (from)-(to)	Lateral position	
Total volume.....m <sup>3</sup>			

**“4. Standard discharge connection (regulation 13)**

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

**“5. Shipboard oil/marine pollution contingency plan (regulation 37)**

- 5.1 The ship is provided with a shipboard oil pollution contingency plan in compliance with regulation 37
- 5.2 The ship is provided with a shipboard oil pollution contingency plan in compliance with regulation 37.3

**“6. Exemption**

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

**“7. Equivalentents (regulation 5)**

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

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

Issued at .....  
(Place of issue of the Record)

.....  
(Date of issue)

.....  
(Signature of duly authorised officer  
issuing the Record)

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

**17 Part 200, Schedule 4, Form of the International Oil Pollution Prevention Certificate Supplement for FPSOs and FSUs**

Part 200 is amended by inserting as Schedule 4 the following –

**“ RECORD OF CONSTRUCTION AND EQUIPMENT FOR FPSOs AND FSUs**

“in respect of the provisions of resolution MEPC.139(53) “Guidelines for application of the revised MARPOL Annex I<sup>3</sup> requirements to FPSOs and FSUs”, hereafter referred to as the “Guidelines”.

**“Notes:**

- “1 This form should be used for Floating Production Storage and Offloading facilities (FPSOs) and Floating Storage Units (FSUs) to which regulation 39 of the revised Annex I of the Convention applies.
- “2 This Record should be permanently attached to the IOPP Certificate. The IOPP Certificate should be available on board the ship at all times.
- “3 If the language of the original Record is neither English nor French nor Spanish, the text should include a translation into one of these languages.
- “4 Entries in boxes shall be made by inserting either a cross (x) for the answers “yes” and “applicable” or a dash (-) for the answers “no” and “not applicable” as appropriate.
- “5 Unless otherwise stated, regulations mentioned in this Record refer to regulations of the revised Annex I of the Convention as implemented under the Guidelines and resolutions refer to those adopted by the International Maritime Organization.

**“1. Particulars of ship**

- 1.1 Name of ship.....
- 1.2 Distinctive number or letters.....

<sup>3</sup> Annex I of International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, hereafter referred to as the “Convention”.

- 1.3 IMO number (if applicable) .....
- 1.4 Port of registry (if applicable).....
- 1.5 Gross tonnage (if applicable) .....
- 1.6 Produced liquids holding capacity of ship ..... (m<sup>3</sup>)
- 1.7 Deadweight of ship ..... (tonnes)  
(regulation 1.23)
- 1.8 Length of ship ..... (m)  
(regulation 1.19)
- 1.9 Operating station (lat/long).....
- 1.10 Coastal State .....
- 1.11 Date of build:
  - 1.11.1 Date of building contract .....
  - 1.11.2 Date on which keel was laid or ship was at a similar stage of  
construction .....
  - 1.11.3 Date of delivery .....
- 1.12 Conversion to FPSO/FSU (if applicable):
  - 1.12.1 Date of conversion contract .....
  - 1.12.2 Date on which conversion was commenced .....

**“2. Equipment for the control of oil discharge from machinery space bilges and oil fuel tanks (regulations 14, 15 and 34)**

- 2.1 Carriage of ballast water in oil fuel tanks:
  - 2.1.1 The ship may under normal conditions carry ballast water in oil fuel tanks
- 2.2 Type of oil filtering equipment fitted:
  - 2.2.1 Oil filtering (15 ppm) equipment (regulation 14.6)
  - 2.2.2 Oil filtering (15 ppm) equipment with alarm and automatic stopping device (regulation 14.7)
- 2.3 Approval standards:\*

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\* Refer to the Recommendation on international performance and test specifications of oily-water separating equipment and oil content meters adopted by the Organization on 14 November 1977 by resolution A.393(X), which superseded resolution A.233(VII); see IMO sales publication IMO-608E. Further reference is made to the Guidelines and specifications for pollution prevention equipment for machinery space bilges adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.60(33), which, effective on 6 July 1993, superseded resolutions A.393(X) and A.444(XI); see IMO sales publication IMO-646E and the

- 2.3.1 The separating/filtering equipment:
- .1 has been approved in accordance with resolution A.393(X);
  - .2 has been approved in accordance with resolution MEPC.60(33);
  - .3 has been approved in accordance with resolution MEPC.107(49);
  - .4 has been approved in accordance with resolution A.233(VII);
  - .5 has been approved in accordance with national standards not based upon resolutions A.393(X) or A.233(VII);
- .6 has not been approved;
- 2.3.2 The process unit has been approved in accordance with resolution A.444(XI)
- 2.3.3 The oil content meter:
- .1 has been approved in accordance with resolution A.393(X);
  - .2 has been approved in accordance with resolution MEPC.60(33);
  - .3 has been approved in accordance with resolution MEPC.107(49);
- 2.4 Maximum throughput of the system is ..... m<sup>3</sup>/h
- 2.5 Waiver of regulation 14:
- 2.5.1 The requirements of regulations 14.1 and 14.2 are waived in respect of the ship:
- .1 As the ship is provided with adequate means for disposal of oily residues in accordance with the Guidelines
  - .2 In accordance with regulation 14.5.1 the ship is engaged exclusively in operations within special area(s):
- Name of special area(s) .....

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revised Guidelines and specifications for pollution prevention equipment for machinery spaces of ships adopted by the Marine Environment Protection Committee of the Organization by resolution MEPC.107(49) which, effectively on 1 January 2005, superseded resolutions MEPC.60(33), A.393(X) and A.444(XI).

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

Tank identification	Tank location		Volume (m <sup>3</sup> )
	Frames (from)-(to)	Lateral position	
Total volume.....m <sup>3</sup>			

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

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

Tank identification	Tank location		Volume (m <sup>3</sup> )
	Frames (from)-(to)	Lateral position	

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

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

- 3.2.1 Incinerator for oil residues, capacity ..... l/h
- 3.2.2 Auxiliary boiler suitable for burning oil residues
- 3.2.3 Tank for mixing oil residues with fuel oil, capacity ..... m<sup>3</sup>
- 3.2.4 Facility for adding oil residues to production stream
- 3.2.5 Other acceptable means: .....

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

Tank identification	Tank location		Volume (m <sup>3</sup> )
	Frames (from)-(to)	Lateral position	
Total volume.....m <sup>3</sup> ''			

**“4. Standard discharge connection**  
(regulation 13)

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

**“5. Construction**  
(regulations 18, 26 and 28)

5.1 In relation to the application of regulation 18, the ship is:

5.1.1 Provided with segregated ballast tanks (SBT)

5.1.2 Provided with crude oil washing (COW)

5.1.3 Provided with sufficient ballast capacity to meet stability and strength requirements

5.1.4 Provided with dedicated clean ballast tanks (CBT)

5.2 Segregated ballast tanks (SBT):

5.2.1 The ship is provided with SBT consistent with regulation 18

5.2.2 The ship is provided with SBT which includes tanks or spaces not used for oil outboard of all produced oil tanks

5.2.3 SBT are distributed as follows:

Tank	Volume (m <sup>3</sup> )	Tank	Volume (m <sup>3</sup> )
		Total volume .....m <sup>3</sup>	

5.3 Dedicated clean ballast tanks (CBT):

5.3.1 The ship is provided with CBT consistent with regulation 18.8

5.3.2 CBT are distributed as follows:

Tank	Volume (m <sup>3</sup> )	Tank	Volume (m <sup>3</sup> )
		Total volume .....m <sup>3</sup>	

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

5.3.4 The ship has common piping and pumping arrangements for ballasting the CBT and handling produced oil

5.3.5 The ship has separate independent piping and pumping arrangements for ballasting the CBT

5.4 Crude oil washing (COW):

5.4.1 The ship is equipped with a COW system

5.4.2 The ship is equipped with a COW system consistent with regulations 33 and 35

5.4.3 The ship has been supplied with a valid Crude Oil Washing Operations and Equipment Manual which is dated .....

5.5 Limitation of size and arrangements of produced oil tanks (regulation 26):

5.5.1 The ship is constructed according to the provisions of regulation 26

5.6 Subdivision and stability (regulation 28):

- 5.6.1 The ship is constructed consistent with regulation 28
- 5.6.2 Information and data required under regulation 28.5 have been supplied to the ship in an approved form
- 5.6.3 The ship is constructed consistent with regulation 27
- 5.7 Double-hull/side construction:**
- 5.7.1 The ship is constructed consistent with regulation 19 as follows:
- .1 paragraph 3 (double-hull construction)
- .2 paragraphs 3.1 and 3.6 (double sides)
- .3 paragraph .5 (alternative method approved by the Marine Environment Protection Committee)
- 5.7.2 The ship is constructed consistent with regulation 19.6 (double bottom requirements)
- “6. Retention of oil on board (regulations 29, 31 and 32)**
- 6.1 Oil discharge monitoring and control system:
- 6.1.1 The ship comes under category ..... oil tanker as defined in resolution A.496(XII) or A.586(14)\* (*delete as appropriate*)
- 6.1.2 The system comprises:
- .1 control unit
- .2 computing unit
- .3 calculating unit
- 6.1.3 The system is:
- .1 fitted with a starting interlock
- .2 fitted with automatic stopping device
- 6.1.4 The oil content meter is approved under the terms of resolution A.393(X) or A.586(14) or MEPC.108(49)\* (*delete as appropriate*) suitable for crude oil

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\* FPSOs and FSUs the keels of which are laid, or which are at a similar stage of construction, on or after 2 October 1986 should be fitted with a system approved under resolution A.586(14); see IMO sales publication IMO-646E.

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

6.1.5 The ship has been supplied with an operations manual for the oil discharge monitoring and control system

6.2 Slop tanks:

6.2.1 The ship is provided with ..... dedicated slop tank(s) with the total capacity of ..... m<sup>3</sup>, which is. .... % of the oil carrying capacity, in accordance with:

.1 regulation 29.2.3

.2 regulation 29.2.3.1

.3 regulation 29.2.3.2

.4 regulation 29.2.3.3

6.2.2 Produced oil tanks have been designated as slop tanks

6.3 Oil/water interface detectors:

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

6.4 Waiver of regulation:

6.4.1 The requirements of regulations 31 and 32 are waived in respect of the ship as follows:

.1 The ship is engaged exclusively in operations within special area(s) (regulation 3.5)

Name of special area(s).....

.2 The ship is provided with adequate means of disposal of contaminated sea water

a. sent ashore

b. incinerated

c. added to the production stream

**“7. Pumping, piping and discharge arrangements (regulation 30)**

7.1 The overboard discharge outlets for segregated ballast are located:

7.1.1 Above the waterline

7.1.2 Below the waterline

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for oil discharge monitoring and control systems for oil tankers adopted by the Organization by resolution A.586(14); see IMO sales publications IMO-608E and IMO-646E, respectively. For oil content meters as part of discharge monitoring and control systems installed on oil tankers built on or after 1 January 2005, refer to the revised Guidelines and specifications for oil discharge monitoring and control systems for oil tankers adopted by the Organization by resolution MEPC.108(49).

- 7.2 The overboard discharge outlets, other than the discharge manifold, for clean ballast are located:<sup>†</sup>
    - 7.2.1 Above the waterline
    - 7.2.2 Below the waterline
  - 7.3 The overboard discharge outlets, other than the discharge manifold, for dirty ballast water or oil-contaminated water from produced oil tank areas are located:
    - 7.3.1 Above the waterline
    - 7.3.2 Below the waterline in conjunction with the part flow arrangements consistent with regulation 30.6.5
    - 7.3.3 Below the waterline
  - 7.4 Discharge of oil from produced oil pumps and oil lines (regulations 30.4 and 30.5):
    - 7.4.1 Means to drain all produced oil pumps and oil lines at the completion of produced oil discharge:
      - .1 drainings capable of being discharged to a produced oil tank or slop tank
      - .2 for discharge a special small-diameter line is provided
- “8. Shipboard oil pollution emergency plan**  
(regulation 37)
- 8.1 The ship is provided with a shipboard oil pollution emergency plan in compliance with regulation 37.1
  - 8.2 The ship is provided with an oil pollution emergency plan approved in accordance with procedures established by ..... as the coastal State in compliance with the unified interpretation of regulation 37.1
  - 8.3 The ship is provided with a contingency plan in accordance with requirements of OPRC Art. 3(2) accepted in accordance with regulation 37
- “9. Surveys**
- 9.1 Records of surveys in accordance with resolution A.744(18), as amended maintained on board
  - 9.2 In-water surveys in lieu of dry-docking authorized as per documentation .....

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<sup>†</sup> Only those outlets which can be monitored are to be indicated.

**“10. Equivalents**

- 10.1 Equivalents have been approved by the Administration for certain requirements of the guidelines on those items listed under paragraph(s) ..... of this Record □

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

Issued at .....  
*(Place of issue of the Record)*

.....  
*(Date of issue)*

.....  
*(Signature of duly authorised officer  
issuing the Record)*

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

## Marine Protection Rules

# MARINE PROTECTION AMENDMENT RULES 2009

## Consultation Details

*(This text does not form part of the rules contained in the Marine Protection Amendment Rules 2009 – Parts 120, 121A, 121B, 123, 170 and 200. It provides details of the consultation undertaken before making the rules.)*

### Summary of Consultation

An invitation to comment on the rules was issued on 06 March 2008 with a closing date for submissions of 28 April 2008.

Four organisations commented on the draft rules: the Petroleum Exploration & Production Association of New Zealand, the Royal New Zealand Navy, Resource and Environmental Management Ltd, and MarineTech Consultants Pty Ltd.

**The Petroleum Exploration & Production Association of New Zealand** noted its support for the amendments.

**The Royal New Zealand Navy** noted New Zealand Defence Force support for the proposed MARPOL- related amendments.

**Environmental Management Ltd** noted its support for the amendments, pointing out where the placing of definitions of abbreviations used in schedule 4 could be improved.

*Maritime NZ comment: The changes suggested have been incorporated in the schedule.*

**MarineTech Consultants Pty Ltd** raised a number of issues concerning the requirements in Part 200 for the discharge of machinery spaces oily wastes.

*Maritime NZ comment: The issues raised are beyond the scope of this amendment to Part 200 but will be considered in a more comprehensive review of Part 200 which is scheduled for 2008/09.*