

# MARPOL 73/78 Annex I

# New Regulation 12 A – Oil fuel tank protection

**Technical implications** 

Issued 20 February 2006



This report contains DNV's overall interpretation of the consequences of the many new statutory requirements impacting the shipping industry today. Our goal is to help our customers stay up to date, while at the same time clearly state what DNV understands to be the motivation behind the changes, and point out the most important changes.

Please note that the interpretations of the rules and regulations made by DNV and presented in this report are generic, meaning that special exceptions or novel designs are not included. To obtain information regarding such special cases, please contact DNV's experts listed in the contact section of this report.

Please also note that different IMO member states (flag states) or regulatory bodies may interpret statutory regulations in slightly different ways. DNV cannot guarantee that other bodies will interpret the relevant rules and regulations in the same way as described in this report. DNV therefore disclaim any liability for loss or damages arising as a consequence of a differing interpretation of the rules and regulations made by any other body.

# Introduction

IMO's Marine Environment Protection Committee, MEPC, have completed the work on a new regulation that will require double hull protection of fuel oil tanks on any kind of ship. This regulation will apply to all ships with an aggregate oil fuel capacity of 600 m<sup>3</sup> and above:

.1 For which the building contract is placed on or after [1 August 2007]; or

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

.3 The delivery of which is on or after [1 August 2010]; or

Which have undergone a major conversion:

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

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

.3 which is completed after [1 August 2010].

### Motivation

The motivation behind the new regulation is to obtain a similar degree of double hull protection to fuel oil tanks on ships as to that of cargo tanks in oil tankers.

# **Regulation 12A**

The regulation will apply to all oil fuel tanks except small oil fuel tanks,  $30 \text{ m}^3$  and smaller, provided that the aggregate capacity of such excluded tanks is not greater than  $600 \text{ m}^3$ . Individual oil fuel tanks shall not have a capacity of over 2,500 m<sup>3</sup>.

#### **Double bottom protection**

For ships having an aggregate oil fuel capacity of 600 m<sup>3</sup> and above, oil fuel tanks shall be located above the moulded line of the bottom shell plating nowhere less than the distance h as specified below:

h = B/20 m or,

h = 2.0 m, whichever is the lesser.

The minimum value of h = 0.76 m

#### **Double Side Protection**

For ships having an aggregate oil fuel capacity of  $600 \text{ m}^3$  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 is measured at any cross-section at right angles to the side shell, as specified below:

w = 0.4 + 2.4 C/20,000 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.

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

w = 0.5 + C/20,000 m, or

w = 2.0 m, whichever is the lesser.

The minimum value of w = 1.0 m.

#### **Alternative Method**

Alternatively to the above ships may be designed to comply with an **accidental oil fuel outflow performance standard** given in the regulation. The design must then be assessed with respect to the level of protection against oil fuel pollution in the event of collision or grounding on the basis of a **mean oil outflow parameter**.

Depending on the fuel tanks of the ship the alternative method may result in partly double hull or no double hull protection of oil fuel tanks.

#### **Fuel Oil Lines**

Lines of oil fuel piping located at a distance from the ship's bottom of less than h or from the ship's side less than w 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.

#### **Suction Wells**

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.

## **Consequences for Yards and Owners**

Yards and designers should already now start to consider the coming regulation and look at how this will affect their ship designs.

Owners should consider early implementation and the possibility to include the regulation as a requirement for ships to be built prior to the entry into force of the regulation.



# **Oil Spill Assessment and further information**

DNV has developed tools for assessing accidental oil fuel outflow performance for ship designs and may assist Yards and Designers evaluating and developing their ship designs.

Contact your Customer Service Manager regarding the analysis, or

Contact DNV MTPNO361 Hydrodynamics, Structures and Stability directly:

Contact Person:	
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General questions may be forwarded to DNV MTPNO880 Cargo handling, Piping systems, MARPOL and Gas Carriers:

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