

## **D-Day for ships in service**

**On July 1, 2002 a number of amendments to the Safety of Life at Sea (SOLAS) Convention entered into force which impact tankers. The majority of the new requirements are focused on existing ships. The changes are summarised in the paragraphs below.**

### **Upgrading of pumproom safety on existing tankers**

At their first scheduled drydocking after July 1, 2002, and not later than July 1, 2005, all existing tankers must upgrade the safety of their pumprooms by fitting gas, temperature and bilge level monitoring and alarm devices.

As regards gas monitors and alarms, hydrocarbon gas sampling points or detector heads must be located in suitable positions and audible and visual alarms set for not more than 10 per cent of the lower explosive limit (LEL) are required to be fitted in the pumproom and cargo control room.

Shaft glands, bearings and pump casings require temperature monitoring and alarm devices. More specifically, cargo pumps, ballast pumps and stripping pumps driven by shafts through bulkheads are to be monitored, while continuous audible and visual alarms must be fitted in the cargo control room or pump control station.

Finally, all pumprooms have to be provided with bilge level monitoring devices and associated alarms fitted in appropriate locations.

### **Miscellaneous fire protection**

The new pumproom requirements for existing tankers are being introduced as part of the entry into force of the fully revised SOLAS Chapter II-2, dealing with fire protection, detection and extinction measures, in tandem with its new Fire Safety Systems (FSS) Code. Whereas Chapter II-2 lays down the statutory and functional requirements, the FSS Code provides international standards of engineering specifications for fire safety systems required by SOLAS. Thus, for example, fixed pressure water spraying systems must now comply with the provisions of the FSS Code.

In addition to the pumproom requirements listed above, Chapter II-2 amendments also call for ships to be provided with emergency escape breathing devices (EEBDs) by the first survey after July 1, 2002. Furthermore, compliance with a number of operational requirements will be necessary, including maintenance of fire safety measures onboard; the provision of proper instructions for training and drills for emergency procedures; and the provision of information and instructions for proper ship and cargo-handling in relation to fire safety.

### **Emergency towing arrangements**

The regulation on emergency towing arrangements for tankers has been expanded to include more detailed technical requirements, in particular the ability to rapidly deploy towing arrangements, and provisions for adequate strength during bad weather conditions.

### **Pumproom emergency lighting**

The new emergency towing arrangements are one of two changes for tankers stemming from amendments to SOLAS Chapter II-1. The second is the modification of the regulation on emergency sources of electric power in cargo ships to cater for emergency lighting in the pumprooms of new tankers.

### **Bottom surveys for older tankers**

On July 1, 2002 enhanced SOLAS requirements for bottom surveys of tankers and bulk carriers aged over 15 years entered into force. Under the previous requirements,

as laid down in IMO Resolution A.744(18), the survey carried out in conjunction with the renewal survey had to be carried out in drydock, while the intermediate bottom survey required in the five-year period of the classification certificate could be done afloat after a special consideration. The new requirement is that both these surveys have to be done in drydock for Enhanced Survey Programme (ESP) ships of 15 years and older.

### **Re-evaluating longitudinal strength**

From July 1, 2002 oil tankers over 10 years old and 130 metres in length will need to have their longitudinal strength re-evaluated. This must be done using the measured thickness of structural members, renewed and reinforced, as appropriate, at SAFCON renewal surveys.

### **Chemical tanker cargo hoses, etc**

Under amendments to the International Bulk Chemical (IBC) Code, new cargo hoses placed onboard chemical tankers and gas carriers after July 1, 2002 will have to be prototype-tested. Also, each length of hose must be pressure-tested before it can be put into service. Furthermore, officers will have to have undertaken emergency procedures training, with reference to the IMO Medical First Aid Guide, to prepare them for the consequences of cargo spillages, leakages or fire. Other new IBC requirements cover carriage conditions for carbon disulphide and the prevention of over- or under-pressure in controlled venting systems.

### **Gas tanker cargo hoses, etc**

Amendments in the International Gas Carrier (IGC) Code similar to those in the IBC Code for cargo hoses and officer emergency procedures training were also introduced on July 1, 2002. There are also some new requirements specific to gas tankers, i.e. provisions on environmental control and fire protection; resetting of alarms in cargo vent systems; and the connection of ballast spaces, fuel oil tanks and gas-safe spaces to pumps in the machinery spaces.

### **Charts go electronic**

SOLAS Chapter V, dealing with navigational matters, has been completely revised. Among the changes, electronic charts are accepted as equivalent to paper charts from July 1, 2002 onwards. If electronic charts are used, a back-up system must be carried. Also, from this date the use of a common language is required both on the bridge and for the maintenance of navigational records.

Further new Chapter V requirements call for receivers for either a global navigation satellite system or a terrestrial radio navigation system to be provided by the first special survey after July 1, 2002. Once this equipment has been fitted, radio direction finders will no longer be required.

### **Black boxes on new ships**

All new ships of 3,000 gross tons and above constructed on or after July 1, 2002, have to be fitted with a voyage data recorder (VDR). The VDR, or marine "black box", is designed to perform a similar function to an aircraft's black box, i.e. it automatically records vital information from the ship's sensors, bridge audio and VHF communications and saves the information in a protective data capsule for analysis by safety investigators following an incident at sea.

IMO is carrying out a study to determine the need for VDRs on existing cargo ships. The aim is to finalise the work by January 1, 2004 so that, if the study demonstrates a compelling need for mandatory carriage of VDRs on existing cargo ships, relevant amendments to SOLAS Chapter V can be drafted. In the meantime, governments are invited to encourage shipowners to install VDRs on existing cargo ships voluntarily, so that wide experience of their use may be gained.

### **Transponders on new and existing tankers**

In a similar requirement to that for black boxes, new ships constructed after July 1, 2002 will have to be fitted with an automatic identification system (AIS), or transponder. The rule applies to all ships of 300 gt and upwards engaged on international voyages; all cargo ships of 500 gt and upwards not engaged on international voyages; and all passenger ships irrespective of size. AIS is required to provide automatically to shore stations, other ships and aircraft information about the ship, including its identity, type, position, course, speed and navigational status. AIS must also be able to receive such information from other ships.

Unlike the situation for black boxes, however, some requirements governing the fitting of transponders to existing ships have already been agreed. As regards tankers, all such vessels of 300 gt and above constructed before July 1, 2002 must be equipped with AIS not later than the first safety equipment survey after July 1, 2003.

### **Expanding the ISM Code**

On July 1, 2002 the International Safety Management (ISM) Code became mandatory for those ships not previously included in the first phase of implementation. Second phase ships include general cargo ships, container ships and ro-ro freight vessels.

July 1 also marks the entry into force of several general amendments to the Code which expand the provisions covering certification and periodical verification. These include a new Chapter 14 to the Code to enable initial implementation of ISM when a company is newly established or when new ships are added to an existing Document of Compliance.

### **September 1 and the single-hull phase-out**

September 1, 2002 is also a key date for existing tankers. This is the date on which the timetable agreed at IMO for phasing out single-hull oil tankers begins. According to the amended Regulation 13G of Annex I to the Marine Pollution Convention, existing ships are split into three categories. The categories, which are defined by deadweight, nature of the cargo and compliance with protectively located ballast tank requirements, determine the application of the new timetable.

September 1 is also the date from which the Condition Assessment Scheme (CAS) is applicable to all Category 1 tankers continuing to trade after 2005 and Category 2 tankers after 2010. Introduced under Regulation 13G, CAS is a precautionary measure for older ships. The first CAS survey must be carried out as the scheduled intermediate or renewal survey due prior to the anniversary of the date of delivery of the ship in 2005 for Category 1 and 2010 for Category 2 tankers. This means that some ships may be required to undergo CAS surveys even before September 1 this year.