STATUTORY INSTRUMENTS

1998 No. 1012

The Merchant Shipping (Fire Protection: Large Ships) Regulations 1998

GENERAL

Requirements for ships provided with helicopter decks with or without fuelling facilities

37.—(1) On any helicopter deck there shall be provided and stored adjacent to the means of access to that deck—

(a) dry powder extinguishers of total capacity not less than 45 kilogrammes; and

(b) a suitable foam–applicator system consisting of monitors or foam–making branch pipes capable of delivering foam solution at a rate of not less than 6 litres per minute per square metre of the area contained within a circle of diameter D metres for not less than five minutes. For the purpose of this regulation, D is the distance across the main rotor and tail rotor in the fore and aft line of a helicopter with a single main rotor and across both rotors for a tandem rotor helicopter; and

(c) carbon dioxide extinguishers of total capacity of not less than 16 kilogrammes, which shall be so equipped as to enable the medium to be applied to the engine area of any helicopter using the deck.

(2) The arrangement of water service pipes, hydrants, hoses and nozzles shall be such that at least two jets of water can reach any part of the helicopter deck and, where helicopter refuelling facilities are provided, any part of the fuel storage tanks and associated pumps and piping.

(3) All such nozzles provided in accordance with paragraph (2) shall be of dual-purpose type.

(4) In every ship provided with helicopter refuelling facilities, at least two portable extinguishers suitable for fighting oil fires shall be provided adjacent to the fuel storage tanks and associated pumps and piping in addition to any portable extinguishers required by these Regulations.

Helicopter deck operations manual

Additional requirements for ships constructed after 1st February 1992

(5) If a ship mentioned in regulation 49(1) or (3)—

(a) is a ship constructed on or after 1st February 1992; and

(b) has a helicopter deck;

the ship shall carry an operations manual, which shall include a description and a checklist of safety precautions, procedures, and equipment requirements for this helicopter deck.

Fire pumps

38.—(1) In every passenger ship which is required to be provided with fire pumps operated by power, such fire pumps (other than any emergency fire pump) shall together be capable of delivering

for fire fighting purposes a quantity of water, under the conditions and at the pressure specified in regulation 39 of not less than two thirds of the quantity required to be dealt with by the bilge pumps provided in the ship in compliance with the Merchant Shipping (Passenger Ship Construction and Survey) Regulations 1984.

(2) In every ship, other than a passenger ship, which is required to be provided with fire pumps operated by power, such fire pumps (other than any emergency fire pump) shall together be capable of delivering for fire fighting purposes a quantity of water, under the conditions and at the pressure specified in Schedule 7 in Merchant Shipping Notice MSN 1665.

(3) In every ship which is required to be provided with more than one fire pump operated by power (other than any emergency pump) every such fire pump shall have a capacity of not less than 80 per cent of the total capacity of the fire pumps required by paragraph (1) divided by the number of fire pumps required to be provided in the ship, provided that each pump has a capacity of not less than 25 cubic metres per hour. When more fire pumps operated by power than are required by these Regulations are provided in any ship, the capacity of any such additional fire pumps may be less than 80 per cent.

(4) In every ship of Class I, II, or II(A) any emergency fire pump shall be situated in a position aft of the ship's collision bulkhead.

Additional requirement for ships constructed on or after 1st September 1984

(5) For every ship of 2,000 tons or over, other than a passenger ship, the arrangement of the emergency fire pump shall be in accordance with the requirements set out in Schedule 7 in Merchant Shipping Notice MSN 1665.

Fire main, water service pipes and hydrants

39.—(1) In every ship which is required to be provided with fire pumps operated by power, the diameter of the fire main and of the water service pipes connecting the hydrants thereto shall be sufficient for the effective distribution of the maximum discharge required by these Regulations from—

(a) where only one pump is required, that pump, or

(b) where two such pumps are so required, both pumps operating simultaneously, or

(c) where more than two such pumps are so required, the two largest of such pumps operating simultaneously;

provided that in any ship other than a passenger ship the diameter of the fire main and of the water service pipes shall be sufficient only for the discharge of 140 cubic metres of water per hour.

(2) Any fire pump required to be provided by these Regulations shall, when discharging the quantity of water required by paragraph (1) through adjacent fire hydrants in any part of the ship from nozzles of sizes specified in regulation 40, be capable of maintaining the pressures at any hydrant specified in Schedule 7 in Merchant Shipping Notice MSN 1665.

(a) (3) (a) Where any ship is required to be provided with appliances capable of producing two jets of water under the conditions required by these Regulations, hydrants sufficient in number shall be so positioned as to enable at least two jets of water, not emanating from the same hydrant, one of which shall be from a single length of hose, to reach any part of the ship normally accessible to the passengers or crew while the ship is being navigated, and to any store room and any part of any cargo space when empty except that in any special category space or ro-ro cargo space two jets shall reach any part of the space, each from a single length of hose. Such hydrants shall be positioned near the accesses to the protected spaces.

(b) Where any ship is required to be provided with appliances capable of producing one jet of water under the conditions required by these Regulations, hydrants sufficient in number shall be so positioned as to enable one jet of water from a single length of hose to reach any part of the ship normally accessible to the passengers or crew while the ship is being navigated and any store room and any part of any cargo space when empty.

(4) Any fire main required to be provided by these Regulations shall comply with the requirements set out in Schedule 7, paragraph 10, in Merchant Shipping Notice MSN 1665.

Fire hoses, nozzles, etc.

40.—(1) Fire hoses provided in compliance with these Regulations shall not exceed 18 metres in length except that in ships having a moulded breadth of 27 metres or more, the length of fire hoses for exterior locations and for cargo spaces may exceed 18 metres but shall not exceed 27 metres in length. In a ship constructed before 1st February 1992 every such hose forming part of the ship's equipment before that date shall be made of closely woven flax, canvas or other suitable material; and every other such hose shall be made of non-perishable material. In a ship constructed on or after 1st February 1992 every such hose shall be made of non-perishable material.

(2) Every such hose shall be provided with couplings, branch pipes other necessary fittings and nozzles, as required by these Regulations.

(3) Every fire hose provided in compliance with these Regulations together with the tools and fittings necessary for its use, shall be kept in a conspicuous position near the hydrants or connections with which it is intended to be used. In interior locations in passenger ships, fire hoses shall be connected to the hydrants at all times. Hose diameters shall be not less than 64 millimetres if unlined or 45 millimetres if lined except that smaller diameter hoses may be permitted in small ships.

(4) In ships of Class XII, fire hoses provided in compliance with these Regulations shall not be used for any purpose other than for fire fighting or testing the fire appliances.

(a) (5) (a) Every ship which is required to be provided with fire pumps operated by power shall be provided with nozzles of 12 millimetres, 16 millimetres, 19 millimetres in diameter or as near thereto in diameter as possible. Nozzles larger in diameter may be provided if the requirements relating to the provision of water for fire fighting purposes are otherwise complied with.

(b) For machinery spaces and exterior locations the diameter of the nozzles shall be such as to obtain the maximum possible discharge from the minimum number of jets of water and at the pressure required by these Regulations from the smallest fire pump permitted by regulation 38(3), provided that the diameter of the nozzles shall not be required to be greater than 19 millimetres.

(c) For accommodation and service spaces the diameter of the nozzles shall not be required to be greater than 12 millimetres.

(d) Every nozzle provided in compliance with these Regulations shall be capable of producing a water-spray and a plain water jet and shall incorporate a shut-off facility.

Special requirements for fixed fire-extinguishing systems

Requirements for ships constructed on or after 1st September 1984

41.—(1) Where halogenated hydrocarbon is used as an extinguishing medium in fixed fire-extinguishing systems its use shall be permitted only in machinery spaces, pump rooms and in cargo spaces intended solely for the carriage of vehicles which are not carrying any cargo.

(2) Where a fixed pressure water-spraying system is used for the protection of special category spaces, cargo spaces where permitted by these Regulations or ro-ro cargo spaces, special consideration shall be given to the bilge pumping and drainage arrangements where such spaces are below the bulkhead deck and to the scupper arrangements where such spaces are above the bulkhead deck.

Fixed low-expansion foam fire-extinguishing systems in machinery spaces

42.—(1) Where in any machinery space a fixed low-expansion foam fire-extinguishing system is fitted in addition to the requirements of these Regulations, such a system shall be capable of discharging through fixed discharge outlets in not more than 5 minutes a quantity of foam sufficient to cover to a depth of 150 mm the largest single area over which oil fuel is liable to spread. The system shall be capable of generating foam suitable for extinguishing oil fires. Means shall be provided for the effective distribution of the foam through a permanent system of piping and control valves or cocks to suitable discharge outlets, and for the foam to be effectively directed by fixed sprayers on other main fire hazards in the protected space. The expansion ratio of the foam shall not exceed 12 to 1.

(2) The means of control of any such system shall be readily accessible and simple to operate and shall be grouped together in as few locations as possible at positions not likely to be cut off by a fire in the protected space.

Fixed fire-extinguishing systems not required by these Regulations

Requirements for ships constructed on or after 25th May 1980

43. In every ship where a fixed extinguishing system not required by these Regulations is provided, such a system shall be to the satisfaction of the Secretary of State.

Fire extinguishers

44.—(1) Non-portable foam, carbon dioxide and dry powder fire extinguishers provided in compliance with these Regulations shall be of approved types and designs and shall meet the requirements of Schedules 2, 3 and 4 in Merchant Shipping Notice MSN 1665 respectively.

(2) Portable fire extinguishers provided in compliance with these Regulations shall be of approved types and designs and shall meet the requirements of Schedule 8 in Merchant Shipping Notice MSN 1665.

(3) Fire extinguishers provided for use in any ship shall not contain any extinguishing medium which has not been approved by the Secretary of State.

(4) Every fire extinguisher provided in compliance with these Regulations shall be kept fully charged at all times.

(5) Spare charges shall be provided to the extent of at least 50 per cent of each type of fire extinguisher provided in compliance with these Regulations, except that for each fire extinguisher which cannot readily be recharged while the ship is at sea, an additional portable fire extinguisher of the same type, or its equivalent, shall be provided in lieu of a spare charge.

Fire buckets

45.—(1) Every fire bucket provided in compliance with these Regulations shall be painted red and shall be clearly and permanently marked with the word “FIRE”. Except in open ships, every such fire bucket shall be kept filled with sand or water.

(2) Except in open ships, fire buckets provided in compliance with these Regulations shall not be used for any purpose other than extinguishing a fire.

Firemen's outfits

46.—(1) Every fireman's outfit carried in compliance with these Regulations shall consist of—

(a) a breathing apparatus complying with the requirements specified in Schedule 5 in Merchant Shipping Notice MSN 1665; and

(b) personal equipment comprising—

(i) a portable self-contained electric battery-operated safety lamp of an approved type capable of functioning efficiently for a period of at least three hours;

(ii) a fireman's axe;

(iii) protective clothing of material capable of protecting the skin from the heat radiating from the fire and from burns and scalding by steam; the outer surface shall be water resistant;

(iv) boots and gloves of rubber or other electrically non-conducting material; and

(v) a rigid helmet providing effective protection against impact.

(2) Firemen's outfits shall be stored in readily accessible positions which are not likely to be cut off in the event of fire and, except as provided for by regulation 12(2) where more than one such outfit is provided, they shall be stored in widely separated positions.

Means for stopping machinery, shutting off oil fuel suction pipes and closing of openings

47.—(1) In every ship there shall be provided—

(a) means for stopping ventilating fans serving machinery, accommodation and cargo spaces;

(b) means for closing all skylights, doorways, ventilators, annular spaces around funnels and other openings to such spaces; and

(c) means to permit the release of smoke from machinery spaces.

Such means shall be capable of being operated from positions outside the said spaces and which would not be made inaccessible by a fire within such spaces.

(2) Machinery driving forced and induced draught fans, oil fuel transfer pumps, oil fuel unit pumps and other similar fuel pumps shall be fitted with remote controls situated outside the spaces in which such machinery or pumps are situated and which would not be made inaccessible by a fire within such spaces. The controls shall be capable of stopping such machinery, or pumps in the event of fire in such spaces. For machinery spaces in passenger ships constructed on or after 25th May 1980 carrying more than 36 passengers such controls together with the controls required in paragraph (1) shall be situated at one control position or grouped in as few positions as possible. For ships built on or after 1st September 1984, such controls shall have safe access from the open deck.

(3) Subject to paragraph (4) every pipe connected to any oil fuel or lubricating oil storage, settling, or daily service tank, not being a double bottom tank, which if damaged would permit discharge of the contents so as to cause a fire hazard, shall be fitted with a valve or cock which shall be secured to the tank to which it is connected and which shall be capable of being closed from a readily accessible position outside the space in which the tank is situated, provided that in the case of any inlet pipe to such a tank, a non-return valve secured to the tank may be substituted. In the case of an oil fuel or lubricating oil deep tank situated in or adjacent to a shaft or pipe tunnel or similar space, a valve or valves (additional to the valve required to be fitted on the tank) may be fitted on the pipe line or lines outside the tunnel or tunnels or similar space to enable control to be exercised in the event of fire. Such a valve if fitted in the machinery space shall be operated from a position outside the space.

(4) The valve or cock required by paragraph (3) may be dispensed with in the case of a pipe connected to a lubricating oil tank fitted in a space other than a machinery space of Category A provided that the safety of the ship is not impaired.

Gaseous fuel for domestic purposes

Requirements for ships constructed on or after 1st September 1984

48. Where gaseous fuel is used for domestic purposes the arrangements for storage, distribution and utilisation of the fuel shall be in accordance with regulation 56 of the Merchant Shipping (Cargo Ship Construction) Regulations 1997 or regulation 80 of the Merchant Shipping (Passenger Ship Construction and Survey) Regulations 1984.

Fire control plans

49.—(1) In every ship of Classes I and II and in every ship of Class II(A) of 21.34 metres in length or over there shall be permanently exhibited by the owner of the ship for the guidance of the master and officers of the ship, general arrangement plans showing clearly for each deck the position of the control stations, the sections of the ship which are enclosed by "A" Class divisions and the sections of the ship which are enclosed by "B" Class divisions together with particulars of the fire alarms, fire detection systems, the sprinkler installations, the fixed and portable fire-extinguishing appliances and firemen's outfits, the means of access to the various compartments and decks in the ship, the ventilating system including particulars of the master fan controls, the position of dampers and identification numbers of the ventilating fans serving each section of the ship, the location of the international shore connection and the position of all means of control referred to in regulation 47. Descriptions in such plans shall be in English.

(2) In every ship of Classes I and II and in every ship of Class II(A) of 21.34 metres in length or over, carrying more than 36 passengers, the general arrangement plans referred to in paragraph (1) shall provide information regarding fire protection, fire detection and fire extinction set out in IMO Resolution A.756(18).

(3) In every ship of 500 tons or over, other than a ship of Class I or II or a ship of Class II(A) of 21.34 metres in length or over, there shall be permanently exhibited by the owner of the ship for the guidance of the master and officers of the ship general arrangement plans showing clearly in relation to the ship the information referred to in paragraph (1).

(4) The general arrangement plans required by this regulation shall be kept up-to-date, any alterations to general arrangements being recorded thereon without delay.

(5) A duplicate set of the general arrangement plans required by this regulation shall be permanently stored in a prominently marked weather-tight enclosure outside the deckhouse for the assistance of shore-side fire-fighting personnel.

(6) Instructions concerning the maintenance and operation of all the equipment and installations on board for the fighting and containment of fire shall be kept in one book, readily available in an accessible position.

Availability of fire-fighting appliances

50. Fire appliances carried in any ship shall be maintained in good order and shall be kept available for immediate use at all times. All moveable fire appliances, other than firemen's outfits, carried in compliance with these Regulations shall be stowed where they will be readily accessible for the spaces in which they are intended to be used and, in particular, one of the portable fire extinguishers intended for use in any space shall be stowed near the entrance to that space.