STATUTORY INSTRUMENTS

1980 No. 537

MERCHANT SHIPPING

SAFETY

The Merchant Shipping (Cargo Ship Construction and Survey) Regulations 1980

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The Secretary of State, after consulting with the persons referred to in section 22(2) of the Merchant Shipping Act 1979**(a)**, in exercise of the powers conferred on him by subsection (1) paragraphs (*a*), (*d*), (*f*), (*g*), (*j*) and (*q*) of subsection (3), (5) and (6)(*a*) and (*b*) of section 21 and by section 22(1)(*a*) and (*c*) of that Act and of all other powers enabling him in that behalf, hereby makes the following Regulations:—

PART I—GENERAL

Citation, commencement, interpretation, application and revocation

1.—(1) These Regulations may be cited as the Merchant Shipping (Cargo

(a) 1979 c. 39.

Ship Construction and Survey) Regulations 1980 and shall come into operation on 25th May 1980.

(2) In these Regulations:—

" 'A' Class division" means a bulkhead or part of a deck which is—

(*a*) constructed of steel or other equivalent material;

(*b*) suitably stiffened;

(*c*) so constructed as to be capable of preventing the passage of smoke and flame to the end of the 60 minute standard fire test; and

(*d*) so insulated where necessary with suitable non-combustible materials that if the division is exposed to a standard fire test the average temperature on the unexposed side of the division shall not increase more than 139°C above the initial temperature, nor shall the temperature at any one point, including any joint, rise more than 180°C above the initial temperature within the time listed below:

A60 standard 60 minutes
A15 standard 15 minutes
A0 standard 0 minutes;

"Accommodation spaces" means passenger spaces, corridors, lavatories, cabins, offices, crew spaces, barbers shops, pantries not containing cooking appliances and lockers, and similar spaces;

" 'B' Class division of B0 standard" means a bulkhead, ceiling or lining which is—

(*a*) so constructed as to be capable of preventing the passage of flame to the end of the first 30 minutes of the standard fire test; and

(*b*) constructed of suitable non-combustible materials, and all materials whose use is necessary for or ancillary to its construction and erection shall be non-combustible;

" 'B' Class panel" means a panel complying with the requirements of regulation 12 of these Regulations;

"Bulkhead deck" means the deck up to which the majority of transverse watertight bulkheads are carried;

" 'C' Class division" means a bulkhead, ceiling or lining which is constructed of suitable non-combustible materials not being an 'A' Class division or a 'B' Class division of B0 standard;

"Cargo control station" means a space from which the loading, discharging or transferring of the oil cargo may be controlled;

"Cargo pump room" means a room in which the pumps used for loading, discharging or transferring oil cargoes are located;

"Certifying Authority" means the Secretary of State or any person authorised by the Secretary of State and includes in particular (if so authorised) Lloyd's Register of Shipping, the British Committee of the Bureau Veritas, the British Committee of Det norske Veritas, the British Committee of Germanischer Lloyd, and the British Technical Committee of the American Bureau of Shipping;

"Continuous 'B' Class ceiling or lining" means a 'B' Class ceiling or lining which terminates only at an 'A' Class or 'B' Class division;

"Control stations" means spaces in which radio or main navigating equipment, or the emergency source of power, or the central fire recording or fire control equipment are located;

"Deadweight" means the difference in tonnes between the displacement of a ship at the summer load waterline and the lightweight of the ship;

"Equivalent material" where the words are used in the expression "steel or other equivalent material" means any material which, by itself or due to insulation provided, has structural and integrity properties equivalent to steel at the end of an appropriate fire test;

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

"Machinery control room" means a room from which the propelling machinery and boilers serving the needs of propulsion may be controlled;

"Machinery Space of Category A" means any space which contains:

(i) internal combustion type machinery used either for main propulsion purposes, or for other purposes where such machinery has in the aggregate a total power output of not less than 373 kW, or

(ii) any oil-fired boiler or oil fuel unit; and trunks to such spaces;

"Machinery Space" means any machinery space of Category A and any other space containing propelling machinery, boilers, oil fuel units, steam and internal combustion engines, generators and major electrical machinery, oil filling stations, refrigerating, stabilizing, ventilation and air conditioning machinery, and similar spaces; and trunks to such spaces;

"Maximum service speed" means the greatest speed which the ship is designed to maintain at sea at her deepest seagoing draught;

"Merchant Shipping Notice" means a Notice described as such, issued by the Department of Trade and published by Her Majesty's Stationery Office;

"Navigable speed" means the minimum speed at which the ship can be effectively steered in the ahead direction;

"Non-combustible material" means a material which when heated to a temperature of 750°C neither flames for longer than 10 seconds duration, nor raises either its internal temperature or the temperature of the test furnace more than 50°C above 750°C when tested in accordance with British Standard 476: Part 4: 1970, and the expression "combustible material" shall be construed accordingly;

"Oil fuel unit" means the equipment used for the preparation of oil fuel for delivery to an oil fired boiler or equipment used for the preparation for delivery of heated oil to an internal combustion engine and includes any oil pressure pumps, filters and heaters dealing with oil at a pressure greater than 1·8 bar gauge;

"Pleasure craft" means a vessel primarily used for sport or recreation;

"Reid vapour pressure" means the vapour pressure of a liquid as determined by laboratory testing in a standard manner in the Reid apparatus;

"Safety Convention ship", or "Safety Convention tanker" means a ship, or tanker registered in a country to which the Safety of Life at Sea Convention of 1948 or of 1960 or of 1974 applies;

"Service space" includes galleys, pantries containing cooking appliances, laundries, store rooms, workshops other than those forming part of machinery spaces, and similar spaces, and trunks to such spaces;

"Settling tank" means an oil storage tank having a heating surface of not less than 0·183 square metre per tonne of oil capacity;

"Standard fire test" means a test in which a specimen of the relevant 'A' Class or 'B' Class division having an exposed surface area of not less than 4·65 square metres and a bulkhead height or deck length of 2·44 metres resembling as closely as possible the intended construction and including where appropriate at least one joint, is exposed in a test furnace to a series of time temperature relationships, approximately as follows:—

at the end of the first 5 minutes	538°C
at the end of the first 10 minutes	704°C
at the end of the first 30 minutes	843°C
at the end of the first 60 minutes	927°C;

"Steering gear power unit" means

(*a*) in the case of electric steering gear, the electric motor and its associated electrical equipment; or

(*b*) in the case of electrohydraulic steering gear, the electric motor, its associated electrical equipment and connected pump; or

(*c*) in the case of steam-hydraulic or pneumatic-hydraulic steering gear, the driving engine and connected pump;

"Suitable" in relation to material means approved by the Secretary of State as suitable for the purpose for which it is used;

"Surface spread of flame" means the surface spread of flame classified as Class 1, Class 2 or Class 3 within the meaning of British Standard 476: Part 7: 1971;

"Surveyor" for the purposes of Part IV of these Regulations means a surveyor appointed by a Certifying Authority; and for the purposes of Part V of these Regulations means a marine surveyor of the Department of Trade;

"Tanker" means a cargo ship constructed or adapted for the carriage in bulk of liquid cargoes of a flammable nature;

"Tons" means gross tons and the gross tonnage of a ship having alternative gross tonnages shall be taken to be the larger of those tonnages;

"United Kingdom ship" has the same meaning as in section 21(2) of the Merchant Shipping Act 1979;

"Upper deck" means the uppermost complete deck exposed to the sea and weather fitted as an integral part of the ship's structure, being a deck, openings in the weather portions of which are fitted with permanent means of closing and below which all openings in the sides of the ship are fitted with permanent means of watertight closing.

(3) (*a*) Subject to paragraph (4), Parts I, II, IV and VI of these Regulations apply in relation to ships (except passenger ships, troopships, pleasure craft and fishing vessels and ships not propelled by mechanical means) which are seagoing United Kingdom ships of 500 tons or over;

(*b*) Subject to paragraph (4), Parts I, II and VI of these Regulations apply in relation to ships (except passenger ships, troopships, pleasure craft and fishing vessels and ships not propelled by mechanical means) which are other sea-going Safety Convention ships of 500 tons or over while they are within the United Kingdom or the territorial waters thereof.

(4) (*a*) Regulation 3, except paragraph (1), regulations 5 to 19 inclusive, regulation 20(2), regulation 25(2), regulation 27(2)(*c*) and (*d*), regulation 31, regulation 32 except paragraph (1), regulation 34 and regulation 36(2) shall not apply to any ship the keel of which was laid before 26th May 1965;

(*b*) Regulation 4(2) shall apply only to United Kingdom ships the keels of which are laid or are at a similar stage of construction on or after 25th May 1980.

(5) Subject to paragraph (6), in relation to tankers carrying crude oil and petroleum products having a closed flashpoint not exceeding 60°C, and the Reid vapour pressure of which is below that of atmospheric pressure, and other liquids having a similar fire hazard, which are:

(*a*) sea-going United Kingdom tankers of 500 tons or over, all Parts of these Regulations shall apply where:—

(i) the keels were laid, or were at a similar stage of construction, before 1st July 1975 but were completed on or after 1st January 1979; or

(ii) the keels were laid, or were at a similar stage of construction, on or after 1st July 1975 but before 1st July 1977, except that in the case of such ships, the building contracts of which were signed before 1st July 1975 and were completed before 1st January 1979, the following regulations shall not apply:

(*aa*) regulation 51(1) and (4) (use of non-combustible material in certain bulkheads);

(*bb*) regulation 52(1)(*a*) and (*b*) (use of non-combustible materials for ceilings, linings, framing, grounds and joint pieces but not including continuous ceilings and linings referred to in regulation 51(3) or the framing, grounds and joint pieces of such continuous ceilings and linings); or

(iii) the keels were laid, or were at a similar stage of construction, on or after 1st July 1977; and

(*b*) sea-going United Kingdom tankers of 500 tons or over, all Parts of these Regulations shall apply where they are converted into or adapted to be tankers carrying such products on or after 25th May 1980; and

(*c*) sea-going Safety Convention tankers of 500 tons or over, all Parts of these Regulations shall apply where the keels are laid or are at a similar stage of construction on or after 25th May 1980, while they are within the United Kingdom or the territorial waters thereof; and

(*d*) sea-going Safety Convention tankers of 500 tons or over, all Parts of these Regulations shall apply where they are converted into or adapted to be tankers carrying such products, on or after 25th May 1980, while they are within the United Kingdom or the territorial waters thereof.

(6) Regulations 11 to 19 inclusive (fire protection) shall not apply to:—

(*a*) United Kingdom tankers carrying crude oil and petroleum products having a closed flashpoint not exceeding 60°C, and the Reid vapour pressure of which is below that of atmospheric pressure and other liquids having a similar fire hazard, the keels of which were laid or which were at a similar stage of construction, on or after 1st July 1975, or were laid or were at a similar stage of construction before that date but were completed after 31st December 1978, or where they are are converted into or adapted to be tankers carrying such products, on or after 25th May 1980;

(*b*) other such sea-going Safety Convention tankers of 500 tons or over, the keels of which are laid or are at a similar stage of construction on or after 25th May 1980, or where they are converted into or adapted to be tankers carrying such products, on or after 25th May 1980.

(7) The Merchant Shipping (Cargo Ship Construction and Survey) Rules 1965(a) and the Merchant Shipping (Cargo Ship Construction and Survey) (Tankers and Combination Carriers) Rules 1975(b) are hereby revoked to the extent that they apply to United Kingdom ships, and to other Safety Convention ships while they are within the United Kingdom or the territorial waters thereof.

PART II—CONSTRUCTION

Section I

Structural strength

2. The structural strength of every ship to which these Regulations apply and the number and disposition of transverse watertight bulkheads shall be adequate for the service for which the ship is intended.

Watertight doors

3.—(1) In every ship to which these Regulations apply in which a watertight door is provided to maintain the watertight integrity of a bulkhead, every such watertight door shall be made of suitable material and shall be efficiently constructed for its intended duty.

(2) (*a*) Every watertight door of the sliding type shall be capable of being operated by efficient hand operated gear both at the door itself and from an accessible position above the bulkhead deck.

(*b*) The operating gear for operating from above the bulkhead deck any sliding watertight door fitted in the bulkhead of a machinery space shall be situated outside the machinery space unless such a position is inconsistent with the efficient arrangement of the necessary gearing.

(3) Where there is access from the lower part of a machinery space to a watertight shaft tunnel the access opening shall be provided with a sliding watertight door which shall be capable of being operated locally on both sides of the door.

(4) Means shall be provided at remote operating positions to indicate when a sliding door is closed.

(5) Watertight doors shall be capable of being operated when the ship is listed up to 15 degrees either way.

Bilge pumping and drainage arrangements

4.—(1) Every ship to which these Regulations apply shall be provided with efficient bilge pumping plant and means for drainage so arranged that water entering any part of the hull, up to the bulkhead deck, other than a space permanently appropriated for the carriage of fresh water, water ballast, oil fuel or liquid cargo and for which other efficient means of pumping or drainage are provided, can be pumped out through at least one suction pipe when the ship is on an even keel or is listed not more than 5 degrees either way. Wing suctions shall be provided where necessary for this purpose. Efficient means shall be provided whereby water may easily flow to the suction pipes:

Provided that the Secretary of State may allow the means of pumping or drainage to be dispensed with in particular compartments of any ship or class of ships, if he is satisfied that the safety of the ship is not thereby impaired.

(a) S.I. 1965/1104, amended by S.I. 1975/927. (b) S.I. 1975/750.

(2) Provision shall be made for the drainage of enclosed cargo spaces situated on the bulkhead deck of any ship: provided that the Secretary of State may permit the means of drainage to be dispensed with in any particular compartments of any ship or class of ships, if he is satisfied that by reason of size or internal subdivision of those spaces, the safety of the ship is not thereby impaired. Where the freeboard to the bulkhead deck is such that the deck edge is not immersed when the ship heels 5 degrees either way, the required drainage shall be by means of a suitable number and size of deck scuppers discharging directly overboard fitted in accordance with paragraph 12 of Schedule 4 to the Merchant Shipping (Load Line) Rules 1968(**a**). In all other cases, internal drainage shall be led to a suitable space or spaces of adequate capacity, having a high water-level alarm and provided with suitable arrangements for discharge overboard.

Electrical equipment and installation—general

5.—(1) In every ship to which these Regulations apply, the electrical equipment and installations, including any electrical means of propulsion, shall be such that the ship and all persons on board are protected against electrical hazards. The electrical equipment and installations shall comply with the requirements specified in a Merchant Shipping Notice No. M931 and shall include a reference to any document amending those requirements which is considered by the Secretary of State to be relevant from time to time and is specified in a Merchant Shipping Notice.

(2) Every such ship being a ship in which electric power is the only power for maintaining auxiliary services essential for the propulsion or safety of the ship shall be provided with two or more generating sets of such power that the aforesaid services can be operated when any one of the sets is out of service.

(3) Where the electrical load includes services essential for the propulsion or safety of the ship and the normal sea load is such that two or more generators are required to operate in parallel, arrangements shall be made to trip automatically sufficient non-essential load when the total current exceeds the connected generator capacity.

Emergency source of electric power

SHIPS OF 5,000 TONS OR OVER

6.—(1) In every ship to which these Regulations apply being a ship of 5,000 tons or over there shall be provided in a position above the uppermost continuous deck and outside the machinery casings a self-contained emergency source of electric power so arranged as to ensure its functioning in the event of fire or other casualty causing failure of the main electrical installation.

(2) In every such ship the emergency source of electric power required by paragraph (1) of this regulation shall be capable of operating simultaneously for a period of at least 6 hours the following services;

(*a*) the emergency lighting required by regulation 50(3)(*a*) and 50(3)(*b*) of the Merchant Shipping (Life-Saving Appliances) Regulations 1980(**b**);

(*b*) an emergency lighting system which shall be provided in the main machinery space, the space containing the ship's main electric generating plant, on the navigating bridge and in the chartroom;

(*c*) the general alarm, if electrically operated;

(**a**) S.I. 1968/1053; to which there are amendments not relevant to these Regulations.
(**b**) S.I. 1980/538.

(*d*) the ship's navigation lights if solely electric; and

(*e*) the daylight signalling lamp if it is operated by the ship's main source of electric power.

(3) (*a*) In every such ship the emergency source of electric power shall be either accumulator (storage) batteries capable of complying with the requirements of paragraph (2) of this regulation without being recharged or suffering an excessive voltage drop or a generator driven by internal combustion type machinery with an independent fuel supply and with efficient starting arrangements and the fuel provided for such machinery shall have a flash point of not less than 43°C.

(*b*) The emergency source of electric power shall be so arranged that it will operate efficiently when the ship is listed 22½ degrees and when the trim of the ship is 10 degrees from an even keel.

(*c*) Provision shall be made for the periodical testing of the emergency source of electric power and its associated circuits.

SHIPS OF 1,600 TONS OR OVER BUT UNDER 5,000 TONS

7.—(1) In every ship to which these Regulations apply being a ship of 1,600 tons or over but of under 5,000 tons there shall be provided in a position above the uppermost continuous deck or raised quarter-deck and outside the machinery casings a self-contained emergency source of electric power so arranged as to ensure its functioning in the event of fire or other casualty causing failure of the main electrical installation.

(2) In every such ship the emergency source of electric power required by paragraph (1) of this regulation shall be capable of operating simultaneously for a period of at least 3 hours the following services:—

(*a*) the emergency lighting required by regulation 50(3)(*a*) and 50(3)(*b*) of the Merchant Shipping (Life-Saving Appliances) Regulations 1980;

(*b*) the general alarm, if electrically operated;

(*c*) the ship's navigation lights if solely electric.

(3) (*a*) In every such ship the emergency source of electric power shall be either accumulator (storage) batteries capable of complying with the requirements of the preceding paragraph without being recharged or suffering an excessive voltage drop or a generator driven by internal combustion type machinery with an independent fuel supply and with efficient starting arrangements and the fuel provided for such machinery shall have a flash point of not less than 43°C.

(*b*) The emergency source of electric power shall be so arranged that it will operate efficiently when the ship is listed 22½ degrees and when the trim of the ship is 10 degrees from an even keel.

(*c*) Provision shall be made for the periodical testing of the emergency source of electric power and its associated circuits.

SHIPS OF UNDER 1,600 TONS

8.—(1) In every ship to which these Regulations apply being a ship of under 1,600 tons not having its main source of electric power situated above the uppermost continuous deck or raised quarter deck and outside the machinery casings there shall be provided in a position above the uppermost continuous deck or raised quarter deck and outside the machinery casings a self-contained

emergency source of electric power so arranged as to ensure its functioning in the event of fire or other casualty causing failure of the main electrical installation.

(2) In every such ship the emergency source of electric power required by paragraph (1) of this regulation shall be capable of operating simultaneously for a period of at least 3 hours the following services:

(*a*) the emergency lighting required by regulation 50(3)(*a*) of the Merchant Shipping (Life-Saving Appliances) Regulations 1980;

(*b*) the general alarm, if electrically operated;

(*c*) the ship's navigation lights, if solely electric.

(3) (*a*) In every such ship the emergency source of electric power shall be either accumulator (storage) batteries capable of complying with the requirements of the preceding paragraph without being recharged or suffering an excessive voltage drop or a generator driven by internal combustion type machinery with an independent fuel supply and with efficient starting arrangements and the fuel provided for such machinery shall have a flash point of not less than 43°C.

(*b*) The emergency source of electric power shall be so arranged that it will operate efficiently when the ship is listed $22\frac{1}{2}$ degrees and when the trim of the ship is 10 degrees from an even keel.

(*c*) Provision shall be made for the periodical testing of the emergency source of electric power and its associated circuits.

Electric and electro-hydraulic steering gear

9.—(1) Every ship to which these Regulations apply which is fitted with electric or electro-hydraulic steering gear shall be provided with indicators which will show when the power units of such steering gear are running. These indicators shall be situated in the machinery control room or in such other position or positions as the Certifying Authority may approve, and on the navigating bridge.

(2) In every such ship of 5,000 tons or over the following provisions shall apply:—

(*a*) electric and electro-hydraulic steering gear shall be served by two circuits fed from the main switchboard, one of which may pass through the emergency switchboard, if one is provided. Each circuit shall have adequate capacity for supplying all the motors which are normally connected to it and which operate simultaneously, and if transfer arrangements are provided in the steering gear room to permit either circuit to supply any motor or combination of motors, the capacity of each circuit shall be adequate for the most severe load condition. The circuits shall be separated as widely as is practicable throughout their length;

(*b*) short circuit protection only shall be provided for such circuits and motors.

(3) In every such ship of under 5,000 tons in which electric power is the sole source of power for both main and auxiliary steering gear, the arrangements shall comply with the requirements of the preceding paragraph except that if the auxiliary steering gear is powered by a motor primarily intended for other services, suitable overload protection may be fitted. Short circuit protection only shall be provided for motors and power circuits of electrically or electro-hydraulically operated main steering gear fitted in any ship of less than 5,000 tons.

Precautions against shock, fire and other hazards of electrical origin

10.—(1) In every ship to which these Regulations apply all electrical equipment shall be so constructed and installed that there will be no danger of injury to any person handling it in a proper manner. Subject to the provisions of paragraph (2) of this regulation, where electrical equipment supplied as ship's equipment is to be operated at a voltage in excess of 55 volts, the exposed metal parts of such equipment which are not intended to have a voltage above that of earth but which may have such a voltage under fault conditions, shall be earthed.

(2) Exposed metal parts of portable electric lamps, tools and similar apparatus, supplied as ships' equipment to be operated at a voltage in excess of 55 volts shall be earthed through a conductor in the supply cable, unless by the use of double insulation or a suitable isolating transformer, protection at least as effective as earthing through a conductor is provided. When electric lamps, tools or other apparatus are used in damp spaces, provision shall be made, so far as practicable, to ensure that the danger of electric shock is reduced to a minimum.

(3) Every main and emergency switchboard shall be so arranged as to give easy access to the back and the front thereof without danger to any person. Every such switchboard shall be suitably guarded and a non-conducting mat or grating shall be provided at the back and the front where necessary. No exposed parts which may have a voltage between conductors or to earth exceeding 250 volts direct current or 55 volts alternating current shall be installed on the face of any switchboard or control panel.

(4) The hull return system of distribution shall not be used in any ship to which these Regulations apply, but the Secretary of State may exempt any such ship, other than a tanker, from the requirements of this regulation.

(5) In every ship to which these Regulations apply every electric cable shall, at every position at which an electrical fault may cause a fire, be flame-retardant sheathed or armoured or otherwise equally effectively protected. All metal sheaths and metal armour of electrical cable in every such ship shall be electrically continuous and shall be earthed.

(6) In every such ship lighting fittings shall be arranged to prevent rises in temperature which would be injurious to the electrical wiring thereof or which would result in a risk of fire in the surrounding material.

(7) In every such ship wiring shall be supported in such a manner as to avoid chafing and other injury.

(8) Every separate electrical circuit shall be protected against short circuit.

(9) In every such ship each separate electrical circuit, other than a circuit which operates the ship's steering gear or any other circuit in respect of which the Secretary of State grants an exemption, shall be protected against overload. There shall be clearly and permanently indicated on or near each overload protective device the current carrying capacity of the circuit which it protects and the rating or setting of the device.

(10) In every such ship all accumulator (storage) batteries shall be housed in boxes or compartments which are constructed to protect the batteries from damage and are ventilated to minimise the accumulation of explosive gas. Devices liable to arc shall not be installed in any compartment assigned principally to accumulator batteries.

(11) Every electric space-heater forming part of the equipment of such a ship shall be fixed in position and shall be so constructed as to reduce the risk of fire to a minimum. No such heater shall be constructed with an element so exposed that clothing, curtains, or other material can be scorched or set on fire by heat from the element.

Fire protection

11. Regulations 12 to 18 shall (subject to the provisions of regulation 1(4)(*a*) of these Regulations) apply to ships of 4,000 tons or over.

12. Where a bulkhead is required by these Regulations to be constructed of 'B' Class panels, such panels shall be capable of preventing the passage of flame throughout a standard fire test of 30 minutes duration. Every 'B' Class panel shall be such that if either face thereof is exposed to a standard fire test of 30 minutes duration, the average temperature on the unexposed face of the panel will not increase at any time during the first 15 minutes of the test in the case of a non-combustible panel or the duration of the test in the case of a combustible panel by more than 139°C above the initial temperature on that face, nor shall the temperature at any one point thereon increase by more than 225°C above the initial temperature.

13.—(1) The hull, superstructure, structural bulkheads, decks and deck-houses, shall be constructed of steel or of such other suitable materials as the Secretary of State may permit in special cases, having regard to the risk of fire.

(2) The corridor bulkheads serving accommodation spaces and control stations shall be constructed of steel or of non-combustible 'B' Class panels except that combustible 'B' Class panels may be fitted:

(*a*) in any portion of a corridor bulkhead which abuts on spaces containing no significant fire load; and

(*b*) where a corridor is provided with two or more exits through doors leading directly to an open deck on the same level, in the end portions of the corridor bulkheads over a distance not exceeding 6 metres measured from any such exit.

14.—(1) In every ship to which these Regulations apply doorways and similar openings in corridor bulkheads shall be capable of being closed by permanently attached doors or by shutters.

(2) In every such ship the number of ventilation openings in such bulkheads shall be kept to a minimum. Such openings shall, so far as is reasonably practicable, be provided only in or under doors and shall, wherever practicable, be in the lower part of the door.

15. In every ship to which these Regulations apply interior stairways, ladders and crew lift trunks within accommodation spaces shall be constructed of steel or other equivalent material.

16. The boundary bulkheads of any emergency generator room and the bulkheads separating a galley, paint-room, lamp-room, or boatswain's store from an accommodation space shall be constructed of steel or other equivalent material.

17. Deck coverings within accommodation spaces and control stations on

the deck forming the crown of machinery and cargo spaces shall be of a type which will not readily ignite.

18.—(1) Paints, varnishes and other surface materials having a nitrocellulose or other highly flammable base shall not be used in accommodation spaces, machinery spaces and control stations.

(2) Pipes intended to convey oil or other flammable liquids shall be of a material acceptable to the Certifying Authority having regard to the risk of fire.

(3) Overboard scuppers, sanitary discharges or other outlets close to or below the waterline shall not be of a material likely to fail in the event of fire and thereby give rise to a danger of flooding.

(4) Cellulose-nitrate film shall not be used in cinematograph installations.

19. (*a*) In every ship to which these Regulations apply the skylights to spaces containing main propulsion machinery or oil-fired boilers or auxiliary internal combustion type machinery of a total power of 746 kilowatts or over shall be capable of being closed and, where practicable, opened from outside the space in the event of fire and, where they contain glass panels, such panels shall be of fire resisting construction fitted with wire reinforced glass and shall have external, permanently attached shutters of steel or other equivalent material.

(*b*) In such a ship windows shall not be fitted in engine casings except where the Secretary of State is satisfied that they are necessary and will not constitute a fire hazard. Where such windows are fitted they shall be of a non-opening type and shall be of fire resisting construction fitted with wire reinforced glass and shall have external, permanently attached shutters of steel or other equivalent material.

Boilers and machinery—general

20.—(1) In every ship to which these Regulations apply the machinery, boilers and other pressure vessels shall be of a design and construction adequate for the service for which they are intended and shall be so installed and protected as to reduce to a minimum any danger to persons on board.

(2) Without prejudice to the generality of the foregoing, means shall be provided which will prevent overpressure in any part of such machinery, boilers and other pressure vessels, and in particular every boiler and every unfired steam generator shall be provided with not less than two safety valves. Provided that the Secretary of State may, having regard to the output or any other features of any boiler or unfired steam generator, permit only one safety valve to be fitted if he is satisfied that adequate protection against overpressure is provided.

Boilers and other pressure vessels

21.—(1) In every ship to which these Regulations apply every boiler or other pressure vessel and its respective mountings shall, before being put into service for the first time, be subjected to a hydraulic test to a pressure suitably in excess of the working pressure which will ensure that the boiler or other pressure vessel and its mountings are adequate in strength and design for the service for which it is intended and having regard to:—

(*a*) the design and the material of which it is constructed;

(*b*) the purpose for which it is intended to be used; and

(*c*) the working conditions under which it is intended to be used;

and every such boiler or other pressure vessel and its respective mountings shall be maintained in an efficient condition.

(2) In every such ship provision shall be made which will facilitate the cleaning and inspection of every pressure vessel.

Machinery

22.—(1) In every ship to which these Regulations apply main and auxiliary machinery essential for the propulsion and safety of the ship shall be provided with effective means of control and the machinery shall be capable of being brought into operation when initially no power is available in the ship.

(2) In every such ship where risk from over-speeding of machinery exists, means shall be provided to ensure that the safe speed is not exceeded.

(3) In every such ship where main or auxiliary machinery or any parts of such machinery are subject to internal pressure those parts shall, before being put into service for the first time, be subjected to a hydraulic test to a pressure suitably in excess of the working pressure having regard to:—

(*a*) the design and the material of which they are constructed;

(*b*) the purpose for which they are intended to be used; and

(*c*) the working conditions under which they are intended to be used;

and such parts shall be maintained in an efficient condition.

Means for going astern

23. Every ship to which these Regulations apply shall have sufficient power for going astern to secure proper control of the ship in all normal circumstances.

Shafts

24. In every ship to which these Regulations apply every shaft shall be so designed and constructed that it will withstand the maximum working stresses to which it may be subjected, with a factor of safety which is adequate having regard to:—

(*a*) the material of which it is constructed;

(*b*) the service for which it is intended; and

(*c*) the type of engines by which it is driven or of which it forms a part.

Boiler feed systems

25.—(1) In every ship to which these Regulations apply every boiler which provides services essential for the safety of the ship and which could be rendered dangerous by the failure of its feed water supply, shall be provided with not less than two efficient and separate feed water systems so arranged that either of such systems may be opened for inspection or overhaul without affecting the efficiency of the other. Means shall be provided which will prevent overpressure in any part of the systems.

(2) If in any such ship it is possible for oil to enter the feed water system of a boiler, the arrangements for supplying boiler feed water shall provide for the interception of oil in the feed water.

(3) Every feed check valve, fitting, or pipe through which feed water passes from a pump to such boilers in any such ship shall be designed and constructed to withstand the maximum working stresses to which it may be subjected, with

a factor of safety which is adequate having regard to the material of which it is constructed and the working conditions under which it will be used. Every such valve, fitting, or pipe shall, before being put into service for the first time, be subjected to a hydraulic test suitably in excess of the maximum working pressure of the boiler to which it is connected or of the maximum working pressure to which the feed line may be subjected, whichever shall be the greater and shall be maintained in an efficient condition. The feed pipes shall be adequately supported.

Steam pipe systems

26.—(1) In every ship to which these Regulations apply every steam pipe and every fitting connected thereto through which steam may pass shall be so designed and constructed as to withstand the maximum working stresses to which it may be subjected, with a factor of safety which is adequate having regard to—

(*a*) the material of which it is constructed; and

(*b*) the working conditions under which it will be used.

(2) Without prejudice to the generality of the foregoing, every such steam pipe or fitting shall, before being put into service for the first time, be subjected to a test by hydraulic pressure to a pressure suitably in excess of the working pressure to be determined having regard to the requirements of sub-paragraphs (*a*) and (*b*) of the preceding paragraph and every such steam pipe or fitting shall be maintained in an efficient condition.

(3) Steam pipes shall be adequately supported.

(4) Provision shall be made which will avoid excessive stress likely to lead to the failure of any such steam pipe or fitting, whether by reason of variation in temperature, vibration or otherwise.

(5) Efficient means shall be provided for draining every such steam pipe so as to ensure that the interior of the pipe is kept free of water and that water hammer action will not occur under any conditions likely to arise in the course of the intended service of the ship.

(6) If in any ship to which these Regulations apply a steam pipe may receive steam from any source at a higher pressure than it can withstand with an adequate factor of safety, an efficient reducing valve, relief valve and pressure gauge shall be fitted to such pipe.

Air pressure systems

27.—(1) In every ship to which these Regulations apply being a ship in which machinery essential for the propulsion and safety of the ship or of persons on board is required to be started, operated or controlled solely by compressed air, there shall be provided an efficient air system which shall include a sufficient number of air compressors and compressed air storage vessels to ensure that an adequate supply of compressed air is available under all conditions likely to be met in service.

(2) (*a*) In every such ship the parts of every such compressed air system other than a pneumatic control system which are subjected to air pressure shall be designed and constructed to withstand, with an adequate factor of safety, the maximum working stresses to which they may be subjected and every air pressure pipe or fitting in such system shall, before being put into service for the first time, be subjected to a hydraulic test to twice its maximum working pressure and be maintained in an efficient condition.

(*b*) Means shall be provided in any such ship to prevent over-pressure in any part of any such compressed air system and, where water jackets or casings of air compressors and coolers might be subjected to dangerous overpressure due to leakage into them from air pressure parts, suitable pressure relief arrangements shall be provided.

(*c*) Provision shall be made to reduce to a minimum entry of oil into any such air pressure system and to drain the system. Provision shall also be made to protect the system from the effects of internal explosion.

(*d*) In every ship to which these Regulations apply all discharge pipes from starting air compressors shall lead directly to the starting air receivers, and all starting air pipes from the air receivers to main or auxiliary engines shall be entirely separate from the compressor discharge pipe system.

Cooling water system

28. In every ship to which these Regulations apply in which cooling water services are essential for the running of the propelling machinery there shall be at least two means of operating such water services.

Lubricating and other oil systems

29. In every ship to which these Regulations apply in which oil for lubrication, cooling or operation of the main propelling machinery and its ancillary services is circulated under pressure, provision shall be made so that in the event of the failure of a pump an alternative means of circulating such oil is available.

Oil and gaseous fuel installations

30.—(1) In every ship to which these Regulations apply oil fuel provided for use in boilers or machinery shall have a flash point of not less than 60°C (closed test). Provided that the Secretary of State may subject to such conditions as he may impose—

(*a*) permit any ship to use oil fuel having a flash point of not less than 55°C in boilers, or oil fuel having a flash point of not less than 43°C in internal combustion type machinery;

(*b*) permit the use of gaseous fuel in ships designed for the carriage of liquefied gas if such fuel results solely from evaporation of cargo carried.

Nothing in this paragraph of this regulation shall apply to fuel provided for machinery permitted by regulation 6(3)(*a*), regulation 7(3)(*a*) or regulation 8(3)(*a*) of these Regulations.

(2) In every ship to which these Regulations apply being a ship in which oil or gaseous fuel is used, the arrangements for the storage, distribution and utilisation of the fuel shall be such that, having regard to the hazards of fire and explosion which the use of such fuel may entail, the safety of the ship and of persons on board is preserved.

(3) In every ship to which these Regulations apply being a ship in which oil or gaseous fuel is used in engines or boilers for the propulsion or safety of the ship, the arrangements for the storage, distribution and utilisation of the fuel shall be such that the effective use of the engines can be maintained under all conditions likely to be met by the ship in service.

(4) Every oil fuel installation which serves a boiler supplying steam for the propulsion of the ship shall include not less than two oil fuel units.

Communication between bridge and engine room

31. Every ship to which these Regulations apply shall be provided with two means of communicating orders from the navigating bridge to the engine room control platform. One of the means shall be an engine room telegraph.

Steering gear

32.—(1) Every ship to which these Regulations apply shall be provided with efficient main and auxiliary steering gear:

Provided that if duplicate steering gear power units and their connections are fitted to the satisfaction of the Certifying Authority and each power unit complies with the requirements of paragraph (2)(*c*) of this regulation and the duplicate units and connections operating together comply with the requirements of paragraph (2)(*b*) of this regulation, no auxiliary steering gear shall be required.

(2) In every such ship—

(*a*) the main steering gear, including the rudder and associated fittings, shall be of adequate strength and sufficient to steer the ship at maximum service speed. The main steering gear and rudder stock shall be so designed that they are not damaged at maximum astern speed;

(*b*) the main steering gear shall be capable of putting the rudder over from 35 degrees on one side to 35 degrees on the other side with the ship running ahead at maximum service speed. The rudder shall be capable of being put over from 35 degrees on either side to 30 degrees on the other side in 28 seconds at maximum service speed;

(*c*) the auxiliary steering gear shall be capable of being brought rapidly into action and shall be of adequate strength and of sufficient power to enable the ship to be steered at navigable speed and in any such ship in which a rudder stock of over 355·6 millimetres diameter in way of the tiller is required to comply with the requirements of sub-paragraph (*a*) of this paragraph, the auxiliary steering gear shall be operated by power.

(3) In every such ship which is fitted with power operated steering gear the position of the rudder shall be indicated at the principal steering station.

Spare gear

33. Every ship to which these Regulations apply shall be provided with sufficient spare gear having regard to the intended service of the ship.

Compasses

34.—(1) Subject to the provisions of paragraph (2) of this regulation, every ship to which these Regulations apply shall be provided with two efficient magnetic compasses which shall be mounted in binnacles and sited on the ship's centre line. One of such compasses shall be provided for use as a standard compass and shall be sited near to the normal steering position and in a position from which the view of the horizon is least obstructed. The other of such compasses shall be provided for use as a steering compass and shall be sited at the normal steering position unless the projected or reflected image of the standard magnetic compass is provided for this purpose or a gyro-compass or a repeater from a gyro-compass or transmitting magnetic compass is positioned near the normal steering position, in which case the second magnetic compass, mounted in a binnacle or on a pedestal, may be fitted at the emergency steering position.

(2) Where there is no emergency steering position, two magnetic compasses and binnacles shall not be required provided that the ship is equipped with a standard projector magnetic compass and a gyro-compass with repeaters and provided also that a spare magnetic compass bowl with its gimbal units is carried on board so that it may be interchanged with the standard compass if that compass should become unserviceable.

Anchors and chain cables

35. Every ship to which these Regulations apply shall be provided with such anchors and chain cables as are sufficient in number, weight and strength, having regard to the size and intended service of the ship.

Means of escape

36.—(1) In every ship to which these Regulations apply stairways and ladderways shall be arranged so as to provide ready means of escape to the lifeboat embarkation deck from all crew spaces, passenger spaces and other spaces in which the crew are normally employed.

(2) In every ship to which these Regulations apply there shall be provided from each engine room, shaft tunnel and boiler room two means of escape as widely separated as practicable, one of which may be a watertight door if such a door is available as a means of escape. Where no such watertight door is available, the two means of escape shall consist of two sets of steel ladders leading to separate doors in the casing or elsewhere from which there is access to the lifeboat or liferaft embarkation deck or decks. The Secretary of State may exempt any such ship of less than 2,000 tons from the requirements of this paragraph if at least one effective means of escape is provided.

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

37.—(1) In every ship to which these Regulations apply there shall be provided means for stopping ventilating fans serving machinery, accommodation and cargo spaces. For machinery and cargo spaces there shall be provided means for closing all skylights, doorways, ventilators, annular spaces around funnels and other openings to such spaces. Such means shall be capable of being operated from positions outside the said spaces which would not be made inaccessible by a fire within such spaces.

(2) In every ship to which these Regulations apply 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. Such controls shall be capable of stopping such machinery or pumps in the event of fire in the said spaces.

(3) In every ship to which these Regulations apply every pipe connected to any oil fuel 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 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 similarly secured to the tank may be substituted. In the case of an oil fuel deep tank traversed by any shaft or pipe tunnel, in addition to the valve which shall be fitted on the tank, a valve or valves may be fitted on the pipe line or lines outside the tunnel or tunnels to enable control to be exercised in the event of fire.

Section II

Steering gear—tankers

38. This Section contains the requirements, additional to Section I of this Part, for tankers of 10,000 tons or over.

Definitions

39. For the purposes of this Section:—

"Auxiliary steering gear" means the equipment which is provided for effecting movement of the rudder for the purpose of steering the ship in the event of failure of the main steering gear;

"Existing tanker" means a tanker which is not a new tanker as defined in this Section;

"Main steering gear" means the machinery, the steering gear power units, if any, and ancillary equipment and the means of applying torque to the rudder stock (for example tiller or quadrant) necessary for effecting movement of the rudder for the purpose of steering the ship under normal service conditions;

"New tanker" means a tanker:

(1) for which the building contract was placed after 1st June 1979; or

(2) in the absence of a building contract, the keel of which was laid, or which was at a similar stage of construction after 1st January 1980; or

(3) the delivery of which is after 1st June 1982; or

(4) which has undergone an alteration or modification of a major character:

(*a*) for which the contract was placed after 1st June 1979; or

(*b*) in the absence of a contract, the construction work of which was begun after 1st January 1980; or

(*c*) which is completed after 1st June 1982;

"Remote steering gear control system" means the system by which required rudder movements are transmitted from the navigating bridge to the steering gear power unit controls.

Requirements for steering gear

40. The following provisions shall apply to every new tanker of 10,000 tons and over and, not later than two years after 25th May 1980, to every existing tanker of 10,000 tons and over:—

(1) Two remote steering gear control systems shall be provided, each of which shall be capable of being operated separately from the navigating bridge. Duplication of the steering wheel or lever is not required.

(2) In the event of failure of the remote steering gear control system in operation, the other system shall be capable of being brought into immediate operation from a position on the navigating bridge.

(3) Each remote steering gear control system, if electric, shall be served by its own separate circuit.

(4) In the event of failure of electrical power supply to a remote steering gear control system, an alarm shall be given on the navigating bridge which shall be audible and visual and situated where it can be readily observed.

(5) Means for control of the main steering gear shall be provided in the steering gear compartment.

(6) Means shall be provided in the steering gear compartment to disconnect the remote steering gear control system from the power circuit.

(7) Means of communication shall be provided between the navigating bridge and the steering gear compartment.

(8) The rudder angle indication system on the navigating bridge shall be independent of the remote steering gear control system.

(9) The angular position of the rudder shall be recognisable in the steering gear compartment.

Additional requirements—new tankers of 10,000 *tons or over*

41. The following provisions, additional to the requirements of regulation 40, shall apply to every new tanker of 10,000 tons or over:

(1) the main steering gear shall comprise two or more identical power units and it shall be capable of operating the rudder as required by regulation 32(2)(*b*) of these Regulations while operating with one or more power units. As far as reasonable and practicable, the main steering gear shall be so arranged that a single failure in its piping or in one of the power units will not impair the integrity of the remaining part of the steering gear. All mechanical components which are part of the steering gear and the mechanical connection with any remote steering gear control system, if any, shall be of sound construction;

(2) the main steering gear power units shall be arranged to start automatically when power is restored after a power failure;

(3) in the event of failure of any of the steering gear power units, means shall be provided to ensure that an alarm shall be given on the navigating bridge. Every steering gear power unit shall be capable of being brought into operation either automatically or manually from a position on the navigating bridge;

(4) an alternative power supply, at least sufficient to supply a steering gear power unit so as to enable it to move the rudder as specified below, and also to supply its associated remote steering gear control system and the rudder angle indicator, shall be provided, automatically, within 45 seconds, either from the emergency source of electrical power, or from another independent source of power located in the steering gear compartment. This independent source of power shall be used only for this purpose and shall have a capacity sufficient for half an hour of continuous operation. The steering gear power unit, when being supplied by the alternative power supply, shall at least be capable of putting the rudder over from 15 degrees on one side to 15 degrees on the other side in not more than 60 seconds with the ship at its deepest sea-going draught while running at one half of its maximum service speed ahead or 7 knots, whichever is the greater; and

(5) each remote control system, if electric, shall be served by its own separate circuit supplied from a steering gear power circuit from a point within the steering gear compartment, or directly from switch board busbars supplying that steering gear power circuit at a point on the switchboard adjacent to the supply to the steering gear power circuit.

General

42.—(1) This Part of these Regulations applies to sea-going tankers specified in regulation 1(5) of these Regulations.

(2) The hull, superstructures, structural bulkheads, decks and deckhouses shall be constructed of steel or other equivalent material except that the crowns and casings of machinery spaces of Category A and the exterior boundaries of superstructures and deckhouses which are required to be insulated to A60 standard under regulation 45(1) of these Regulations shall be constructed only of steel.

Location of spaces

43.—(1) Machinery spaces of Category A shall be positioned aft of cargo tanks and slop tanks and shall be separated from them by a cofferdam, pump room or oil fuel bunker tank, and shall also be positioned aft of such cofferdam or pump room except that the lower part of a pump room may be recessed into a machinery space of Category A in order to accommodate pumps if the crown of the recess is not more than one third of the moulded depth above the keel; provided that, in the case of a ship not exceeding 25,000 tonnes deadweight where a recess of such height is not practicable for reasons of access and arrangement of piping, the recess may be increased to a height not exceeding one half of the moulded depth above the keel.

(2) Accommodation spaces shall be positioned aft of all cargo and slop tanks, pump rooms and cofferdams which separate cargo and slop tanks from machinery spaces of Category A except that the accommodation spaces may be positioned over the recess of a pump room to which paragraph (1) of this regulation refers provided that such spaces are positioned above the level of the upper deck.

(3) Service spaces, control stations, cargo control stations and machinery spaces other than those of Category A and pump rooms shall be positioned forward or aft of all cargo and slop tanks and shall be separated from them by a cofferdam, pump room or oil fuel bunker tank except that—

(*a*) such spaces may be positioned over the recess of a pump room, to which paragraph (1) of this regulation refers, provided that they are positioned above the level of the upper deck;

(*b*) navigating spaces may be positioned above cargo tank spaces provided that they are used only for navigating purposes and are separated from the upper deck by means of an open space the height of which shall be not less than 2 metres.

(4) Where accommodation spaces, machinery spaces other than those of Category A, control stations and cargo control stations are located over part of an oil fuel bunker tank the horizontal separation of such spaces from cargo and slop tanks shall be not less than 600 mm.

Precaution against oil spills

44. Means shall be provided to isolate oil spills on the upper deck from accommodation and service spaces and shall take into account stern cargo handling facilities where these are provided.

Exterior boundaries of superstructures and deckhouses

45.—(1) The exterior boundaries of superstructures and deckhouses enclosing

accommodation and service spaces, control stations and cargo control stations and any overhanging deck which supports such spaces shall be insulated to A60 standard on the portions of such boundaries which face cargo oil tanks and on the sides of such boundaries for a distance of 3 metres measured horizontally and parallel to the middle line of the ship from the front boundary at each deck level except that such insulation need not be fitted to:—

(*a*) the external bulkheads and overhanging decks of the wheelhouse; and

(*b*) the external boundaries of spaces in which doors referred to in paragraph (2)(*a*) below are fitted.

(2) In the exterior boundary bulkheads facing cargo oil tanks of superstructures and deckhouses enclosing accommodation and service spaces—

(*a*) doors shall not be fitted except to provide access to those spaces which do not have access to accommodation and service spaces and whose internal boundaries are insulated to A60 standard;

(*b*) sidescuttles and windows other than wheelhouse windows shall be of a non-opening type;

(*c*) windows shall not be fitted in the first tier of such superstructures and deckhouses on the upper deck and sidescuttles fitted in such a tier shall be fitted internally with permanently attached covers of steel;

(*d*) sidescuttles and windows fitted in tiers above the first tier of such superstructures and deckhouses shall either be fitted internally with permanently attached covers of steel or be provided with portable covers of steel which shall be stowed within the space they are intended to serve.

(3) The provisions of paragraph (2) of this regulation shall apply to the exterior boundary bulkheads at the sides of the superstructures and deckhouses enclosing accommodation and service spaces for a distance of 5 metres measured horizontally and parallel to the middle line of the ship from the front exterior boundary bulkhead at each deck level as the said provisions apply to exterior boundary bulkheads facing cargo oil tanks, except that sub-paragraph (*a*) of paragraph (2) of this regulation shall not apply to the exterior boundary bulkheads of the wheelhouse.

Separation of cargo pump rooms from machinery spaces of Category A

46.—(1) The bulkheads and decks separating cargo pump rooms from machinery spaces of Category A shall be 'A' Class divisions of A0 standard.

(2) Where lighting enclosures are fitted in bulkheads and decks to which paragraph (1) of this regulation refers for the purpose of illuminating the cargo pump room, such lighting enclosures shall be such that the 'A' Class integrity and gastightness of such bulkheads and decks are not impaired.

Boundary bulkheads and decks of machinery spaces of Category A and cargo pump rooms

47.—(1) Windows and sidescuttles shall not be fitted in internal or external boundary bulkheads or decks of machinery spaces of Category A and cargo pump rooms including skylights to such spaces except that such windows and sidescuttles may be fitted in a bulkhead between a machinery space of Category A and a machinery control room located within the boundaries of such a space.

(2) Skylights to machinery spaces of Category A and cargo pump rooms shall be capable of being closed and opened from outside the spaces which they serve.

Separation of accommodation spaces and service spaces from machinery spaces of Category A and cargo pump rooms

48.—(1) Bulkheads and decks separating accommodation spaces and service spaces from machinery spaces of Category A and cargo pump rooms shall be 'A' Class divisions of A60 standard.

(2) Where lighting enclosures are fitted in a bulkhead to which paragraph (1) of this regulation refers for the purpose of illuminating the cargo pump room, such lighting enclosures shall be such that the 'A' Class integrity, insulation standard and gastightness of such divisions are not impaired.

Separation of accommodation spaces from galleys, storerooms and similar spaces

49. The boundary bulkheads separating accommodation spaces from galleys, paint rooms, lamp rooms or boatswain's stores shall be constructed of steel or other equivalent material.

Protection of control stations from other enclosed spaces

50.—(1) Bulkheads and decks separating control stations from other enclosed spaces shall be 'A' Class divisions having insulation standards in accordance with Tables 1 and 2 set out in the Schedule to these Regulations.

(2) The deck separating the navigating space from the open space to which regulation 43(3)(*b*) of these Regulations refers shall be an 'A' Class division of A60 standard.

Bulkheads within accommodation spaces, service spaces and control stations

51.—(1) All bulkheads within accommodation spaces, service spaces and control stations which are not required by these Regulations to be either 'A' Class divisions or 'B' Class divisions of B0 standard shall be 'C' Class divisions.

(2) Corridor bulkheads serving accommodation spaces, service spaces and control stations which are not required by these Regulations to be 'A' Class divisions shall be 'B' Class divisions of B0 standard.

(3) All bulkheads required by these Regulations to be 'B' Class divisions of B0 standard shall extend from deck to deck and to the shell plating or other boundaries except where continuous 'B' Class ceilings or linings of B0 standard are fitted on both sides of the bulkheads the bulkheads may terminate at such ceilings or linings.

(4) All materials used in the construction of bulkheads and doors in such bulkheads shall be non-combustible.

Restriction of combustible materials

52.—(1) Within accommodation spaces, service spaces and control stations—

(*a*) all ceilings, linings, draught stops and insulating materials shall be of non-combustible materials except for—

(i) materials used to insulate refrigerated compartments;

(ii) materials used to insulate valves associated with hot and cold service systems provided that their exposed surfaces are such that a Class 1 or 2 surface spread of flame will not be exceeded;

(iii) vapour barriers and adhesives used in conjunction with insulating materials provided that their exposed surfaces are such that a Class 1 or 2 surface spread of flame will not be exceeded;

(*b*) the framing, grounds and joint pieces of linings, ceilings and draught stops shall be non-combustible;

(*c*) bulkheads, ceilings and linings shall not be faced with a combustible veneer unless the thickness of such a veneer does not exceed 2·0 millimetres, except in corridors, stairway enclosures and control stations where it shall not exceed 1·5 millimetres;

(*d*) all exposed surfaces in corridors and stairway enclosures and surfaces in concealed or inaccessible spaces shall be such that a Class 1 or 2 surface spread of flame is not exceeded;

(*e*) primary deck coverings shall be of a type which will not readily ignite.

(2) The surface of insulating materials fitted to the inside of the bulkheads and decks forming the casings and crowns of machinery spaces of Category A shall be impervious to oil and oil vapours.

(3) Paints, varnishes and other finishes used on exposed surfaces within accommodation and service spaces, control stations and machinery spaces shall not contain nitrocellulose or other highly flammable base products and such surfaces, except where otherwise required by these Regulations shall be such that a Class 3 surface spread of flame will not be exceeded; provided that these requirements shall not apply to furniture, furnishings, machinery and similar items.

Draught stops

53. Every air space enclosed behind a ceiling, panel or lining within accommodation spaces, service spaces and control stations shall be divided by close-fitting draught stops which shall be spaced not more than 14 metres apart and which shall be closed at each deck.

Openings in 'A' Class divisions

54.—(1) Where an 'A' Class division is pierced for the passage of electric cables, pipes, trunks, girders or beams, or for other purposes, the arrangements shall be such that the effectiveness of the division in resisting fire is not thereby impaired, except that this requirement shall not apply to shaft glands and similar glanded penetrations in bulkheads and decks between cargo pump rooms, including their trunks, and machinery spaces of Category A.

(2) The construction of all doors and frames in 'A' Class bulkheads, with the means of securing them when closed, shall provide resistance to fire as well as to the passage of smoke and flame, as far as is reasonably practicable, equivalent to that of the bulkheads in which the doors are situated.

(3) Every door in an 'A' Class bulkhead shall be so constructed that it can be opened and closed by one person from either side of the division.

(4) Every door in an 'A' Class bulkhead which forms part of a stairway enclosure or lift trunk serving accommodation spaces, service spaces or control stations and every door in a casing of a machinery space of Category A shall be self-closing.

(5) Hold-back arrangements may be fitted to doors to which paragraph (4) of this regulation refers provided that such arrangements:

(*a*) have remote release fittings of a type which in the event of disruption of the control system will automatically close the doors; and

(*b*) will permit each door to be closed manually.

Openings in 'B' Class divisions

55.—(1) Where a 'B' Class division is pierced for the passage of electric cables, pipes, trunks, girders or beams, or for other purposes, the arrangements shall be such that the effectiveness of the division in resisting fire is not thereby impaired.

(2) The construction of all doors and door frames in 'B' Class bulkheads shall provide resistance to fire as well as the passage of flame, as far as is reasonably practicable, equivalent to that of the bulkheads in which the doors are situated.

(3) The number of ventilation openings in 'B' Class divisions shall be kept to a minimum and shall be provided as far as is reasonably practicable only in the lower part of a door and fitted with a grille constructed of steel or under a door except that such openings shall not be provided in a door in a 'B' Class division forming a stairway enclosure. The net area of any such opening or openings shall not exceed 0·05 square metre and in no case shall a gap under a door exceed 25 millimetres.

(4) Every door in a 'B' Class bulkhead which forms a stairway enclosure or part thereof shall be self-closing.

(5) Hold-back arrangements may be fitted to doors to which paragraph (4) of this regulation refers provided that such arrangements:

(*a*) have remote release fittings of a type which in the event of disruption of the control system will automatically close the doors; and

(*b*) will permit each door to be closed manually.

Protection of stairway enclosures and lift trunks

56.—(1) Every stairway within accommodation spaces, service spaces and control stations shall be constructed of steel or other suitable material and every such stairway and lift shall lie respectively within an enclosure or trunk constructed of 'A' Class divisions of A0 standard except that a stairway serving only two decks shall only be required to be enclosed at one level by either 'A' Class divisions of A0 standard or 'B' Class divisions of B0 standard: provided that any bulkhead which separates a stairway from a machinery space of Category A shall be an 'A' Class division of A60 standard.

(2) Every opening in a stairway enclosure and lift trunk shall be provided with a means of closure which shall be permanently attached thereto and which shall comply with the requirements of regulation 54 or 55 of these Regulations whichever is applicable.

Ventilation systems

57.—(1) Ducts providing ventilation to machinery spaces of Category A shall not pass through accommodation spaces, service spaces or control stations, except this requirement shall not apply to such ducts which—

(*a*) are constructed of steel having a thickness of at least 3 millimetres and 5 millimetres for ducts the width or diameters of which are up to and including 300 millimetres and 760 millimetres and over respectively and in the case of such ducts the widths or diameter of which are between 300 and 760 millimetres, having a thickness to be obtained by interpolation; and

(*b*) are suitably supported and stiffened; and

(*c*) are insulated to A60 standard.

(2) Ducts providing ventilation to accommodation spaces, service spaces or control stations other than ducts which comply with paragraph (1)(*a*), (*b*) and (*c*) of this regulation shall not pass through machinery spaces of Category A.

(3) The arrangement and positioning of openings in the cargo tank deck from which gas emission can occur, and the arrangements of ventilation inlets and outlets and other openings in the boundary bulkheads and decks of superstructures and deckhouses shall be such as to minimize the possibility of gas being admitted to enclosed spaces containing a source of ignition, or collecting in the vicinity of deck machinery and equipment which may constitute an ignition hazard. In every case the height of the outlet above the deck and the discharge velocity of the gas shall be considered in conjunction with the distance of any outlet from any deckhouse opening or source of ignition.

(4) Ventilation inlets and outlets to accommodation and service spaces, control stations, and machinery spaces, and any other openings in the boundaries of superstructures and deckhouses enclosing such spaces shall be positioned as far aft as is practicable taking into account stern cargo handling facilities where these are provided.

(5) Cargo pump rooms shall be mechanically ventilated and discharges from the exhaust fans shall be led to a safe place on the open deck. The ventilation of these rooms shall have sufficient capacity to minimize the possibility of accumulation of flammable vapours. The number of changes of air shall be at least 20 times per hour, based upon the gross volume of the space. The air ducts shall be arranged so that all of the space is effectively ventilated. The ventilation system shall be of the exhaust type.

Miscellaneous items of fire protection

58.—(1) Pipes intended to convey oil or other flammable liquids shall be of a suitable material having regard to the risk of fire.

(2) Overboard scuppers, sanitary discharges or other outlets close to the waterline shall not be of a material likely to fail in the event of a fire and thereby give rise to a danger of flooding.

(3) Electric radiators shall—

(*a*) be permanently fixed in position;

(*b*) be so constructed as to reduce the risk of fire to a minimum;

(*c*) not be equipped with elements so exposed as to scorch or ignite clothing, curtains or other similar materials.

(4) Cellulose-nitrate film shall not be used in cinematograph installations.

PART IV—SURVEYS

Surveys before issue of a cargo ship safety construction certificate

59.—(1) The owner of every ship to which these Regulations apply shall cause the same to be surveyed on completion and thereafter at intervals not exceeding five years by a surveyor appointed by a Certifying Authority and any application for a survey shall be accompanied by such information relating to the ship as the Certifying Authority may require.

(2) A Certifying Authority shall upon receipt of an application for survey and any fee payable on such application cause the ship to be certified by a qualified surveyor.

(3) The surveyor shall survey the ship and shall satisfy himself that the arrangements, materials and scantlings of the structure, boilers and other pressure vessels and their appurtenances (other than domestic boilers having a heating surface of 5 square metres or less and a working pressure of 3·5 bar gauge or less and other domestic pressure vessels having such a working pressure), main and auxiliary machinery, electrical installations and other equipment comply with the requirements of Part II of these Regulations and are in all respects satisfactory for the service for which the ship is intended, having regard to the period for which a cargo ship safety construction certificate in respect of the ship is to be issued.

(4) The surveyor, if satisfied on the survey that he may properly do so, shall forward to the Certifying Authority a declaration of survey containing such particulars of the ship as are required by the Certifying Authority to enable it to issue a cargo ship safety construction certificate in respect of the ship.

Intermediate and other periodic surveys

60.—(1) The owner of every ship in respect of which a cargo ship safety construction certificate has been issued shall, so long as the certificate remains in force, cause the ship to be surveyed in the manner and at the intervals specified in paragraph (2) of this regulation for the purpose of seeing whether the certificate should remain in force, and if the ship is not so surveyed, the Secretary of State may cancel the certificate.

(2) The surveys to be carried out under paragraph (1) of this regulation shall be as follows:—

(*a*) the hull and ship's side fastenings shall be examined in dry dock at intervals not exceeding two years six months and ship's side fittings shall be thoroughly examined in dry dock at intervals not exceeding five years;

(*b*) steam heated steam generators in any ship, and the water tube boilers on ships fitted with either:

(i) more than one water tube boiler supplying steam for main propulsion purposes or

(ii) a single water tube boiler supplying steam for main propulsion purposes and provided with auxiliary means of maintaining adequate power for safe navigation in the event of failure of that boiler,

shall be examined internally and externally at intervals not exceeding two years.

In this regulation a water tube boiler includes any integral superheater or economiser;

(*c*) all other boilers including exhaust gas boilers, superheaters, economisers and domestic boilers (other than domestic boilers having a heating surface of not more than five square metres and a working pressure not more than 3·5 bar gauge) shall be examined internally and externally at intervals not exceeding two years until they are eight years old and thereafter annually.

(*d*) Screw propeller shafts fitted with continuous liners or running in oil shall be withdrawn and surveyed at intervals not exceeding five years where—

(i) in the case of single screw ships, the shaft and the keyway have been specifically designed to reduce stress concentrations and the survey of the shaft is supplemented by an efficient method of crack detection or

(ii) the shaft is fitted with a keyless screw propeller of a specifically designed type approved by the Certifying Authority or

(iii) the shaft is fitted with a screw propeller bolted to a flange on the end of the shaft and there is an adequate radius between the flange and the shaft or

(iv) the ship has more than one screw propeller.

Other screw propeller shafts shall be withdrawn and surveyed at intervals not exceeding two years.

(*e*) Tube shafts driving screw propellers shall, if fitted with continuous liners or running in oil, be surveyed at intervals not exceeding five years. Other tube shafts shall be withdrawn and surveyed at intervals not exceeding two years.

(3) Every application for the survey of a ship under this regulation shall be made by or on behalf of the owner of the ship to the Certifying Authority by whom the certificate was issued.

61.—(1) The Certifying Authority shall, on receipt of the application and of any fee payable on such application, cause the ship to be surveyed by a qualified surveyor.

(2) The surveyor shall survey the ship with a view to satisfying himself—

(*a*) that such of the parts of the ship and its equipment specified in regulation 60(2) of these Regulations as are the subject of the application for survey remain efficient and, so far as practicable,

(*b*) that no material alterations have been made in the hull, machinery or equipment of the ship to which the cargo ship safety construction certificate relates without the approval of the Certifying Authority.

(3) On the completion of the survey in accordance with the requirements of the preceding paragraph, the surveyor shall forward a report on the survey to the Certifying Authority.

PART V—SURVEYS—TANKERS

Surveys before issue of a cargo ship safety construction certificate

62.—(1) The owner of every ship to which Part III of these Regulations apply shall cause the ship to be surveyed by a surveyor and any application for the survey shall be accompanied by such information relating to the ship as the Secretary of State may require.

(2) The Secretary of State shall upon receipt of an application for survey and any fee payable on such application cause the ship to be surveyed by a surveyor.

(3) The surveyor shall survey the ship and shall satisfy himself that it complies with the requirements of Part III of these Regulations and is in all respects satisfactory for the service for which it is intended having regard to the period for which a cargo ship safety construction certificate in respect of the ship is to be issued.

(4) The surveyor, if satisfied on the survey that he may properly do so, shall forward to the Certifying Authority a declaration of survey containing such particulars as are required by the Certifying Authority to enable it to issue a cargo ship safety construction certificate in respect of the ship.

Intermediate surveys

63.—(1) The owner of every ship to which Part III of these Regulations apply and in respect of which a cargo ship safety construction certificate has been issued shall, so long as the certificate remains in force, cause the ship to be surveyed at intervals not exceeding two and a half years by a surveyor in the manner specified in paragraph (2) of this regulation for the purpose of seeing whether the certificate should remain in force, and if the ship is not so surveyed, the Secretary of State may cancel the certificate.

(2) The surveys to be carried out under paragraph (1) of this regulation shall be to establish that the following equipment and materials are maintained in a satisfactory manner:

(*a*) insulation of 'A' Class divisions and integrity of 'A' Class and 'B' Class divisions;

(*b*) doors fitted in 'A' Class and 'B' Class divisions;

(*c*) fittings by which doors in 'A' Class and 'B' Class divisions can be remotely released;

(*d*) arrangement and insulation of ventilation ducts.

(3) Every application for the survey of a ship under this regulation shall be made by or on behalf of the owner of the ship to the Secretary of State through the Certifying Authority by whom the certificate was issued.

(4) The Secretary of State shall, on receipt of the application and of any fee payable on such application, cause the ship to be surveyed by a surveyor.

(5) The surveyor shall survey the ship with a view to satisfying himself that—

(*a*) such of the parts of the ship and its equipment specified in paragraph (2) of this regulation as are the subject of the application for survey remain efficient;

(*b*) as far as is reasonably practicable no material alterations have been made to the structure of the ship;

(*c*) there has been no alteration to the location and designation of spaces with respect to these Regulations without the approval of the Secretary of State.

(6) On the completion of the survey in accordance with the requirements of the preceding paragraph the surveyor shall forward a declaration of the survey to the Certifying Authority.

PART VI—EQUIVALENTS AND PENALTIES

Alternative construction, equipments and machinery

64. Where these Regulations require that the hull or machinery of a ship shall be constructed in a particular manner, or that particular equipment shall be provided, or that particular provisions shall be made, the Secretary of State may approve the hull or machinery of the ship to be constructed in any other manner, or any other equipment to be provided or other provision made, if he is satisfied by trial thereof or otherwise that such other construction, equipment or provision is at least as effective as that required by these Regulations.

Penalties

65. If a ship to which these Regulations apply, proceeds or attempts to proceed to sea without complying with the requirements of these Regulations,

the owner or master of the ship shall each be guilty of an offence and liable on summary conviction to a fine not exceeding £1,000 or on conviction on indictment, to imprisonment for a term not exceeding two years and a fine.

Power to detain

66. In any case where a ship to which these Regulations apply does not comply with the requirements of these Regulations, the ship shall be liable to be detained and section 692 of the Merchant Shipping Act 1894**(a)** (which relates to the detention of a ship) shall have effect in relation to the ship, subject to the modification that for the words "this Act" wherever they appear, there were substituted "the Merchant Shipping Acts 1894 to 1979 or any Regulations made thereunder".

Norman Tebbit,
Parliamentary Under-Secretary of State,
Department of Trade.

17th April 1980.

(a) 1894 c. 60.

Regulation 50

THE SCHEDULE

TABLE 1—FIRE INTEGRITY OF BULKHEADS SEPARATING CONTROL STATIONS FROM OTHER SPACES

SPACE / SPACE	(1)	(2)	(3)	(4)	(5)	(6)	(7)
CONTROL STATION	A0[1]	A0	A15	A0	A15	A60	A15

Where (1) is control stations
(2) is corridors
(3) is accommodation spaces
(4) is stairways
(5) is service spaces
(6) is machinery spaces of Category A.
(7) is machinery spaces other than machinery spaces of Category A.

Superscription 1—bulkheads separating the wheelhouse, chartroom and radio room from each other may be alternatively 'B' Class bulkheads of B0 standard.

TABLE 2—FIRE INTEGRITY OF DECKS SEPARATING CONTROL STATIONS FROM OTHER SPACES

SPACE ABOVE → / ↓ SPACE BELOW		(1)	(2)	(3)	(4)	(5)	(6)	(7)
CONTROL STATIONS	(1)	A0	A0	A0	A0	A0	A60	A0
CORRIDORS	(2)	A0						
ACCOMMODATION SPACES	(3)	A15						
STAIRWAYS	(4)	A0						
SERVICE SPACES	(5)	A15						
MACHINERY SPACES OF CATEGORY A	(6)	A60						
MACHINERY SPACES OTHER THAN MACHINERY SPACES OF CATEGORY A	(7)	A15						

EXPLANATORY NOTE

(This Note is not part of the Regulations.)

These Regulations revoke the Merchant Shipping (Cargo Ship Construction and Survey) Rules 1965 and the Merchant Shipping (Cargo Ship Construction and Survey) (Tankers and Combination Carriers) Rules 1975 to the extent that they apply to United Kingdom ships, and to ships registered in a country to which a Safety of Life at Sea Convention applies while they are within the United Kingdom or the territorial waters thereof. The 1965 Rules (as amended) and the 1975 Rules will continue to apply to ships of non-Convention countries while they are within United Kingdom ports. These Regulations re-enact the provisions of those Rules with modifications necessary to give effect to the International Convention for the Safety of Life at Sea 1974 (Cmnd. 7874), and the Protocol of 1978 relating to the International Convention for the Safety of Life at Sea 1974 (Cmnd. 7346) obtainable at Her Majesty's Stationery Office.

Those modifications are:—

(1) additional requirements for drainage of enclosed cargo spaces are prescribed (regulation 4(2));

(2) tankers of 10,000 tons or over are required to have specified items of main and auxiliary steering gear (Part II, Section II);

(3) more particular requirements are specified in respect of the location of machinery, accommodation and other similar spaces in tankers (regulation 43);

(4) intermediate surveys for specified tankers are now required at two and a half year intervals (regulation 63).

The Merchant Shipping Notice is obtainable from the Department of Trade Marine Library, Sunley House, Holborn, London W.C.1 and from any Department of Trade mercantile marine office or marine survey office.

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