SHIPPING (FISHING VESSELS OF 24 METRES IN LENGTH AND OVER) (SAFETY PROVISIONS) (JERSEY) ORDER 2004

Official Consolidated Version

This is an official version of consolidated legislation compiled and issued under the authority of the Legislation (Jersey) Law 2021.

Showing the law from 11 January 2024 to Current

Jersey

SHIPPING (FISHING VESSELS OF 24 METRES IN LENGTH AND OVER) (SAFETY PROVISIONS) (JERSEY) ORDER 2004

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Article

Jersey

SHIPPING (FISHING VESSELS OF 24 METRES IN LENGTH AND OVER) (SAFETY PROVISIONS) (JERSEY) ORDER 2004[1]

THE HARBOURS AND AIRPORT COMMITTEE, in pursuance of Articles 83 and 84 of the Shipping (Jersey) Law 2002, orders as follows –

Commencement [see endnotes]

PART 1

PRELIMINARY

1 Interpretation

In this Order, unless the context otherwise requires –

" '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 such that, if the division is exposed to the standard fire test, the average temperature of the unexposed side of the division will rise not more than 139°C above the initial temperature nor will the temperature at any one point, including any joint, rise more than 180°C above the initial temperature within the time listed below:

A - 60 standard	60 minutes
A - 0 standard	0 minutes

" 'B' class divisions" means those divisions formed by bulkheads, decks, ceilings or linings which –

(a) are 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;

(b) have an insulation value such that during the standard fire test the average temperature of the unexposed side will not rise more than 140°C above its initial temperature, nor will its temperature at any one point, including any

joint, rise more than 225°C above its initial temperature within the time listed below:

B - 30 standard.....	30 minutes
B - 15 standard.....	15 minutes
B - 0 standard.....	0 minutes

(c) except in the case of divisions constructed of glass reinforced plastic, are constructed of suitable non-combustible materials and their supporting members or structures are also constructed of non-combustible materials;

"accommodation spaces" means corridors, lavatories, cabins, offices, crew spaces, isolated pantries and similar spaces;

"breadth of a vessel" means the maximum width measured –

(a) to the moulded line of the frame of a vessel with a metal shell;

(b) to the outer surface of the hull of a vessel with a shell of any other material or of a composite vessel;

"any ship or boat, or any other description of vessel used in navigation; Class C boat" means a boat complying with the provisions of Article 85;

"collision orders" means international collision orders relating to the avoidance of collisions between ship that apply to Jersey ships;

"control stations" means spaces in which main navigating or radio or central fire recording equipment or an emergency generator are located;

"crew space" includes sleeping rooms, mess rooms, sanitary accommodation, hospital accommodation, recreation accommodation, store rooms and catering accommodation provided for the use of seamen but does not include any accommodation which is also used by or provided for the use of passengers;

"dead ship condition" means a condition where no power is available in the vessel;

"distant water voyage" means a voyage during the course of which a vessel proceeds outside the area bounded by lines adjoining the following positions –

(a) coast of Norway at 65° 00'N;

(b) 65° 00'N 8° 00'E;

(c) 61° 30'N 18° 00'W;

(d) 43° 00'N 18° 00'W;

(e) coast of Spain at 43° 00'N;

"draught" means the vertical distance from the moulded base line amid-ships to the operating water line of a vessel;

"enclosed superstructure" means a superstructure with –

(a) enclosing bulkheads of efficient construction;

(b) access openings, if any, in those bulkheads fitted with permanently attached weathertight doors of a strength equivalent to the unpierced structure which can be operated from either side; and

(c) other openings in sides or ends of the superstructure fitted with efficient weathertight means of closing, but does not include a bridge or poop unless access is provided for the crew to reach machinery and other working spaces inside the bridge or poop by alternative means which are available at all times when bulkhead openings are closed;

"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 the standard fire test;

"fishing vessel" means a vessel which is for the time being used for or in connection with sea fishing but does not mean a vessel used for fishing otherwise than for profit;

"freeboard deck" means the uppermost complete deck exposed to the weather and sea which has permanent means of closing all openings in the weather portions thereof and below which all openings in the sides of the vessel are fitted with permanent means of closing watertight. In a vessel having a discontinuous freeboard deck, the lowest line of the exposed deck and the continuation of that line parallel to the upper part of the deck is to be taken as the freeboard deck.

A lower deck may be designated as the freeboard deck subject to its being a complete and permanent deck continuous both –

(a) in a fore and aft direction at least between the machinery spaces and peak bulkheads; and

(b) athwart-ships.

When this lower deck is stepped, the lowest line of the deck and the continuation of that line parallel to the upper part of the deck is to be taken as the freeboard deck. When a lower deck is designated as the freeboard deck, that part of the hull which extends above the freeboard is treated as superstructure;

"height" in relation to a superstructure or other erection means the least vertical distance measured at side from the top of the deck beams of a superstructure or an erection to the top of the freeboard deck beams;

"independent power pump" means a pump operated by power otherwise than from the vessel's main engines;

"inflatable boat" means a boat complying with Article 86;

"launching appliance" means the appliance complying with Article 100;

"length" in relation to a vessel, means the length shown on the vessel's register and the "length overall" of a fishing vessel shall be determined in accordance with the Tonnage Regulations;

"lifeboat" means a boat complying with Article 84;

"liferaft" means a liferaft complying with Article 87;

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

"machinery space" in relation to vessels of 24 metres in length and over means any space used for propelling, auxiliary or refrigerating machinery, boilers, liver boilers, fish meal plant, pumps, engineers' workshops, generators, ventilation or air conditioning machinery, oil filling stations and similar spaces and trunkways to such spaces;

"main circulating pump" means the pump installed for circulating water through the main condenser in steam driven vessels or the pump which circulates the main engine sea water coolant in motor driven vessels;

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

"motor lifeboat" means a lifeboat complying with Article 84(5);

"navigable speed" means the minimum ahead speed at which the vessel can be effectively steered;

"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 its internal temperature or the temperature of the test furnace more than 50°C above 750°C when tested in accordance with British Standard Specification 476; Part 4; 1970 and the expression "combustible material" shall be construed accordingly;

"oil fired boiler" means any boiler wholly or partly fired by liquid fuel not being a domestic boiler of less than 73.28 kilowatts;

"oil fuel unit" means the equipment used for the preparation of oil fuel for delivery to the oil burners of an oil-fired boiler or that used to prepare heated oil for delivery to an internal combustion engine and includes the oil pressure pumps, filters and heaters;

"person" means a person over the age of one year;

"principal length" means the length measured in metres on a straight line from the fore part of the stem at top to the aftermost side of the transom or stern contour;

"principal breadth" means the maximum breadth measured in metres on a straight line to the outside of the frame lines of a vessel the hull of which is constructed of metal or to the outer surfaces of a vessel the hull of which is constructed of other material;

"principal depth" means the depth measured in metres at the mid point of the principal length as the vertical distance from the top of the deck beam at side to the top of the keel or line at the intersection of the inside of the shell plating with the keel where a bar keel extends above that line in a vessel the hull of which is constructed of metal or to the lower rabbet line of the keel of a vessel the hull of which is constructed of other material;

"service space" includes galleys, pantries, laundries, store rooms, paint rooms, carpenters' workshops and trunkways leading to such spaces;

"settling tank" means an oil storage tank in which oil fuel is heated in the course of its preparation for combustion in boilers and machinery and which has a heating surface of not less than 0.18 square metres per tonne of oil capacity;

"standard fire test" means a test in which specimens of the relevant bulkheads or decks, having a surface area of not less than 4.6 square metres and a height of 2.4 metres, resembling as closely as possible the intended construction and including, where appropriate, at least one joint, are 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 electro-hydraulic 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 suitable for the purpose for which it is used;

"superstructure" means a decked structure (including a raised quarter deck) on the freeboard deck either extending from side to side of the vessel or with the side plating not being inboard of the shell plating more than 4% of the breadth of the vessel;

"superstructure deck" means that complete or partial deck or the top of a superstructure, deckhouse or other erections situated at a height of not less than 1.8 metres above the freeboard deck;

"surface spread of flame" means the surface spread of flame classified as Class 1 or Class 2 within the meaning of British Standard Specification 476: Part 7: 1997, or any British Standard Specification that replaces it;

"vessel" includes any ship or boat, or any other description of vessel used in navigation;

"vessel numeral" means the product obtained by multiplying together the principal length by the principal breadth by the principal depth;

"vivier boat" means a vessel that has a well having access to the sea for the purposes of storing live shellfish;

"watertight" in relation to a structure means capable of preventing the passage of water through the structure in any direction;

"weathertight" in relation to a structure means capable of preventing the passage of sea water through the structure in ordinary sea conditions.[2]

2 Application

This Order applies to every mechanically propelled fishing vessel of 24 metres in length and over registered under the Shipping (Jersey) Law 2002.[3]

3 Exemption

The Minister may exempt any fishing vessel or description of fishing vessel from any or all of the requirements of Part 2, either generally or for a specified time or with respect to a specified voyage or to voyages in a specified area, and may do so subject to any specified conditions.

PART 2

CONSTRUCTION OF FISHING VESSELS

A – Hull (including superstructures) and equipment

4 Structural strength

(1) The structural strength of every fishing vessel to which this Order applies and the number and disposition of bulkheads shall be adequate for the intended service.[4]

(2) Every vessel shall be provided with a watertight collision bulkhead in the fore part of the vessel and main and auxiliary machinery essential for the propulsion and safety of the vessel shall be situated in a watertight machinery compartment, except that vessels constructed substantially of wood may be provided with a wooden bulkhead or bulkheads of solid and substantial construction separating the fish hold from the rest of the vessel.

B – Watertight integrity

5 Closing arrangements

In every vessel to which this Order applies the number of openings in the outer watertight structure of the vessel shall be as few as reasonably practicable and shall be provided with effective closing arrangements where required by the provisions of this Order.[5]

6 Doors

In every vessel to which this Order applies doors fitted in the outer watertight structure shall be of substantial construction permanently and strongly attached to the bulkhead and so framed, stiffened and fitted that the whole structure of which they are part is of equivalent strength to the unpierced bulkhead. They shall be capable of being closed weathertight by means of gaskets and clamping arrangements or other equally effective means permanently attached to the bulkhead or to the door and arranged so that they may be operated from each side of the bulkhead.[6]

7 Hatchway covers

(1) Subject to paragraph (2), in every vessel to which this Order applies where hatchway covers are constructed of wooden boards with waterproof covers –

(a) the unsupported span of the wooden boards shall not exceed 1.5 metres;

(b) the finished thickness of the wooden boards shall be not less than 4 millimetres for each 100 millimetres of unsupported span and the width of their bearing surfaces shall not be less than 65 millimetres, except that no wooden board shall have a finished thickness of less than 40 millimetres;

(c) a waterproof cover of suitable material and of adequate strength shall be provided for every hatchway and be capable of being secured in place in accordance with sub-paragraphs (e) and (f);

(d) where portable beams are provided to support hatchway covers the strength of such beams shall be calculated using the assumed static loads given in paragraph (3)(a) and the mechanical properties of the material used in the construction and such beams shall be of adequate strength for their intended service;

(e) cleats shall be set to fit the taper of the wedges, spaced 600 millimetres centre to centre and at least 65 millimetres wide. The end cleats on each end or side shall be not more than 150 millimetres from the hatch corners;

(f) an adequate number of battens and wedges of efficient pattern and in good condition shall be provided. The wedges shall be of tough wood or equivalent

material cut to a taper of not more than one in 6 and shall not be less than 12 millimetres thick at the toes;

(g) steel bars shall be provided to ensure that each section of the hatchway covers can be efficiently and independently secured after the waterproof covers have been battened down;

(h) hatchway covers shall be permanently marked to indicate their correct position.[7]

(2) [8]

(3) In every vessel to which this Order applies where hatchway covers are constructed of material other than wood –

(a) for the purpose of strength calculations it shall be assumed that such covers are subjected to the weight of cargo intended to be carried on them or to the following static loads whichever is the greater –

(i)

(ii) 1.75 tonnes per square metre, where the length of the vessel is 100 metres or more.

For vessels of lengths more than 24 metres but not exceeding 100 metres the loads shall be determined by linear interpolation provided that where a hatchway is situated on the superstructure deck in a position abaft a point 0.25 of the principal length from the forward perpendicular, the assumed loads may be reduced to not less than 75% of the requirement of this paragraph;

(b) where such covers are constructed of mild steel, the maximum stress calculated using the assumed static loads set out in sub-paragraph (a) when multiplied by 4.25 shall not exceed the minimum ultimate strength of the material. Under these loads the deflections shall not be more than 0.0028 times the span;

(c) every such cover constructed of material other than mild steel shall have strength and stiffness equivalent to those required in the case of a cover of mild steel;

(d) every such cover shall be fitted with gaskets and clamping devices, or other equally effective arrangements, sufficient to ensure weathertightness.[9]

8 Machinery space openings

(1) In every vessel to which this Order applies machinery space openings in exposed positions on the freeboard deck shall be properly framed and efficiently enclosed by casings of adequate strength and fitted with doors complying with the requirements of Article 6.[10]

(2) In every such vessel every such opening, other than a doorway provided in a casing, shall be fitted with covers of strength equivalent to the unpierced structure, and shall be permanently attached thereto and capable of being closed weathertight.

(3) In every such vessel where casings are not fitted the access openings to the machinery space shall be closed in accordance with Article 9(1).

9 Other deck openings

(1) In every vessel to which this Order applies, flush deck scuttles of the screw, bayonet or equivalent type and manholes may be fitted where these are essential for fishing

operations and shall be capable of being closed watertight and shall be permanently attached to the structure, provided that such scuttles and manholes may be effectively weathertight only when closed if their design, size and disposition is such that no danger is likely to result from the absence of complete watertightness.[11]

(2) In every such vessel an efficient superstructure, deckhouse or companionway fitted with weathertight doors or other equally effective closing arrangements shall be provided to protect deck openings in the freeboard and superstructure decks other than hatchways, machinery space openings, manholes and flush scuttles.

10 Ventilators

In every vessel to which this Order applies coamings of ventilators shall be of substantial construction and capable of being closed weathertight by devices permanently attached to the ventilator or adjacent structure provided that, subject to the requirements of Article 61(1), weathertight closing appliances need not be fitted to ventilators in which the coamings extend more than 4.5 metres above the freeboard deck or more than 2.3 metres above the superstructure deck.[12]

11 Air pipes

In every vessel to which this Order applies where air pipes to tanks and other spaces below deck extend above the freeboard or superstructure decks the exposed parts of the pipes shall be of substantial construction. Exposed openings of air pipes shall be provided with efficient means of closing weathertight permanently attached to the pipe or adjacent structure. Provision shall be made to prevent excessive pressure on tank boundaries.[13]

12 Side scuttles and skylights

(1) In every vessel to which this Order applies side scuttles to spaces below the freeboard deck and to enclosed superstructures, deckhouses or companionways on the freeboard deck shall be fitted with hinged deadlights capable of being closed watertight.[14]

(2) In every such vessel every side scuttle shall be fitted in a position such that its sill is above a line drawn parallel to the freeboard deck at side having its lowest point one metre above the highest load waterline.

(3) In every such vessel side scuttles, glasses and deadlights shall be of substantial construction.

(4) In every such vessel skylights leading to spaces below the freeboard deck shall be of substantial construction and capable of being closed and secured weathertight, and with provision for adequate means of closing in the event of damage to the inserts.

13 Side openings

In every vessel to which this Order applies the number of openings in the sides of the vessel below the freeboard deck shall be the minimum compatible with the design and proper working of the vessel and such openings shall be provided with closing arrangements of adequate strength to ensure watertightness and the structural integrity of the surrounding structure.[15]

14 Inlets, discharges, and scuppers other than deck scuppers

(1) In every vessel to which this Order applies each discharge pipe leading through the hull from spaces below the freeboard deck or from within an enclosed superstructure or deckhouse on the freeboard deck shall have an automatic non-return valve and a positive means of closure from an accessible position except that the requirements of this paragraph shall not apply in those cases where the piping of the scupper or discharge pipe is of substantial thickness and where the entry of water into the vessel through the opening is not likely to lead to dangerous flooding.[16]

(2) In manned machinery spaces in every such vessel controls for main and auxiliary machinery, sea inlets and discharges shall be readily accessible and be provided with indicators showing whether the valves are open or closed. In unmanned machinery spaces suitable warning devices shall be installed to indicate leakage of water into the space or leakage from any other system.

(3) In every such vessel valves and other fittings attached to the hull shall be of steel, bronze or other ductile material and pipes between the hull opening and the valve shall be of steel except that in positions elsewhere and in vessels constructed of materials other than steel, other materials may be used provided that they are suitable for their intended service.

15 Heights of hatchway coamings, doorways sills, ventilators and air pipes

(1) Subject to paragraph (2), in every vessel to which this Order applies every hatchway on the freeboard deck shall have a coaming of substantial construction and the height of the coaming above the deck shall be not less than –

(a) 300 millimetres for vessels with vessel numerals up to and including 200;

(b) 380 millimetres for vessels with vessel numerals above 200 but no more than 315;

(c) 460 millimetres for vessels with vessel numerals above 315 but not more than 1400;

(d) 600 millimetres for vessels with vessel numerals above 1400.

On superstructure decks the height of the coamings shall be not less than 300 millimetres.[17]

(2) In any such vessel the height of hatch coamings specified in paragraph (1) may be reduced, or the coamings omitted, where compliance with the requirements of paragraph (1) is not reasonably practicable provided watertight hatch covers are fitted. Such covers shall be kept as small as reasonably practicable, be permanently attached by hinges or equivalent means and capable of being rapidly closed and battened down.

(3) In every such vessel the height of sills above the level of the deck in doorways provided in companionways, superstructures, deckhouses and machinery casings which give access to parts of the deck exposed to the weather and sea from spaces below the freeboard deck shall be not less than those specified for hatchway coamings in paragraph (1) provided that the height of such sills above deck may be reduced where there is no direct access to spaces leading below the freeboard deck and where the deck houses, superstructures or companionways on the freeboard deck are sub-divided internally.

(4) In every such vessel the lowest point at which water might gain access through the air pipes shall be not less than 760 millimetres above the freeboard deck or not less

than 450 millimetres above the superstructure deck, provided that these heights may be reduced where compliance with the requirements of this paragraph is not reasonably practicable because of interference with fishing operations and provided adequate closing arrangements are fitted.

(5) On the freeboard deck of every such vessel the height above deck of ventilators, other than machinery space ventilators, shall be not less than 900 millimetres and on superstructure decks not less than 760 millimetres. The height of ventilators of machinery spaces shall be as high as is reasonable and practicable.

(6) In every such vessel the requirements of this Article shall apply in relation to the heights of coamings, sills, air pipes and ventilators above an enclosed deck where water may accumulate and present a hazard to the vessel as they apply in relation to the heights of coamings, sills, air pipes and ventilators above the freeboard deck or superstructure deck as the case may be.

16 Freeing ports

(1) In every vessel to which this Order applies where bulwarks on weather parts of the freeboard deck form wells, the minimum freeing port area in square metres (in this Article referred to as "A") on each side of the vessel for each well on the freeboard deck shall be determined in accordance with the following formula in relation to the length and height of the bulwark in the well (in this Article referred to as "1" and "h" respectively) as follows:

$$A = \frac{(1.0 + 3.5h)\ 1 \times h}{100}$$

where 1 = length of the bulwark in metres.

h = mean height of the bulwark in metres.

Where side houses or superstructures fitted within the well contribute positive buoyancy to the vessel, A may be reduced except that, where such side houses or superstructures are discontinuous and provide pockets for the accumulation of water, no reduction shall be made.[18]

(2) In any such vessel if the well is on a deck whose minimum height at side above the deepest operational waterline is equal to or greater than "R" metres, A may be multiplied by the factor "f" where –

$$f = 1 - 0.5 \left(\frac{H - R}{2.35 - R} \right)$$

$$R = 0.95 \frac{+ (L - 30)\ 0.9}{(95)}$$

H = minimum height in metres measured from the deepest operational waterline to the lowest part of the deck at side upon which the well is formed.

L = registered length in metres.

In no case shall the factor "f" be less than 0.75.

(3) In any such vessel, A may include –

(a) the area of those freeing ports with attached means of closing provided that the freeing ports shall only be closed during fishing operations; and

(b) in stern trawlers the apertures in and under the stern doors.

(4) In every such vessel freeing ports shall be so arranged throughout the length of the bulwarks as to provide an effective means of freeing the deck of water. Lower edges of freeing ports shall be as near to the deck as is practicable. Freeing ports greater than 230 millimetres in depth shall be fitted with bars spaced not more than 230 millimetres apart or by other equivalent arrangements.

(5) In every such vessel the arrangements provided in the well for the stowage of equipment and the catch shall not impair the effectiveness of the freeing ports.

(6) In every such vessel intended to operate in zones where icing occurs the means of closing freeing ports when fitted shall be capable of being readily removed.

C – Freeboard and stability

17 Freeboard

Every vessel to which this Order applies shall be so designed, constructed and operated as to ensure that in all foreseeable operating conditions the freeboard will be adequate to provide –

(a) compliance with the stability criteria set out in Article 18;

(b) reasonable safety for men working on deck;

(c) reasonable safety to the vessel from the entry of water into enclosed spaces having regard to the closing appliances fitted.[19]

18 Stability

Every vessel to which this Order applies shall in all operating conditions and circumstances set out in paragraphs 10 and 11 of Schedule 3 and in all foreseeable operating conditions satisfy the following stability criteria after due correction for the free surface effects of liquids in tanks –

(a) the area under the curve of righting levers (GZ curve) shall not be less than –

(i) 0.055 metre-radians up to an angle of 30 degrees,

(ii) 0.090 metre-radians up to an angle of 40 degrees or such lesser angle of heel at which the lower edges of any openings in the hull, superstructures, deckhouses or companionways, being openings which cannot be closed weathertight, are immersed,

(iii) 0.030 metre-radians between the angles of heel of 30 degrees and 40 degrees or such lesser angle as defined in clause (ii);

(b) the righting lever (GZ) shall be at least 0.20 metres at an angle of heel equal to or greater than 30 degrees;

(c) the maximum righting lever (GZ) shall occur at an angle of heel not less than 25 degrees;

(d) in the upright position the transverse metacentric height (GM) shall not be less than 0.35 metres;

provided that, for vessels engaged on single or twin boom fishing the values of dynamic stability, righting lever and metacentric height given in sub-paragraphs (a), (b) and (d) shall be increased by 20%.[20]

D – Boilers and machinery

19 General

(1) In every vessel to which this Order applies machinery, boilers and other pressure vessels shall be of a design and construction adequate for the service for which they are intended and be installed and protected so as to minimise any danger to persons on board.[21]

(2) In every such vessel machinery spaces shall be designed to provide safe and free access to all parts of the machinery which may require servicing at sea.

(3) In every such vessel means shall be provided to prevent overpressure in any part of the machinery, boilers and other pressure vessels. Every boiler shall be provided with not less than 2 safety valves except that only one safety valve may be fitted if, having regard to the output or any other features of the boiler, adequate protection against overpressure is thereby provided.

(4) In every such vessel machinery spaces which will be periodically unattended at sea shall be provided with proper alarm, detection and machinery control systems.

(5) Prior to installation in every such vessel every boiler or other pressure vessel and its mountings shall be subjected to a hydraulic test to a pressure suitably in excess of the working pressure which will ensure it is adequate in strength and design for the intended service, having regard to –

(a) the design and the material of construction;

(b) its intended purpose;

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

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

(7) In every such vessel suitable provision shall be made to facilitate the cleaning and inspection of every pressure vessel.

20 Boiler feed systems

(1) In every vessel to which this Order applies every boiler which provides services essential for the safety of the vessel or which could become dangerous by the failure of its feed water supply, shall be provided with not less than 2 efficient and separate feed water systems so arranged that either of the systems may be opened for inspection or overhaul independently of the other. Means shall be provided which will prevent over-pressure in any part of the systems.[22]

(2) In every such vessel where it is possible for oil to enter the feed water system of a boiler, arrangements shall be provided for interception of the oil in the feed water.

(3) In every such vessel check valves, fittings and pipes in feed water systems shall be designed and constructed to withstand, with an adequate factor of safety, the maximum working stresses to which they may be subjected. Valves, fittings or pipes shall, prior to installation, be subjected to hydraulic test suitably in excess of the

maximum working pressure of the boiler to which they are connected or of the maximum working pressure to which the feed line may be subjected, whichever shall be the greater.

(4) In every such vessel boiler feed systems shall be maintained in an efficient condition and the feed pipes shall be adequately supported.

(5) In every such vessel provision shall be made to ensure that an adequate reserve of feed water is available.

21 Steam pipe systems

(1) In every vessel to which this Order applies steam pipes and fittings connected thereto through which steam may pass shall be so designed and constructed as to withstand the maximum working stresses to which they may be subjected, with an adequate factor of safety, having regard to –

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

(b) the working conditions under which they will be used.[23]

(2) Every steam pipe or fitting for every such vessel shall, prior to 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 the requirements of paragraph (1).

(3) In every such vessel every such steam pipe or fitting shall be maintained in an efficient condition.

(4) In every such vessel steam pipes shall be adequately supported and in such a manner to avoid damage due to variation in temperature, vibration or otherwise.

(5) In every such vessel means shall be provided for draining every steam range to ensure that the interior of each pipe in the range is kept free of water and that water hammer action will not occur under any foreseeable service conditions.

(6) In every such vessel steam fittings, steam pipes, hot exhaust pipes and other hot surfaces shall be adequately insulated.

(7) In every such vessel steam and exhaust pipes shall not be led through hold spaces unless adequately protected.

(8) In every such vessel, where a steam range 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.

(9) In every such vessel flanges in steam pipe systems shall not be situated above or in the vicinity of switchboards or other electrical equipment except that where this is not practicable provision shall be made to prevent leakage damaging the equipment.

(10) In every such vessel, in exhaust steam systems of machinery fitted with positive shut-off valves where the systems are not designed for the maximum inlet pressure, relief valves of sufficient capacity shall be fitted.

22 Machinery

(1) In every vessel to which this Order applies main and auxiliary machinery essential for the propulsion and safety of the vessel shall be provided with effective means of control. The machinery shall be capable of being brought into operation from the dead ship condition.[24]

(2) In every such vessel where risk from over-speeding of machinery exists provision shall be made to ensure that the safe speed is not exceeded.

(3) In every such vessel where main or auxiliary machinery or any parts of such machinery are subject to internal pressure such parts shall, prior to installation, 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;

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

and such parts shall at any time thereafter be capable of withstanding such a test.

(4) In every such vessel, main and auxiliary machinery essential for the safety and propulsion of the vessel shall be maintained in an efficient condition.

23 Means for going astern

Every vessel to which this Order applies shall have adequate power for going astern to maintain proper control of the vessel in all foreseeable service conditions.[25]

24 Shafts

In every vessel to which this Order applies 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;

(c) the type and size of prime mover or motor by which it is driven or of which it forms a part.[26]

25 Exhaust systems

In every vessel to which this Order applies the exhaust pipes and silencers of every internal combustion engine shall be adequately cooled or lagged to protect persons on board the vessel.[27]

26 Air pressure systems

(1) Every vessel to which this Order applies in which machinery essential for the propulsion and safety of the vessel is required to be started, operated or controlled solely by compressed air, shall be provided with an efficient air system, including an adequate number of air compressors and air storage receivers and shall be so arranged as to ensure that an adequate supply of compressed air is available under all foreseeable service conditions.[28]

(2) In every such vessel where the main engines are provided with means for air starting, the total air storage receiver capacity shall be adequate to start the main engine or engines not less than 12 times successively if the engine is reversible or not less than 6 times successively if the engine is non-reversible.

(3) In every such vessel where only one air storage receiver is provided for starting the main engines separate provision shall be made for the storage of compressed air necessary for starting the main electric generating sets where these are provided with means for air starting.

(4) In every such vessel air pressure systems and their component parts, other than pneumatic control systems, 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. Prior to being put into service for the first time, air pressure pipes and fittings in such a system shall be subjected to a hydraulic test to twice the system's maximum working pressure.

(5) In every such vessel air pressure systems shall be maintained in an efficient working condition.

(6) In every such vessel adequate pressure relief arrangements shall be provided to prevent overpressure in any part of any such air pressure system, and shall also be provided where water jackets of casings of air compressors and coolers might be subjected to dangerous overpressure due to leakage into them from air pressure parts.

(7) In every such vessel provision shall be made to drain the system and to reduce to a minimum the entry of oil into any air pressure system.

(8) In every such vessel provision shall be made to protect the system from the effects of internal explosion.

(9) In every such vessel discharge pipes from starting air compressors shall lead directly to the starting air receivers. Starting air pipes from the air receivers to main or auxiliary engines shall be separate from the compressor discharge pipe system.

(10) In every such vessel where an air pressure pipeline may receive air 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.

(11) In every such vessel soldered joints shall not be used in air pressure pipe lines.

27 Cooling water systems[29]

(1) In every vessel of 24 metres in length and over to which this Order applies where machinery essential for the propulsion and safety of the vessel is dependent for its operation on an efficient cooling water system, there shall be provided at least one circulating pump and, except in the case of any emergency generator, provision shall be made so that in the event of the failure of the pump an alternative pump is available for the same duty. These pumps shall provide an adequate supply of cooling water to the cooling system.[30]

(2) In every such vessel the sea water suctions of cooling systems for essential internal combustion machinery shall be provided with strainers which can be cleaned without interruption of the supply of water.

(3) In every such vessel provision shall be made to prevent overpressure in any part of the system and to indicate the proper working of the system.

28 [31]

29 Oil systems for lubricating, cooling and control[32]

(1) In every vessel of 24 metres in length and over to which this Order applies where oil for lubrication, cooling or operation of the main propelling machinery, gearbox and its ancillary services is circulated under pressure, at least 2 pumps shall be provided for the circulation of such oil where –

(a) the output or combined output of the main engines exceeds 500 b.h.p.; or

(b) lubricating oil under pressure is the only means of control of machinery for the propulsion and safety of the vessel.

Each pump shall be adequate for circulating the lubricating oil. Only one pump shall be required for an emergency generator.[33]

(2) In every such vessel strainers which can be cleaned without interrupting the supply of such oil shall be provided.

(3) In every such vessel provision shall be made to prevent overpressure and to indicate proper operation in every part of the system. Where the means of preventing overpressure is a relief valve it shall be in a closed circuit.

(4) In every such vessel flexible pipes in lubricating oil, cooling oil and hydraulic systems shall be fit for their intended service.

(5) In every such vessel oil level indicators in lubricating oil, cooling oil and hydraulic systems shall be accurate and fit for their intended service and shall be of a type which does not require piercing of the lower part of the tank. Tubular gauge glasses shall not be fitted to lubricating oil or hydraulic oil tanks but suitably protected gauges having flat glasses of substantial thickness and self-closing fittings may be used.

(6) In every such vessel oil pressure pipes in lubricating oil, cooling oil and hydraulic systems shall be made of seamless steel, or other suitable material having flanged joints and shall be properly installed and be led at such a height above the inner bottom as will facilitate inspection and repair. Every such pipe, joint and its fittings other than pipes, joints and fittings in hydraulic control systems, shall, before being put into service for the first time, be subjected to a test by hydraulic pressure to 2.8 kilogrammes force per square centimetre or to twice the maximum working pressure, whichever is the greater, and shall at any time thereafter be capable of withstanding such a test.

(7) In every such vessel oil pipes in lubricating oil, cooling oil and hydraulic systems, not being oil pressure pipes, shall be made of steel or other suitable material having flanged joints and shall be properly installed and be led at such a height above the inner bottom as will facilitate inspection and repair. Every such pipe, joint and its fittings other than pipes, joints and fittings in hydraulic control systems, shall, before being put into service for the first time, be subjected to a test by hydraulic pressure to 2.8 kilogrammes force per square centimetre or to twice the maximum working pressure, whichever shall be the greater, and shall at any time thereafter be capable of withstanding such a test.

30 [34]

31 Oil fuel installations (boilers and machinery) – general

(1) In every vessel to which this Order applies oil fuel used in boilers or machinery shall have a flash point of not less than 60°C (Closed Test), except that where the emergency source of electrical power is a generator driven by internal combustion type machinery having an independent fuel supply and with efficient starting arrangements, the oil fuel provided for this machinery shall have a flash point of not less than 43°C.[35]

(2) In every such vessel oil fuel tanks which are not built into the vessel's structure shall be properly constructed and be provided with save-alls or gutters. These tanks shall not be situated directly above boilers, heated surfaces, stairways, ladders, or electrical equipment other than unbroken runs of cable. Prior to installation these tanks shall be subjected to a hydraulic pressure test. Storage tanks or service tanks shall be tested to a head of water 300 millimetres in excess of the greatest head to which the tank may be subject when in service. In the case of a settling tank the required head of water shall not be less than 2.5 metres above the top of the tank.

(3) In every such vessel adequate means shall be provided for sounding oil fuel tanks and means provided to prevent overpressure in such tanks. The sounding arrangements or oil level indicating gear fitted to settling tanks or daily service tanks shall not permit the escape of oil if these tanks are overfilled. Oil level indicators shall not allow oil to escape in the event of their being damaged.

(4) In every such vessel air pipes shall be led from oil fuel tanks to the open air and the outlet shall be situated so that there will be no danger of fire or explosion resulting from the emergence of oil vapour from the pipe. Pipes shall be fitted with detachable wire gauze diaphragms of non-corrodible material.

Where pipes also serve as overflow pipes provision shall be made to prevent the overflow running into or near a boiler room, galley or other space where ignition may occur.

(5) In every such vessel air pipes from oil fuel tanks and levelling pipes attached to tanks shall have a nett cross-sectional area not less than 1.25 times that of the filling pipes.

(6) In every such vessel self-closing type drains shall be provided for the removal of water from oil fuel in storage tanks or settling tanks or in oily water separators.

(7) In every such vessel pipes connected to any oil fuel storage, settling, or daily service tank, not being a double bottom tank, 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 an inlet pipe may be fitted with a non-return valve secured to the tank.

(8) In every such vessel valves forming part of the oil fuel system shall be designed and constructed to prevent the cover of the valve chest being slackened back or loosened when the valve is operated.

(9) In every such vessel pumps forming part of the oil fuel system shall be separate from the feed pumps, bilge pumps and ballast pumps and the connection of any such pumps, and shall be provided with an efficient relief valve which shall be in closed circuit.

(10) In every such vessel the means provided for the storage, distribution and utilisation of the fuel shall be such that the effective use of the engines can be maintained under all foreseeable service conditions.

(11) In every such vessel where steam is generated for main propulsion or essential auxiliary machinery by burning oil fuel under pressure, not less than 2 oil fuel units shall be provided, each comprising a pressure pump, filters and a heater. The pump, filters and heater shall be of efficient design and substantial construction. Provision shall be made to prevent overpressure in any part of the oil fuel units. The parts of these oil fuel units which are subjected to oil pressure and the joints thereof shall, before being put into service for the first time, be subjected to a test by hydraulic pressure to 28 kilogrammes force per square centimetre or twice their maximum working pressure, whichever is the greater, and shall at any time thereafter be capable of withstanding such a test. Relief valves fitted to prevent over-pressure in the oil fuel heater shall be in closed circuit. Where steam is used for heating oil fuel in bunkers, tanks, heaters or separators, exhaust drains shall be provided to discharge the condensate into an observation tank fitted with a manually controlled drain.

(12) In every such vessel where a gravity oil fuel system is installed filters shall be provided and shall be capable of being cleaned without interrupting the supply of fuel oil.

(13) In every such vessel equivalent arrangements to those set out in paragraph (12) shall be provided in the fuel supply lines to main and auxiliary oil engines.

(14) In every such vessel save-alls or gutters shall be provided under every oil fuel pump, filter and heater and in way of the furnace mouths to prevent escaping oil from coming into contact with boilers or other heated surfaces.

(15) In every such vessel where flexible pipes are fitted in such systems, they shall be fit for their intended service.

(16) In every such vessel fuel supply lines to main propulsion and essential auxiliary machinery shall be provided with filters so constructed that they may not be opened during use.

32 Oil fuel installations (boilers and machinery)[36]

(1) In every vessel of 24 metres in length and over to which this Order applies oil fuel shall be effectively isolated from other liquids. The oil fuel pumping arrangements shall permit the oil fuel to be transferred from any oil fuel storage tank or settling tank into another oil fuel storage tank or settling tank. Provision shall be made to prevent the accidental discharge or overflow of oil overboard. If drinking water or boiler feed water is stored in a tank adjacent to an oil fuel tank a coffer-dam shall be provided which will prevent contamination.[37]

(2) In every such vessel oil fuel tank sounding pipes shall not terminate in crew accommodation, but they may be installed in passage-ways.

(3) In every such vessel oil fuel level indicators shall be accurate and fit for their intended service, and shall be of a type which does not require piercing of the lower part of the oil fuel tank. Tubular gauge glasses shall not be fitted to oil fuel tanks but suitably protected gauges having flat glasses of substantial thickness and self closing fittings may be used.

(4) In every such vessel overflows from settling tanks and daily service tanks shall be led back to the storage tanks or to an overflow tank and means shall be provided to indicate when the tanks are overflowing.

(5) In every such vessel where oil fuel tanks are alternatively used as liquid ballast tanks proper means shall be provided to isolate the oil fuel and ballast systems.

(6) In every such vessel oil fuel filling stations shall be isolated from other spaces and be adequately drained and independently ventilated. Provision shall be made to prevent over-pressure in oil-filling pipe lines.

(7) In every such vessel oil fuel pressure pipes shall be made of seamless steel or other suitable material having flanged joints and shall be properly installed and be led at such a height above the inner bottom as will facilitate inspection and repair. Every such pipe, joint and its fittings shall, before being put into service for the first time, be subjected to a test by hydraulic pressure to 28 kilogrammes force per square centimetre or to twice the maximum working pressure, whichever is the greater, and shall at any time thereafter be capable of withstanding such a test. Where such pipes are used for conveying heated oil they shall be situated in a position above the platform in well-lighted parts of the boiler room or engine room.

(8) In every such vessel oil fuel pipes not being oil fuel pressure pipes shall be made of steel or other suitable material having flanged joints and shall be properly installed and be led at such a height above the inner bottom as will facilitate inspection and repair. Every such pipe, joint and its fittings shall, before being put into service for the first time, be subjected to a test by hydraulic pressure to 3.5 kilogrammes force per square centimetre or to twice the maximum working pressure, whichever shall be the greater, and shall at any time thereafter be capable of withstanding such a test.

(9) In every such vessel steam heating pipes which may be in contact with oil shall be made of steel and, together with their joints, shall, before being put into service for the first time, be subjected to a test by hydraulic pressure to twice the maximum working pressure, and shall at any time thereafter be capable of withstanding such a test.

(10) In every such vessel every suction pipe from any oil fuel tank situated above an inner bottom within a boiler room or engine room shall be fitted with a valve or cock secured to each tank to which the pipe is connected. Every such valve or cock fitted to an oil fuel suction pipe shall be so arranged that it may be closed both from the compartment in which it is situated and from a readily accessible position outside such compartment not likely to be cut off in the event of fire in that compartment. If any oil tank filling pipe is not connected to an oil fuel tank at or near the top of the tank, it shall be fitted with a non-return valve or with a valve or cock secured to the tank to which it is connected and so arranged that it may be closed from the compartment in which it is situated and also from a readily accessible position outside such compartment not likely to be cut off in the event of fire in that compartment.

(11) In every such vessel master valves at the furnace fronts which control the supply of oil fuel to sets of burners shall be of quick-closing type and fitted in a readily accessible and conspicuous position. Provision shall be made to prevent oil from being turned on to any burner unless the burner has been correctly coupled up to the oil fuel supply line.

(12) In every such vessel provision shall be made for oil fuel pressure pumps and transfer pumps to be stopped from a position outside the compartment in which the pumps are situated.

33 [38]

34 Oil fuel installations (cooking ranges and heating appliances)

(1) In every vessel to which this Order applies where cooking ranges or heating appliances within crew spaces are supplied with fuel from an oil tank, the tank shall be situated outside the space containing the cooking range or heating appliance and the supply of oil to the burners shall be capable of being controlled from outside that space. Ranges or burners using oil fuel having a flash point of less than 60°C (Closed Test) shall not be fitted. Means shall be provided to shut off the fuel supply automatically at the cooking range or heating appliance in the event of fire or if the combustion air supply fails. Such means shall require manual resetting in order to restore the fuel supply.[39]

(2) In every such vessel the oil tank supplying the cooking range or heating appliance shall be provided with an air pipe leading to the open air, and in such a position that there will be no danger of fire or explosion resulting from the emergence of oil vapour from the open end of the pipe. The open end shall be fitted with a detachable wire gauze diaphragm.

(3) In every such vessel adequate means shall be provided for filling every such tank and for preventing overpressure.

35 Ventilation

In every vessel to which this Order applies every space in which an oil fuel tank or any part of an oil fuel installation is situated shall be adequately ventilated.[40]

36 Liquefied petroleum gas installations (cooking ranges and heating appliances)

(1) In every vessel to which this Order applies installations using liquefied petroleum gas shall be properly and safely fitted and fit for their intended service.[41]

(2) In every such vessel an odoriser shall be added to the gas to enable the presence of gas to be detected by smell, even when its concentration in air is below that of the lower limit of flammability.

(3) In every such vessel containers holding liquefied petroleum gas shall be securely stowed on deck or in a well ventilated compartment situated on the deck, except that, where deck stowage is not reasonably practicable, such gas containers may be stowed in spaces below deck, provided that such spaces are adequately ventilated and electrical equipment in such spaces is of flame-proof construction. Where drainage is provided from compartments containing such gas containers, drains shall lead directly overboard.[42]

(4) In every such vessel spaces containing cooking ranges or heating appliances which use liquefied petroleum gas shall not be fitted with openings leading directly below to accommodation spaces or their passageways, except that where this is not reasonably practicable and such openings are fitted mechanical exhaust ventilation trunked to within 300 millimetres of the deck adjacent to the appliance, together with adequate supply ventilation, shall be provided.

(5) In every such vessel spaces where appliances consuming liquefied petroleum gas are used shall be adequately ventilated.

(6) In every such vessel mechanical ventilation systems fitted to any space in which such gas containers or appliances are situated shall be of such design and construction as will eliminate the hazards due to sparking. The ventilation systems serving spaces containing such gas storage containers or gas-consuming appliances shall be separate from any other ventilation system.

(7) In every such vessel where such gas consuming appliances are fitted below deck and for galleys in vessels of 60 metres in length and over mechanical exhaust ventilation shall be provided.

(8) In every such vessel, every space containing such a gas consuming appliance shall be provided with gas detection and audible alarm equipment. The gas detection device shall be securely fixed in the lower part of the space in the vicinity of the gas consuming appliance. The alarm unit and indicating panel shall be situated outside the spaces containing the gas storage and consuming appliances.[43]

(9) [44]

(10) In vessels to which this Order applies a device shall be fitted in the supply pipe from the gas container to the consuming appliance which will shut off the gas automatically in the event of loss of pressure in the supply line. The device shall be of a type which requires deliberate manual operation to re-set it to restore the gas supply. An automatic shut-off device which operates in the event of flame failure shall be fitted on all appliances consuming liquefied petroleum gas.[45]

37 Storage of flammable liquids, toxic liquids, toxic gases and compressed gases

(1) In every vessel to which this Order applies cylinders containing flammable, toxic or other dangerous gases, and expended cylinders shall be properly stowed and secured on open decks, and all valves, pressure regulators and pipes leading from such cylinders shall be protected against damage. Such cylinders may be stowed in compartments which meet the requirements set out in paragraph (2).[46]

(2) In every such vessel highly flammable liquids, toxic liquids, toxic gases, and liquefied gases, other than liquefied petroleum gas shall be stored in compartments having direct access from open decks. Such compartments shall have boundary bulkheads constructed from non-combustible materials. Pressure adjusting devices and relief valves, if any, shall exhaust within the compartment. Where boundary bulkheads of such compartments adjoin other enclosed spaces they shall be gas tight and adequately insulated and provided with ventilation arrangements which are separate from other ventilation systems. Ventilation shall be arranged at high and low levels and the inlets and outlets of ventilators shall be positioned in safe areas and fitted with spark arresters.

(3) In every such vessel electrical wiring and fittings shall not be installed within compartments containing highly flammable liquids or liquefied gases except where necessary for service within the space. Where such electrical fittings are installed they shall be suitable for use in a flammable atmosphere.

(4) In every such vessel where cylinders containing flammable or other dangerous compressed gases are carried below deck, cylinders containing one type of compressed gas shall be stowed separately from cylinders containing another type. Compartments containing cylinders of such compressed gases shall not be used for stowage of other combustible products or for tools or objects not belonging to the gas distribution system.

E – Bilge pumping arrangements

38 Bilge pumping requirements for vessels[47]

(1) Every vessel to which this Order applies shall be provided with –

(a) efficient bilge pumping plant and means for drainage so arranged that water entering any part of the hull, 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 vessel is upright or is listed not more than 5 degrees either way. Wing suction shall be provided if necessary for this purpose. Arrangements shall be provided for an easy flow of water to the suction pipes. Provided that where the safety of the vessel is not thereby impaired, the bilge pumping arrangements may be dispensed with in any particular compartment or compartments of any vessel or class of vessels;

(b) arrangements for the drainage of all insulated compartments;

(c) not less than 2 independent powered bilge pumps provided that –

(i) one such pump may be driven from the main engine,

(ii) a ballast pump or other general service pump of adequate capacity may be used as an independent bilge pump,

(iii) a properly installed bilge ejector in combination with a power driven pump may be provided as a substitute for one independent power driven bilge pump.[48]

(2) In every such vessel –

(a) bilge pumps shall be self-priming. Pumps, other than hand pumps of the lever type and pumps provided for peak compartments only, shall, whether operated by hand or by power, be capable of drawing water from any space required by paragraph (1) to be drained;

(b) power bilge pumps shall be capable of giving a speed of water of not less than 2 metres per second through the main bilge pipe when its diameter is that determined by paragraph (5)(a). Each pump shall have a direct suction from the space in which it is situated, provided that not more than 2 direct suctions shall be required in any one space. The diameter of the direct suction shall be not less than that of the main bilge pipe. The direct suctions in the machinery space shall be so arranged that water may be pumped from each side of the space through direct suctions to independent bilge pumps;

(c) one of the sea water pumps circulating each main engine shall be fitted with emergency bilge suction connexions, which shall be provided with non-return valves, to the lowest drainage level in the machinery space, or as near thereto as is reasonably practicable. In vessels powered by steam the diameter of these connections shall be at least 2/3 of that of the main sea inlet. In motor vessels these connexions shall be of the same diameter as the pump inlet. Where any main circulating pump is not suitable for this purpose a direct emergency bilge suction shall be led from the largest available independent power driven pump to the drainage level of the machinery space. Such emergency suction shall be of the same diameter as the main inlet of the pump used. The capacity of the pump so connected shall exceed that of a required bilge pump by an adequate amount. The open end of such suctions or the strainer, if any, attached thereto

shall be accessible for clearing. The spindles of the main sea inlet and the direct suction valves shall extend well above engine room platform level;

(d) where hand bilge pumps are fitted they shall be either rotary, semi-rotary or lever operated and shall be operable from above the freeboard deck, and be so arranged that the bucket and tail valve can be withdrawn at all times.

(3) In every such vessel distribution boxes, valves and cocks fitted in bilge pumping systems shall be in accessible positions.

(4) In every such vessel –

(a) pipes from the pumps for draining hold spaces or any part of the machinery space shall be independent of pipes which may be used for filling or emptying spaces in which water or oil is carried;

(b) bilge pipes in boiler or machinery spaces including spaces in which oil settling tanks or oil fuel pumping units are situated shall be of steel or other equivalent material;

(c) bilge suction pipes shall not be led through double bottom tanks unless they are of heavy gauge steel construction with a minimum number of joints and shall be tested after fitting to a pressure of 3.5 kilogrammes force per square centimetre;

(d) bilge suction pipes shall be fitted with flanged joints and shall be properly secured in position and provided with expansion joints or bends. Pipes situated in fish holds, chain lockers or other positions where they are liable to damage shall be adequately protected.

(5) In every such vessel –

(a) the internal diameter of main and branch bilge suction pipes shall be determined to the nearest 5 millimetres by the following formulae:

$d_m = 25 + 1.68 \sqrt{L(B + D)}$

$d_b = 25 + 2.15 \sqrt{C(B + D)}$

where d_m = internal diameter of the main bilge suction pipes in millimetres;

d_b = internal diameter of the branch bilge suction pipes in millimetres;

L = Principal length of vessel in metres;

B = Principal breadth of vessel in metres;

D = Principal depth of vessel in metres;

C = Length of compartment in metres;

(b) the inside diameter of the bilge main and bilge suction directly connected to the pump shall be not less than 50 millimetres;

(c) bilge and ballast pumping systems shall be so arranged as to prevent water passing from the sea or from water ballast spaces into holds or into machinery spaces or from one watertight compartment to another. The bilge connection to any pump which draws from the sea or from water ballast spaces shall be fitted with either a non-return valve or a cock which cannot be opened simultaneously either to the bilges and to the sea or to bilges and water ballast spaces. Valves in bilge distribution boxes shall be of a non-return type;

(d) any bilge pipes piercing a collision bulkhead shall be fitted with a screw-down valve at the bulkhead with remote control from above the deck at which the bulkhead terminates, with an indicator showing the position of the valve. If

the valve is fitted on the after side of the bulkhead and is readily accessible under all service conditions the remote control may be dispensed with.

(6) In every such vessel bilge suctions in the machinery space shall be led from readily accessible mud boxes placed wherever practicable above the level of the working floor of the space. The boxes shall have straight tailpipes to the bilges and covers secured in such a manner as will permit them to be readily opened and closed. The suction ends in hold spaces and tunnel wells shall be enclosed in strum boxes having perforations approximately 10 millimetres in diameter, and the combined area of such perforations shall be not less than twice that of the suction pipe. Strum boxes shall be so constructed that they can be cleared without breaking any joint of the suction pipe.

(7) In every such vessel –

(a) subject to the requirements of sub-paragraph (b) the tanks forming part of the structure of the vessel and all watertight compartments, not being part of the machinery space, shall be provided with efficient sounding arrangements which shall be protected where necessary against damage. Where such arrangements consist of sounding pipes, a thick steel doubling plate shall be securely fixed below each sounding pipe for the sounding rod to strike upon. All such sounding pipes shall extend to readily accessible positions above the vessel's freeboard deck;

(b) sounding pipes for bilges, coffer dams and double bottom tanks being bilges, coffer dams and tanks situated in the machinery space, shall extend to readily accessible positions above the vessel's freeboard deck unless the upper ends of the pipes are accessible in ordinary circumstances and are furnished with cocks having parallel plugs with permanently secured handles so loaded that on being released they automatically close the cocks. Sounding pipes for bilges shall not be less than 65 millimetres in diameter.

39 [49]

F – Electrical equipment and installation

40 General

In every vessel to which this Order applies electrical equipment and installations including any electrical means of propulsion shall be such that the vessel and all persons on board are protected against electrical hazards.[50]

41 Distribution systems

(1) In every vessel to which this Order applies main and emergency switchboards shall be suitably guarded and so arranged as to provide easy access without danger to any person. Adequate non-conducting mats or gratings shall be provided. Exposed parts which may have a voltage between conductors or to earth exceeding 250 volts direct current or 55 volts alternating current shall not be installed on the face of any switchboard or control panel.[51]

(2) In every such vessel hull return shall not be used for the power, heat and light distribution systems.

(3) In every such vessel where 2 or more generating sets may be in operation at the same time for providing the auxiliary services essential for the propulsion and safety of the vessel each generator shall be arranged to supply such essential services and means shall be provided to trip automatically sufficient non-essential load when the total current exceeds the connected generator capacity.

(4) In every such vessel cable systems and electrical equipment shall be so installed as to reduce interference with radio reception to a minimum.

42 Electrical precautions

(1) In every vessel to which this Order applies electrical equipment shall be so constructed and installed that there will be no danger to any person handling it in a proper manner –

(a) subject to sub-paragraph (b), where electrical 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;

(b) exposed metal parts of portable electrical lamps, tools and similar apparatus, 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.[52]

(2) In every such vessel every fixed electrical cable shall be of a flame retarding type. All metal sheaths and armour of any electric cable shall be electrically continuous and shall be earthed. Electric cable which is neither metal sheathed nor armoured shall, if installed where its failure might cause a fire or explosion, be effectively protected.

(3) In every such vessel wiring shall be supported in such a manner as to avoid chafing or other damage.

(4) In every such vessel joints in all electrical conductors except those in low voltage communications circuits shall be made only in junction or outlet boxes or by a suitable method such that it retains the original mechanical, flame retarding and electrical properties of the cable. Junction or outlet boxes shall be so constructed as to confine the spread of fire.

(5) In every such vessel lighting fittings shall be so arranged that the rise in temperature will not damage the associated wiring or cause a fire risk in the surrounding materials.

(6) In every such vessel electrical circuits, other than a circuit which operates the vessel's steering gear, shall be protected against overload and short circuit. 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.

(7) In every such vessel electrical equipment shall not be installed in spaces where flammable mixtures are liable to accumulate unless it is of a type which will not cause ignition.

(8) In every such vessel every lighting circuit terminating in a bunker or hold shall be provided with an isolating switch positioned outside that bunker or hold.

43 Power supply, installation and testing requirements[53]

(1) In every vessel to which this Order applies where electric power is the only power for maintaining auxiliary services essential for the propulsion or safety of the vessel there shall be provided 2 or more generating sets of such power that the aforesaid can be operated when any one of the sets is out of service.[54]

(2) In every such vessel where the main source of electric power is situated below the uppermost continuous deck and within the machinery casings there shall be provided outside the machinery casings a self-contained emergency source of electric power so arranged as to ensure its functioning in the event of failure by reason of fire or otherwise of the main electrical installation.

(3) In every such vessel where the main source of electric power is situated above the uppermost continuous deck and outside the machinery casings such source of power shall be capable of operating simultaneously for a period of at least 3 hours the services indicated in paragraph (5) in addition to any other electrical load.

(4) In any such vessel where properly installed electric navigation lights supplied from the emergency source of power are provided in addition to the normal navigation lights oil navigation lights need not be carried.

(5) Subject to paragraph (9), in every such vessel the emergency source of electric power shall be capable of operating simultaneously for a period of at least 3 hours the following services –

(a) the general alarm if electrically operated;

(b) the watertight doors if they are electrically or electro-hydraulically operated and their indicators and the warning signals if electrically operated;

(c) emergency lights at launching stations and over-side, in all alleyways, stairways and exits, in the machinery spaces and in the place where the emergency source of electric power, if any, is situated; and in control stations for radio, navigation or other services essential to the safety of the vessel;

(d) emergency navigation lights fitted in accordance with paragraph (4), communication equipment, fire detecting systems and signals which may be required in an emergency, and the daylight signalling lamp.

(6) In every such vessel the emergency source of electric power shall be either accumulator (storage) batteries capable of supplying the services set out in paragraph (5) 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. The fuel provided for such machinery shall have a flash point of not less than 43°C. (Closed Test.)

(7) In every such vessel the emergency source of electric power shall be so arranged that it will operate efficiently when the vessel is listed 22 degrees either way and when the trim of the vessel is 10 degrees from a level keel.

(8) In every such vessel adequate means shall be provided for the regular testing of the emergency source of electric power and its associated circuits.

(9) In any vessel of 24 metres in length and over but less than 45 metres in length to which this Order applies adequate alternative means of supply for the emergency lighting systems set out in paragraph (5)(c) may be installed.[55]

44 [56]

45 Accumulator (storage) batteries and associated charging equipment

(1) In every vessel to which this Order applies where accumulator batteries provide the auxiliary electric power such batteries shall, together with dynamos or alternating current generators, be of sufficient capacity to provide an adequate reserve of electric power under all foreseeable service conditions. The batteries, their means of charging, charging voltage and current protection arrangements shall be effective and fit for their intended service.[57]

(2) In every such vessel not less than 2 dynamos or 2 alternating current generators each being capable of supplying sufficient auxiliary power for the safety of the vessel and maintaining the charge rate for the vessel's batteries shall be provided as a means of charging those batteries. Dynamos or alternating current generators may be driven by the main engine, subject to compliance with the provisions of paragraph (6).

(3) In every such vessel the output of any dynamo or alternating current generator driven by a variable speed engine shall be based on the lowest operational speed of the engine. Throughout the entire operating engine speed range the dynamo or alternating current generator shall operate within its safe speed range.

(4) In every such vessel accumulator (storage) batteries shall be housed in boxes, trays or compartments which are constructed to provide protection of the batteries from damage and ventilated to reduce the accumulation of explosive gas to a minimum. Where fans are fitted in exhaust ducts from compartments assigned principally to the storage of batteries they shall be of a flameproof type. Electrical arrangements liable to arc shall not be installed in any compartment used principally for the storage of accumulator batteries. Lead acid and nickel alkaline batteries shall not be housed in the same space.

(5) In every such vessel where accumulator batteries are used for starting the main engine not less than 2 batteries shall be available and each battery shall be capable of supplying adequate starting power and shall be of sufficient capacity to start the main engine or engines not less than 12 times successively if the engine is reversible or not less than 6 times successively if the engine is non-reversible, unless alternative means of starting are provided.

(6) [58]

G – Miscellaneous plant and equipment

46 Watertight doors

(1) In every vessel to which this Order applies the number of doors fitted in any watertight bulkhead shall be as few as reasonably practicable and every such door shall be efficiently constructed and be watertight when closed.[59]

(2) In every such vessel, subject to the provisions of paragraph (3), doors of the sliding type, whether controlled manually or otherwise, shall be operable by efficient gear both at the door itself and from an accessible position above the weather deck and the remote controls for such operation shall be situated outside the compartment containing the door unless such a position is inconsistent with the efficient arrangement of the necessary gearing.

(3) In every such vessel 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 from each side of the door itself.

(4) In every such vessel means shall be provided at remote operating positions to indicate when a sliding door is closed.

(5) In every such vessel doors of the hinged type shall be capable of being operated from each side of the door itself.

(6) In every such vessel all doors shall be capable of being efficiently operated when the vessel is listed up to 15 degrees either way.

47 Steering gear – vessels fitted with rudders[60]

(1) Every vessel to which this Order applies shall be fitted with efficient main steering gear, which shall be power operated in vessels over 45 metres in length, and efficient auxiliary steering gear. No auxiliary steering gear shall be required where suitable duplicate steering gear power units and their connections are fitted in a satisfactory manner and –

(a) each power unit complies with the requirement of paragraph (2)(b);

(b) each power unit enables the steering gear to meet the requirements of paragraph (2)(a).[61]

(2) In every such vessel –

(a) the main steering gear, rudder and associated fittings shall be adequate to steer the vessel at maximum ahead service speed and shall be so designed that they are not damaged at maximum astern speed or by manoeuvring during fishing operations;

(b) the auxiliary steering gear shall be capable of being brought rapidly into action and shall be adequate to enable the vessel to be steered at navigable speed.

(3) In every such vessel, the main steering gear shall be capable of putting the rudder over from 35° on one side to 30° on the other side in 30 seconds when the vessel is at maximum ahead service speed with the rudder totally submerged and, if manually operated, shall be designed to prevent violent recoil of the steering wheel.

(4) Every such vessel shall be so constructed that the person steering from the main wheelhouse control position has a clear view ahead.

(5) Every such vessel which is fitted with power operated steering gear shall have a rudder position indicator in the wheelhouse.

48 [62]

49 Steering gear – vessels fitted with steering devices other than rudders[63]

In every vessel to which this Order applies which is fitted with a steering device other than a rudder the construction and operation of such a device shall be adequate and suitable for its intended purpose.[64]

50 Electrical and electro-hydraulic steering gear

(1) In every vessel to which this Order applies where electrical or electro-hydraulic steering gear is fitted, indicators shall be provided which will show when the power units of such steering gear are in operation. These indicators shall be situated in the machinery control room or other suitable positions and in the wheelhouse.[65]

(2) In every vessel of 45 metres in length and over to which this Order applies –

(a) electrical and electro-hydraulic steering gear shall be served by 2 circuits fed from the main switchboard, one of which may pass through an 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. Where 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 far apart as is reasonably practicable throughout their length;

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

(3) In every vessel to which this Order applies where electric power is the only source of power for both main and auxiliary steering gear the provisions of paragraph (2) shall apply except that where auxiliary steering gear is powered by a motor primarily intended for other services suitable overload protection may be fitted.[66]

51 Communication between wheelhouse and engine room[67]

Every vessel to which this Order applies shall be provided with 2 separate means of communicating orders from the wheelhouse to the engine room control platform. One of the means shall be an engine room telegraph except where the means of propulsion are directly controlled from the wheelhouse.[68]

52 Controllable pitch propellers

Where any vessel to which this Order applies is equipped with a controllable pitch propeller the propeller and its control gear shall be adequate having regard to the intended service of the vessel.[69]

53 Refrigerating plants

(1) In every vessel to which this Order applies refrigerating plants 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.[70]

(2) In every such vessel ammonia and methylchloride shall not be used as refrigerants.

54 Anchors and chain cables

Every vessel to which this Order applies shall be equipped with anchors and chain cables sufficient in number, weight and strength, having regard to the vessel's size and intended service except that wire rope of suitable strength may be substituted for chain cable provided that a suitable length and weight of chain cable is attached between the wire rope and the anchor. Where an anchor weighs more than 68 kilogrammes a windlass or a suitable winch normally used for fishing operations shall be provided for working the anchor and

shall be maintained in effective working order. Anchor and chain cables with which the vessel is equipped in accordance with this Article shall be maintained in effective working order.[71]

55 Spare gear

In every vessel to which this Order applies adequate spare gear shall be provided for main and auxiliary machinery and electrical equipment and installations of the vessel having regard to the intended service of the vessel.[72]

56 Winches, tackles and lifting gear

Every vessel to which this Order applies shall be provided with winches, tackles and lifting gear properly installed having regard to the intended service of the vessel.[73]

H – Structural fire protection and fire detection

57 Structural fire protection – general

Every vessel to which this Order applies shall be so constructed and equipped that there is no substantial fire risk to the vessel or to persons on board the vessel.[74]

58 Structural fire protection – vessels with hulls constructed of steel or other equivalent material

(1) In every vessel to which this Order applies, the hull of which is constructed of steel or other equivalent material, the superstructure, structural bulkheads, decks and deckhouses shall also be constructed of steel or other suitable material, having regard to the risk of fire.[75]

(2) In every such vessel the bulkheads and decks separating accommodation spaces, service spaces, control stations and emergency firepump space from machinery spaces shall be constructed and insulated to A.60 standard, provided that the provisions of this paragraph shall not apply to spaces where the fire risk is minimal.

(3) In every such vessel the bulkheads of corridors serving accommodation spaces, other than bulkheads required to meet the provisions of paragraph (2) shall extend from deck to deck and shall be constructed of steel, other equivalent material, or non-combustible material capable of meeting a B.15 standard.

(4) In every such vessel interior stairways serving accommodation spaces, service spaces or control stations shall be constructed of steel. In vessels of 24.4 metres in length and over such stairways shall be within enclosures formed of steel, other equivalent material or non-combustible material capable of meeting a B.15 standard, except that a stairway connecting only 2 decks may be enclosed at one deck only.

(5) In every such vessel –

(a) the number of openings in the bulkheads and decks referred to in paragraph (2) shall be as few as reasonably practicable; and

(b) such openings shall be fitted with closing arrangements which provide protection equivalent to the surrounding structure in resisting fire.[76]

(6) In every vessel to which this Order applies the number of openings in the bulkheads and decks referred to in paragraphs (3) and (4) shall be as few as reasonably practicable and fitted with closing arrangements which provide protection equivalent to the surrounding structure in resisting fire. Doors fitted to stairway enclosures shall be self-closing and arrangements, where provided, for holding open the doors shall be such that the doors close automatically in the event of fire.[77]

(7) In every such vessel lift trunks in accommodation and service spaces shall be constructed of steel or equivalent material and the openings therein shall be provided with adequate means of closing which will contain smoke and draughts within the lift trunks and which provide protection equivalent to the surrounding structure in resisting fire.

(8) In every such vessel boundary bulkheads and decks of spaces containing emergency sources of power and such bulkheads and decks which separate galleys, paint rooms, lamp-rooms or store-rooms containing flammable materials from accommodation spaces, service spaces or control stations shall be constructed to A.60 standard. Bulkheads, other than boundary bulkheads, to paint rooms, lamp-rooms or any other store-rooms containing flammable materials shall be constructed of steel or equivalent material. Entrances to store-rooms containing highly flammable materials or products shall be from the open deck and the materials or products shall be stored in sealed containers provided that such an entrance may lead into a passageway if the closing arrangements are adequate.

(9) In every vessel of 24 metres in length and over to which this Order applies bulkheads, linings, ceilings and the support grounds in accommodation spaces, service spaces and control stations shall be constructed of non-combustible material, except that such bulkheads, linings and ceilings may have a combustible veneer the thickness of which shall not exceed 1.5 millimetres.[78]

(10) In every vessel to which this Order applies concealed surfaces behind bulkheads, ceilings, panellings and linings in accommodation spaces, service spaces and control stations, together with all exposed surfaces therein shall be such that a Class 1 or Class 2 surface spread of flame shall not be exceeded. Paints, varnishes and other finishings used on these exposed surfaces shall also be such that a Class 1 or Class 2 surface spread of flame shall not be exceeded.[79]

(11) In every such vessel deck coverings within accommodation spaces, service spaces and control stations shall be of a type which will not readily ignite.

(12) In every such vessel curtains, other suspended textile materials and floor coverings shall have adequate fire resistant qualities.

(13) In every such vessel spaces enclosed behind ceilings, panellings or linings in accommodation spaces, service spaces and control stations shall be suitably sub-divided by close fitting draught stops situated not more than 7 metres apart.

(14) In every such vessel pipes conveying oil or other combustible liquids or compressed air shall be constructed from steel or other suitable material. Jointing materials used shall be such that they shall not be rendered ineffective by heat.

(15) In every such vessel overboard scuppers, discharges or other outlets situated below the freeboard deck shall be constructed of steel or other suitable material.

(16) In every such vessel the hinged portions of skylights serving spaces containing either main propulsion machinery, oil-fired boilers or auxiliary internal combustion machinery shall be capable of being operated from inside and outside such spaces.

(17) In every such vessel insulation in accommodation spaces, service spaces, control stations and machinery spaces shall be of non-combustible material and such

insulation, fitted on the inside of machinery spaces in positions where oil spillage or the emission of oil vapours may arise, shall have exposed surfaces impervious to oils or oil vapours.

(18) In every such vessel insulation where fitted in refrigerated compartments or fish holds shall be non-combustible unless the exposed surfaces thereof are protected by close fitting cladding.

(19) In any such vessel insulation to refrigerated compartments within accommodation spaces need not be non-combustible provided the exposed surfaces are protected by non-combustible cladding.

(20) In every vessel of 24 metres in length and over to which this Order applies an automatic fire detection and alarm system complying with the requirements of Article 113 shall be provided to compartments within accommodation spaces remote from the control stations.[80]

59 Structural fire protection – vessels with hulls constructed of a glass reinforced plastic

(1) In every vessel to which this Order applies, the hull of which is constructed of glass reinforced plastic, the hull, superstructure, structural bulkheads, decks and deckhouses shall be provided with fire-resistant properties.[81]

(2) In every such vessel the following structures shall be so insulated and constructed as to meet a B.30 standard –

(a) the internal surfaces of the deckhead, boundary bulkheads, side shell down to light waterline level and the casings of the main machinery space,

(b) the adjacent deck areas and bulkheads forming the enclosures to stairways serving accommodation spaces, service spaces or control stations, except that –

(i) all stairways shall be constructed of steel,

(ii) a stairway leading between 2 decks may be enclosed at one deck only;

(c) bulkheads and decks enclosing the control stations and corridors serving accommodation spaces, service spaces and control stations.

(3) In every such vessel lift trunks in accommodation and service spaces shall be provided with adequate means of closing which will contain smoke and draughts within the lift trunk.

(4) In every such vessel structures enclosing the galley and similar spaces adjacent to or within the accommodation spaces, service spaces or control stations shall be adequately insulated.

(5) In every such vessel exposed surfaces within accommodation spaces, service spaces, control stations or machinery spaces other than those required to be insulated in accordance with paragraphs (2) and (4) shall have a final layer of suitable fire retardant resin or be coated with a suitable fire retardant paint, except that the foregoing provisions of this paragraph shall not apply to surface laminates which are self-extinguishing.

(6) In every such vessel the number of openings in the bulkheads and decks shall be as few as reasonably practicable and fitted with closing arrangements which provide protection equivalent to the surrounding structure in resisting fire. Doors fitted to stairway enclosures shall be self-closing and arrangements, where provided, for holding open the doors shall be such that the doors close automatically in the event

of fire. Doorways fitted to casings situated above the machinery spaces and extending above the freeboard deck shall be fitted with closing appliances of the self-closing type.

(7) In every such vessel insulation provided within refrigerated compartments or insulated fish-holds shall be non-combustible unless the exposed surfaces of such insulation are protected by close fitting cladding which shall be non-combustible where fitted in spaces containing fire hazards.

(8) In every such vessel where ceilings, panellings or linings are fitted in accommodation spaces, service spaces or control stations the requirements Article 58(10) and (13) shall apply to such ceilings, panellings or linings.

(9) In every such vessel exhaust pipes and ducts which are liable to become heated shall be adequately insulated and properly positioned.

(10) In every such vessel deck coverings shall comply with the requirements of Article 58(11).

(11) In every vessel of 24 metres in length and over to which this Order applies an automatic fire detection and alarm system complying with the requirements of Article 113 shall be provided to compartments within accommodation spaces and service spaces remote from the control stations.[82]

60 Structural fire protection – vessels with hulls constructed of wood

(1) In every vessel to which this Order applies, the hull of which is constructed of wood –

(a) the following structures shall be constructed from steel or other equivalent material in the propelling machinery space –

(i) the casings,

(ii) the beams supporting that part of the deck which forms the crown of this space, except the half-beams and carlings which may be of hard wood and of substantial section;

(b) bulkheads which separate the machinery spaces from adjacent accommodation spaces or control stations shall be constructed of steel, other equivalent material or non-combustible material capable of meeting a B.15 standard. Access doors shall be close fitting and provide protection equivalent to the bulkhead in resisting fire;

(c) the deck of a wheelhouse or control station which forms the crown of the machinery space shall be constructed of steel or other equivalent material.[83]

(2) In every such vessel where cooking or heating appliances are fitted in galleys, service spaces or any space adjacent to or within accommodation spaces and adjacent to wood structure, such surrounding structure shall be adequately insulated.

(3) In every such vessel ladders or stairways forming means of escape from below deck shall be constructed of steel and the deck openings shall be fitted with closing appliances which provide protection equivalent to the structure in resisting fire.

(4) In accommodation spaces, service spaces, control stations and machinery spaces in such vessels, paints, varnishes and other finishings used on exposed surfaces shall be such that a Class 1 or Class 2 surface spread of flame shall not be exceeded.

(5) In every such vessel products and materials which produce smoke or toxic products when exposed to fire shall not be stored in machinery spaces, except those products and materials necessary for operating the machinery.

(6) In every such vessel insulation provided within refrigerated compartments or insulated fish-holds shall be non-combustible unless the exposed surfaces of such insulation are protected by close fitting cladding which shall be non-combustible where fitted in spaces containing fire hazards.

(7) In every such vessel the number of openings in the bulkheads and decks shall be a minimum and fitted with closing arrangements which provide protection equivalent to the surrounding structure in resisting fire. Doors in casings extending at least 1.8 metres above the crown of machinery spaces on the freeboard deck shall be fitted with closing appliances of the self-closing type.

(8) In every such vessel exhaust pipes and ducts which are liable to become heated shall be adequately insulated and properly positioned.

(9) In every such vessel deck coverings shall comply with the requirements Article 58(11).

(10) In every vessel of 24 metres in length and over to which this Order applies an automatic fire detection and alarm system complying with the requirements of Article 113 shall be provided to compartments within accommodation spaces and service spaces remote from the control stations.[84]

61 Ventilation systems

(1) In every vessel to which this Order applies adequate means shall be provided for stopping fans and closing main inlet and outlet openings of ventilation systems from a position outside the spaces served by the ventilation systems.[85]

(2) In every such vessel adequate means shall be provided for closing funnel ventilation openings.

(3) Subject to paragraph (5), in every such vessel ventilation systems serving main machinery spaces shall not pass through accommodation spaces, service spaces or control stations.

(4) Subject to paragraph (5), in every such vessel ventilation systems serving accommodation spaces, service spaces or control stations shall not pass through main machinery spaces.

(5) In every such vessel the requirements of paragraphs (3) and (4) shall not apply where suitable materials are used in the construction of the ventilation systems and proper means provided to preserve the integrity of the fire divisions.

(6) In every such vessel ventilation openings shall not be fitted in doors and bulkheads which form part of stairway enclosures:

Provided that such openings may be provided in cabin doors which form a fire division if they are situated in the lower portion of the door.

(7) In every such vessel, where reasonably practicable, ventilation ducts serving stairway enclosures required to be ventilated shall not serve any other space.

(8) In every such vessel exhaust ventilation systems from galleys shall be provided with a grease trap and those which pass through accommodation spaces, service spaces or control stations shall be constructed of steel insulated to A.30 standard.

(9) In every such vessel ventilation systems serving propulsion, essential auxiliary machinery spaces and cargo refrigerating machinery spaces shall be independent of other systems and shall provide adequate ventilation.

(10) In every such vessel adequate ventilation systems shall be provided to store-rooms containing flammable products, gas cylinders or other dangerous materials. Each

system shall be self-contained and the inlet and outlet openings shall be positioned in safe areas and fitted with spark arresters.

(11) In every such vessel suitable material shall be used in the construction of all ventilation systems.

62 Means of escape

(1) In every vessel to which this Order applies stairways, ladders and passageways shall be arranged to provide ready means of escape from crew accommodation spaces and access to positions on deck or decks where the life saving appliances will be available for use.[86]

(2) In every such vessel at least 2 means of escape, which may include the normal means of access, shall be provided from accommodation, service or working spaces situated on any one deck level within either watertight or fire resistant boundaries, except that only one means of escape must be provided where one such means is adequate having regard to the number of crew and the size of the space involved.[87]

(3) In vessels to which this Order applies, as far as is reasonably practicable, the means of escape provided to meet the requirements of paragraph (2) shall be so arranged that the deck may be reached without passing through spaces containing a fire hazard. Closing arrangements provided to all openings forming part of an escape route shall be capable of being operated from each side. Such means of escape from spaces which are situated below a complete deck shall be of an enclosed type.[88]

(4) In every such vessel at least 2 suitably located means of escape shall be provided from main machinery spaces except where the size of the machinery space renders this impracticable. Where ladders are provided for escape they shall be of steel. In vessels of 60 metres and over in length one of these ladders shall be completely enclosed from the lower part of the machinery space and lead to a safe position outside this space. Where a door constructed of steel or equivalent material which is capable of being operated from both sides provides access to a safe route from the lower part of the machinery space to the embarkation deck no such enclosure need be provided.

(5) In every such vessel to which this Order applies lift trunks shall not be a means of escape for the purpose of this Order.[89]

63 Space heaters and cooking stoves

(1) In every vessel to which this Order applies electric space heaters, where provided, shall be so constructed and fitted as to reduce the fire risk to a minimum and where such heaters are situated on decks or bulkheads the structure of such decks or bulkheads shall be protected by non-combustible material. Heaters with exposed elements and open flame solid fuel heaters shall not be provided.[90]

(2) In every such vessel heating stoves and other similar appliances shall be secured in position and their exhausts, together with the surrounding structure, provided with adequate fire protection. The exhausts of stoves shall be provided with ready means of cleaning. The dampers fitted in exhausts for controlling draught shall provide an adequate flow of air when in the closed position. Where ventilators are used to provide an adequate flow of air to spaces in which such stoves are installed, these ventilators shall not be fitted with means of closing.

(3) In every such vessel open flame gas heating appliances shall not be fitted except where used as cooking stoves. Adequate ventilation shall be provided to spaces containing such cooking stoves. Pipes supplying gas from the container to the cooking stove shall be constructed of suitable material. Arrangements shall be provided in accordance with the requirements of Article 36(10) for automatic cut-off of the supply of gas when there is a loss of pressure or flame failure.

64 Automatic fire detection systems[91]

In every vessel to which this Order applies an automatic fire detection and alarm system complying with the requirements of Article 113 shall be installed in the main propulsion machinery spaces.

I – Protection of the crew

65 Bulwarks, guard rails and guard wires

(1) In every vessel to which this Order applies, efficient bulwarks, guard rails or guard wires shall be provided to a height at least 915 millimetres above the level of the deck at the perimeters of exposed parts of the freeboard and superstructure decks and the tops of any deckhouse or companionway used in operating the vessel. The height above deck of any fixed bulwarks shall be at least –

(a) 610 millimetres for vessels with vessel numerals up to and including 140;

(b) 760 millimetres for vessels with vessel numerals above 140 but not more than 315;

(c) 915 millimetres for vessels with vessel numerals above 315.[92]

(2) In every such vessel these bulwark heights shall be increased to not less than 915 millimetres by adequate portable stanchions and guard wires.

(3) In any such vessel the height of the fixed bulwarks specified in paragraph (1) may be reduced at any point if –

(a) there would be unreasonable interference with the efficient operation of the vessel if such minimum height were adhered to at that point; and

(b) adequate protection is provided at that point.

(4) In every such vessel guard rails or guard wires fitted in accordance with paragraph (1) shall consist of courses of rails or wires supported by stanchions effectively secured on the deck. The openings between the lowest course of the rails or wires and the deck shall not exceed 230 millimetres in height and no opening above that course of rails or wires shall exceed 380 millimetres in height. Where the vessel has rounded gunwales the stanchions shall be secured at the perimeter of the flat of the deck.

(5) In every such vessel adequate guard rails, lifelines, gangways or passages shall be provided for the protection of persons on board the vessel when passing between their quarters, machinery spaces and working spaces. Storm rails shall be fitted on the outside of all deck houses and casings.

(6) Every such vessel being a stern trawler shall be provided with doors, gates, or other adequate arrangements at the top of the stern ramp for the protection of persons on board the vessel. A chain or other suitable arrangements shall be provided across the ramp when the doors or gates are open.

(7) In every such vessel an adequate number of lifelines and safety belts shall be provided.

66 Openings in decks

(1) In every vessel to which this Order applies skylight openings which do not provide means of escape shall be provided with protective bars.[93]

(2) In every such vessel access hatchway openings shall be not less than 600 millimetres by 600 millimetres.

67 Stairways and ladders

In every vessel to which this Order applies stairways and ladders shall be provided of size and strength adequate for the safe working of the vessel at sea and in port. Stairways and ladders shall be provided with non-slip treads and handrails.

J – Nautical equipment

68 Compasses – requirements for vessel of 45 metres in length and over

Every vessel of 45 metres in length and over to which this Order applies shall be provided with –

(a) an efficient standard magnetic compass which shall be mounted in a binnacle and sited on the vessel's centre line in a suitable position from which the view of the horizon is least obstructed; and

(b) an efficient magnetic steering compass mounted in a binnacle sited on the vessel's centre line at the normal steering position unless a projected or reflected image, or a projected and reflected image, of the standard magnetic compass is provided for this purpose, when the said magnetic steering compass shall be mounted in a binnacle or in a pedestal at the emergency steering position where such emergency steering position is situated above the freeboard deck. Where there is no emergency steering position or where the emergency steering position is not above the freeboard deck the said magnetic steering compass shall not be required if a projected or reflected image, or a projected and reflected image, of the standard magnetic compass is provided at the normal steering position, and either a gyro-compass with repeaters or a transmitting magnetic compass with repeaters having a satisfactory emergency electricity supply is provided. In addition to the said gyro-compass or transmitting magnetic compass, a spare magnetic compass bowl with its gimbal units shall be carried on board so that it may be interchanged with the standard compass if that compass shall become unserviceable. The repeaters required in this Article shall be so positioned that one is at the normal steering position.

69 Compasses – requirements for vessels of 24 metres in length and over but less than 45 metres in length[94]

Every vessel of 24 metres in length and over but less than 45 metres in length to which this Order applies shall be provided with at least one efficient standard magnetic compass mounted in a binnacle and so fitted that a projected or reflected image, or a projected and reflected image, of the said compass is positioned near the normal steering position.

70 Compasses – general requirements

(1) In every vessel to which this Order applies a voice pipe or other acceptable means of communications shall be provided between the standard compass position and the wheelhouse and the emergency steering position if one is provided.[95]

(2) Vessels of 45 metres in length and over to which this Order applies, operating in latitudes above 65° North or South, shall be provided with a gyro-compass.

71 Sounding equipment

In every vessel to which this Order applies a mechanical depth sounding device or echo depth sounding equipment suitable for navigational purposes shall be provided.[96]

72 Nautical publications

(1) In every vessel to which this Order applies there shall be carried the charts described in paragraph (2) and the directions and information mentioned in paragraph (3).

(2) The said charts are those –

(a) which are of such a scale and which contain sufficient detail as clearly to show –

(i) all navigational marks which may be used by a vessel when navigating the waters which are comprised in the chart,

(ii) all known hazards affecting those waters, and

(iii) any information concerning traffic separation schemes, two-way routes, recommended tracks, inshore traffic zones and deep water routes applicable to those waters and areas therein which are to be avoided;

(b) which are either published by the Hydrographer of the Navy or, if not so published, are of a similar scale to those so published and contain equivalent detail; and

(c) which, in all cases, are of the latest available edition and –

(i) in the case of charts published by the Hydrographer of the Navy, have been corrected from all relevant Notices to Mariners and Radio Navigational Warnings, and

(ii) in the case of charts not so published, have been otherwise adequately corrected.

In paragraph (b) the reference to the Hydrographer of the Navy includes a reference to any authority in any country other than the United Kingdom duly exercising functions similar to those of the Hydrographer.

For the purpose of sub-paragraph (c)(ii) a chart shall be treated as adequately corrected if, in relation to a voyage made by the vessel which is carrying the chart in accordance with paragraph (4)(a) all relevant corrections to that chart applicable up to a time 9 months before the beginning of that voyage have been made.

(3) The said directions and information are such as is contained in the publications mentioned in column 1 of Schedule 25, being publications which, in all cases, are of the latest available edition and which incorporate the latest relevant supplements and, in the case of any such publication which is published otherwise than by the publisher specified opposite thereto in column 2 of the said Schedule is of equivalent standard and content.

(4) Every vessel to which this Order applies which goes to sea or attempts to go to sea shall carry at least –

(a) one copy of a chart which complies with the requirements specified in paragraph (2) being a chart which is appropriate for each part of the intended voyage; and

(b) one copy of each of the publications mentioned in Schedule 25, with English language text, as is appropriate for that voyage.

73 Flags and signalling equipment

Every vessel to which this Order applies shall be provided with –

(a) a proper complement of flags and pennants for communication by the international code of signals when proceeding on a distant water voyage;

(b) an efficient signalling lamp capable of being used both by day and by night and which shall be provided with a battery of sufficient capacity to operate the lamp continuously for not less than2 hours.[97]

K – Documentation to be carried on vessels

74 Record of particulars to be kept on vessel

In every vessel to which this Order applies a copy of the record of particulars referred to in Article 128 shall be kept on board at all times in the custody of the skipper.[98]

75 Information as to stability to be kept on vessel

(1) In every vessel to which this Order applies a book containing the information relating to the stability of the vessel set out in Schedule 3 shall be kept on board at all times in the custody of the skipper.[99]

(2) The book kept in accordance with paragraph (1) shall be appropriately amended whenever its accuracy is materially affected by alteration of the vessel.

76 Information on loading and ballasting to be kept on vessel

In every vessel to which this Order applies a book containing working instructions specifying in detail the manner in which the vessel is to be loaded and ballasted in all foreseeable operating conditions shall be kept on board at all times in the custody of the skipper.[100]

77 Penalties for offences under Part 2[101]

(1) If –

(a) the Articles in this Part are contravened with respect to any vessel to which the Articles apply; or

(b) a vessel to which the Articles in this Part apply is, under Article 3 of Part 1 exempted from any requirement subject to a condition and the condition is not complied with,

the owner or master of the vessel shall be liable to a fine.

(2) A surveyor of ships appointed by the Minister may inspect any fishing vessel for the purpose of seeing that it complies with this Part and for that purpose shall have all the powers of an inspector under the Shipping (Jersey) Law 2002.[102]

(3) If a vessel to which this Order applies goes to sea or attempts to go to sea without carrying copies of the charts, directions or information required by Article 72 the owner or master of the vessel shall be liable to a fine not exceeding level 2 on the standard scale.

PART 3

LIFE SAVING APPLIANCES

A – Life saving appliances and equipment

78 Requirement for vessels of 75 metres in length and over

(1) Every vessel of 75 metres in length and over to which this Order applies shall carry –

(a) at least 2 lifeboats, one of which shall be a motor lifeboat, attached to davits so arranged that there is at least one lifeboat on each side of the vessel, the lifeboats on each side of the vessel being of sufficient aggregate capacity to accommodate half the total number of persons on board the vessel;

(b) at least 2 liferafts of sufficient aggregate capacity to accommodate not less than one-and-a-half times the total number of persons on board.

(2) In every such vessel –

(a) the lifeboat davits shall be of the gravity type except that davits which serve a lifeboat weighing not more than 2.3 tonnes in the turning out condition may be of the luffing type;

(b) the liferafts shall be so stowed that they can be readily transferred to the water on either side of the vessel.

(3) Every such vessel shall carry –

(a) a portable radio equipment which complies with Part 1 of Schedule 14 or 2 portable radio equipments which comply with Part 2 of the said Schedule the batteries of which shall be renewed annually. Such radio equipment shall be kept in a suitable place ready to be moved into a lifeboat or a liferaft in case of emergency and in vessels where the disposition of superstructures or deckhouses is such that the main transmitter and lifeboats are a substantial distance apart such equipment shall be kept in the vicinity of those lifeboats or liferafts which are furthest away from the main transmitter;

(b) for every person on board weighing 32 kilogrammes or more a life-jacket which shall comply with the requirements of Part 1 of Schedule 12;

and for every person on board weighing less than 32 kilogrammes a lifejacket which shall comply with the requirements of Part 2 of the said Schedule;

(c) a line-throwing appliance;

(d) at least 4 lifebuoys which shall comply with the following provisions –

(i) half the lifebuoys carried shall have self-igniting lights attached. 2 of the lifebuoys having such lights attached shall be provided with self activating smoke signals capable of producing smoke of a highly visible colour for at least 15 minutes and which comply with the requirements of Schedule 11,

(ii) one lifebuoy on each side of the vessel shall have attached to it a buoyant line of at least 27 metres in length but any such lifebuoy having a line attached shall not have a self-igniting light,

(iii) the 2 lifebuoys equipped with self-igniting lights and self-activating smoke signals shall be carried one on each side of the navigating bridge and, if reasonably practicable, so fitted as to be capable of quick release;

(e) not less than 12 parachute distress rocket signals which comply with the requirements of Schedule 19.

79 Requirements for vessels of 45 metres in length and over but less than 75 metres in length

(1) Every vessel of 45 metres in length and over but less than 75 metres in length to which this Order applies shall carry either –

(a)

(i) at least 2 lifeboats attached to davits, so arranged that there is at least one lifeboat on each side of the vessel, the lifeboats on each side of the vessel being of sufficient aggregate capacity to accommodate half the total number of persons on board the vessel; and

(ii) at least 2 liferafts of sufficient aggregate capacity to accommodate not less than one-and-a-half times the total number of persons on board; or

(b)

(i) on each side of the vessel one or more liferafts of sufficient aggregate capacity to accommodate the total number of persons on board. Each liferaft shall be of approximately the same capacity; and

(ii) a liferaft of sufficient capacity to accommodate at least half the total number of persons on board and which can be readily placed in the water on either side of the vessel provided that this additional liferaft shall not be required where the liferafts specified in sub-paragraph (b)(i) can be readily placed in the water on the opposite side of the vessel to that on which they are stowed; and

(iii) a lifeboat, Class C boat or inflatable boat capable of being launched on one side of the vessel with its equipment and a launching crew of 2 persons when the vessel is upright or listed up to 15° in either direction provided that any lifeboat, Class C boat or inflatable boat carried in compliance with this sub-paragraph shall be fitted with a suitable engine.

(2) In every such vessel lifeboat davits provided for the lifeboats carried under the provisions of paragraph (1)(a)(i) shall be of the gravity type except that davits which serve a lifeboat weighing not more than 2.3 tonnes in the turning out condition may be of the luffing type.

(3) In every such vessel liferafts carried under the provisions of paragraph (1)(a)(ii) shall be so stowed that they can be readily transferred to the water on either side of the vessel.

(4) In every such vessel where the distance from the embarkation deck to the waterline in the lightest sea-going condition exceeds 4.6 metres the liferafts carried in compliance with paragraph (1)(b)(i) shall be of the davit launched type. At least one launching appliance shall be provided on each side of the vessel for every 2 rafts carried.

(5) Every such vessel shall carry –

(a) a portable radio equipment which complies with Part 1 of Schedule 14 or 2 portable radio equipments which comply with Part 2 of the said Schedule the batteries of which shall be renewed annually. Such radio equipment shall be kept in a suitable place ready to be moved into a lifeboat or a liferaft or a lifeboat or a liferaft in case of emergency and in vessels where the disposition of superstructures or deckhouses is such that the main transmitter and lifeboats or liferafts are a substantial distance apart such equipment shall be kept in the vicinity of those lifeboats or liferafts which are furthest away from the main transmitter;

(b) for every person on board weighing 32 kilogrammes or more a lifejacket which shall comply with the requirements of Part 1 of Schedule 12 and for every person on board weighing less than 32 kilogrammes a lifejacket which shall comply with the requirements of Part 2 of the said Schedule;

(c) a line-throwing appliance;

(d) at least 4 lifebuoys which shall comply with the following provisions –

(i) half the lifebuoys carried shall have self-igniting lights attached. 2 of the lifebuoys having such lights attached shall be provided with self activating smoke signals capable of producing smoke of a highly visible colour for at least 15 minutes and which comply with the requirements of Schedule 11,

(ii) one lifebuoy on each side of the vessel shall have attached to it a buoyant line of at least 27 metres in length but any such lifebuoy having a line attached shall not have a self-igniting light,

(iii) the 2 lifebuoys equipped with self-igniting lights and self-activating smoke signals shall be carried one on each side of the navigating bridge, and if reasonably practicable, so fitted as to be capable of quick release;

(e) not less than 12 parachute distress rocket signals which comply with the requirements of Schedule 19.

80 Requirements for vessels of 24 metres in length and over but less than 45 metres in length[103]

(1) Every vessel of 24 metres in length and over but less than 45 metres in length to which this Order applies shall carry either –

(a)

(i) a lifeboat attached to a mechanically controlled single arm davit of sufficient capacity to accommodate the total number of persons on board the vessel; and

(ii) liferafts on the following scale –

vessels with 16 or more persons on board –

at least 2 liferafts of sufficient aggregate capacity to accommodate the total number of persons on board;

vessels with fewer than 16 persons on board –

at least one liferaft of sufficient capacity to accommodate the total number of persons on board; or

(b)

(i) a lifeboat, Class C boat or suitable inflatable boat which shall be capable of being launched on one side of the vessel; and

(ii) at least 2 liferafts of sufficient aggregate capacity to accommodate twice the total number of persons on board.[104]

(2) In every such vessel liferafts carried in compliance with this Article shall be so stowed that they can be readily transferred to the water on either side of the vessel.

(3) Every such vessel shall carry –

(a) a portable radio equipment which shall comply with Schedule 14 provided that the batteries of any radio equipments which comply with Part 2 of the said Schedule shall be renewed annually. Such radio equipment shall be kept in a suitable place ready to be moved into a lifeboat or a liferaft in case of emergency and, in vessels where the disposition of superstructures or deckhouses is such that the main transmitter and lifeboats or liferafts are a substantial distance apart, such equipment shall be kept in the vicinity of those lifeboats or liferafts which are furthest away from the main transmitter;

(b) for every person on board weighing 32 kilogrammes or more a lifejacket which shall comply with the requirements of Part 1 of Schedule 12 and for every person on board weighing less than 32 kilogrammes a lifejacket which shall comply with the requirements of Part 2 of the said Schedule;

(c) a line-throwing appliance;

(d) at least 4 lifebuoys which shall comply with the following provisions –

(i) half the lifebuoys carried shall have self-igniting lights attached. 2 of the lifebuoys having such lights attached shall be provided with self-activating smoke signals capable of producing smoke of a highly visible colour for at least 15 minutes and which comply with the requirements of Schedule 11,

(ii) one lifebuoy on each side of the vessel shall have attached to it a buoyant line of at least 27 metres in length but any such lifebuoy having a line attached shall not have a self-igniting light,

(iii) the 2 lifebuoys equipped with self-igniting lights and self-activating smoke signals shall be carried one on each side of the navigating bridge and, if reasonably practicable, so fitted as to be capable of quick release;

(e) not less than 12 parachute distress rocket signals which comply with the requirements of Schedule 19.

81 [105]

82 [106]

83 [107]

84 General requirements for lifeboats

(1) Lifeboats carried in any vessel to which this Order applies shall comply with the requirements specified in Schedule 4.

(2) Subject to the provisions of paragraphs (3) and (4), the number of persons which such a lifeboat shall be deemed fit to accommodate shall be equal to the greatest whole number obtained by the formula v/x where "v" is the cubic capacity of the lifeboat in cubic metres determined in accordance with the provisions of Schedule 5 and "x" is the volume in cubic metres for each person and which shall be 0.283 for a lifeboat of 7.3 metres in length or over and 0.453 for a lifeboat of 3.65 metres in length. For intermediate lengths of lifeboats the value of "x" shall be determined by interpolation.

(3) The number of persons which such a lifeboat is deemed fit to accommodate shall not exceed the number of adult persons wearing lifejackets for which there is proper seating accommodation arranged in such a way that the persons when seated do not interfere in any way with the use of the oars or the operation of other propulsion equipment.

(4) No such lifeboat shall be deemed fit to accommodate more than 60 persons unless it is a motor lifeboat.

(5) Every such lifeboat being a motor lifeboat shall in addition to complying with the requirements of Schedule 4 comply with the following requirements –

(a) it shall be fitted with a compression ignition engine and such engine and its accessories shall comply with the requirements of Schedule 6 and shall be kept so as to be at all time ready for use;

(b) it shall be provided with sufficient fuel for 24 hours continuous operation at the speed and under the conditions specified in sub-paragraph (d);

(c) it shall be capable of going astern;

(d) it shall be capable of going ahead in smooth water when loaded with its full complement of persons and equipment at a speed of 4 knots.

85 General requirements for Class C boats

Class C boats carried in any vessel to which this Order applies shall comply with the requirements of Schedule 7.[108]

86 General requirements for inflatable boats

Inflatable boats carried in any vessel to which this Order applies shall comply with the requirements of Schedule 8.

87 General requirements for liferafts

(1) Liferafts carried in any vessel to which this Order applies shall comply with the requirements of Part 1 of Schedule 9 if they are inflatable liferafts and Part 2 of the said Schedule if they are rigid liferafts.

(2) Any such liferafts which are required to comply with Part 1 of Schedule 9 shall be surveyed at intervals of not more than 12 months or other such period as the liferaft manufacturer shall specify provided that in any case where this is not reasonably practicable, such interval may be extended by a period not exceeding 3 months.

88 Marking of lifeboats, Class C boats, inflatable boats and liferafts

(1) On every lifeboat or Class C boat carried in any vessel to which this Order applies there shall be clearly marked in permanent characters the dimensions of the lifeboat or Class C boat as the case may be and the number of persons which each is deemed fit to accommodate. The name and port of registry of the vessel to which the lifeboat or Class C boat belongs shall be painted on each side of the boat.

(2) Every liferaft which complies with Part 1 of Schedule 9 and which is carried in any vessel to which this Order applies shall be clearly marked in permanent characters with the number of persons which the liferaft is deemed fit to accommodate. Such number of persons shall also be clearly marked in permanent characters on the valise or other container in which the liferaft is contained when not in use. Every such liferaft shall also bear –

(a) the manufacturer's name and liferaft serial number; and

(b) the vessel's name and port of registry; or

(c) the vessel's fishing number; or

(d) a serial number allocated by the owner of the vessel or an organisation hiring or controlling the distribution of liferafts to fishing vessels which shall enable the vessel on which the liferaft is for the time being carried to be readily identified.

(3) On every liferaft which complies with Part 2 of Schedule 9 and which is carried in any vessel to which this Order applies there shall be marked the name and port of registry of the vessel in which it is carried and the number of persons the liferaft is deemed fit to carry.

(4) On every inflatable boat which complies with Schedule 8 and which is carried in any vessel to which this Order applies there shall be marked –

(a) the number of persons the inflatable boat is deemed fit to accommodate; and

(b) the date of manufacture, maker's name or trade mark and serial number of the inflatable boat; and

(c) the name, port of registry and fishing vessel number of the vessel to which the inflatable boat belongs.

89 Requirements for lifebuoys[109]

(1) Lifebuoys carried in every vessel to which this Order applies shall comply with the requirements of Schedule 10.

(2) Any such lifebuoys shall weigh not less than 4.3 kilogrammes where the release of a self-igniting light depends upon the weight of the lifebuoy.

90 Requirements for self-igniting lights attached to lifebuoys

Self-igniting lights attached to lifebuoys carried in any vessel to which this Order applies shall be such that they cannot be extinguished in water. They shall be capable of burning for not less than 45 minutes and shall have a luminosity of not less than 2 candelas in all directions of the upper hemisphere.

91 Requirements for line-throwing appliances

Line-throwing appliances carried in any vessel to which this Order applies shall comply with the requirements of Schedule 13.

92 Equipment for lifeboats and Class C boats

(1) Subject to the provisions of paragraphs (2) and (3), the equipment of every lifeboat which is carried in any vessel to which this Order applies in compliance with Article 78(1)(a), Article 79(1)(a)(i) or Article 80(1)(a)(i) shall be as follows –

(a) a single banked complement of oars, 2 spare buoyant oars, and a buoyant steering oar; one set and a half of crutches attached to the lifeboat by lanyard or chain; a boat hook;

(b) 2 plugs for each plug hole (except where proper automatic valves are fitted) attached to the lifeboat by lanyards or chains, a bailer and 2 buckets;

(c) a rudder attached to the lifeboat and a tiller;

(d) a lifeline becketed round the outside of the lifeboat; means to enable persons to cling to the lifeboat if upturned, in the form of bilge keels or keel rails, together with grab lines secured from gunwale to gunwale under the keel;

(e) a locker conspicuously marked as such, suitable for the stowage of small items of equipment;

(f) 2 hatchets, one at each end of the lifeboat;

(g) a lamp with oil sufficient for 12 hours;

(h) a watertight box containing 2 boxes of matches not readily extinguished by wind;

(i) a mast or masts with galvanised wire stays together with orange coloured sails which shall be marked for identification purposes with the first and last letter of the name of the vessel to which the lifeboat belongs;

(j) a compass in a binnacle complying with the requirements of Part 1 of Schedule 15;

(k) a sea anchor complying with the requirements of Part 2 of Schedule 15;

(l) 2 painters of sufficient length and size. One such painter shall be secured to the forward end of the lifeboat with a strop and toggle so that it can be readily released and the second such painter shall be firmly secured to the stem of the lifeboat and be ready for use;

(m) a vessel containing one gallon of vegetable, fish or animal oil. A means shall be provided to enable such oil to be easily distributed on the water and such means shall be so arranged that such vessel can be attached to the sea anchor;

(n) 4 parachute distress rocket signals complying with the requirements of Part 3 of Schedule 15 and 6 hand-held distress flare signals complying with the provisions of Part 4 of the said Schedule;

(o) 2 buoyant smoke signals complying with the requirements of Part 5 of Schedule 15;

(p) a first aid outfit complying with the requirements of Part 6 of Schedule 15;

(q) a waterproof electric torch suitable for morse-signalling, together with one spare set of batteries and one spare bulb in a waterproof container;

(r) a daylight signalling mirror;

(s) a jack-knife fitted with a tin-opener to be kept attached to the lifeboat with a lanyard;

(t) 2 light buoyant heaving lines;

(u) a manual pump complying with the requirements of Part 7 of Schedule 15;

(v) a whistle;

(w) a fishing line and 6 hooks;

(x) a cover of a highly visible colour capable of protecting the occupants against injury by exposure;

(y) a copy of a suitable rescue signal table;

(z) means to enable persons in the water to climb into the lifeboat.

(2) No motor lifeboat carried in any vessel to which this Order applies shall be required to carry a mast or sails nor more than half the complement of oars. Every such lifeboat shall carry 2 boat hooks.

(3) Every motor lifeboat carried in any vessel to which this Order applies shall carry at least 2 portable fire extinguishers capable of discharging foam or other substance suitable for extinguishing oil fires, a receptacle containing a sufficient quantity of sand and a scoop for distributing the sand. Such portable fire extinguishers shall be of a type complying with the requirements of Article 112, except that the capacity of each extinguisher shall not be required to exceed 4.5 litres of fluid or other extinguishing medium.

(4) Every lifeboat or Class C boat which is carried in any vessel to which this Order applies in compliance with Article 79(1)(b)(iii) or Article 80(1)(b)(i) shall be equipped as follows –

(a) a single complement of buoyant oars and one spare buoyant oar provided that there shall never be less than 3 oars; one set of crutches attached to the boat by lanyard or chain; a boat hook;

(b) 2 plugs for each plug hole (except where proper automatic valves are fitted) attached to the boat by lanyards or chains, a bailer and a bucket;

(c) a rudder attached to the boat and a tiller;

(d) a lifeline becketed round the outside of the boat;

(e) a locker conspicuously marked as such, suitable for the stowage of small items of equipment;

(f) a painter of sufficient length and size secured to the forward end of the boat with a strop and toggle so that it can be readily released;

(g) means to enable persons to cling to the boat if upturned, in the form of bilge keels or keel rails;

(h) a waterproof electric torch suitable for morse-signalling together with one spare set of batteries and one spare bulb in a waterproof container;

(i) 2 light buoyant heaving lines.

93 Equipment for inflatable boats

Every inflatable boat which is carried in any vessel to which this Order applies in compliance with Article 79(1)(b)(iii) or Article 80(1)(b)(i) shall be provided with the equipment specified in paragraph 14 of Schedule 8.

94 Rations for lifeboats

(1) Every lifeboat carried in any vessel to which this Order applies shall be provided with at least 3 litres of fresh water for each person whom it is deemed fit to accommodate, or at least 2 litres of fresh water for each such person together with a desalting apparatus capable of providing at least one litre of drinking water for each such person and in either case the total quantity of water shall be increased as far as is practicable; provided that this Article shall not apply to any lifeboat which is carried as an alternative to a Class C boat.

(2) In every such lifeboat the water shall be kept in suitable containers and there shall be provided at least one dipper, which shall be attached to the containers by a lanyard, and 3 rust-proof drinking vessels (one graduated in 10, 20, and 50cc) provided that a container of not more than 2 litre capacity shall not be required to be provided with a dipper. The water shall be frequently changed so as to ensure that it is always clean and fit for drinking.

95 Security of equipment and rations in lifeboats, Class C boats and inflatable boats

(1) All items of equipment provided in any lifeboat, Class C boat or inflatable boat carried in any vessel to which this Order applies shall be secured within the lifeboat or boat with the exception of the boat hook which shall be kept free for fending-off purposes. Any lashing shall be carried out in such a manner as to ensure the security of the equipment and so as not to interfere with the lifting hooks, if fitted, or to prevent ready embarkation. All items of such equipment shall be as small and as light in weight as possible and shall be packed in suitable and compact form.

(2) Any rations which may be provided in a lifeboat carried in any vessel to which this Order applies shall be stowed in watertight tanks, which shall be firmly secured to the lifeboat.

(3) The tanks for any such water rations in a lifeboat carried in any vessel to which this Order applies shall be conspicuously marked “water”.

96 Equipment and rations for liferafts

The equipment and rations provided in every liferaft carried in any vessel to which this Order applies shall be as follows –

(a) one buoyant rescue quoit, attached to at least 30 metres of buoyant line;

(b) for liferafts which are fit to accommodate not more than 12 persons: one safety knife and one bailer; for liferafts which are fit to accommodate 13 persons or more: 2 safety knives and 2 bailers;

(c) 2 sponges;

(d) 2 sea anchors, one permanently attached to the liferaft and one spare with line;

(e) 2 paddles;

(f) one repair outfit capable of repairing punctures in buoyancy compartments unless the liferaft complies with the requirements of Part 2 of Schedule 9;

(g) one topping-up pump or bellows, unless the liferaft complies with Part 2 of Schedule 9;

(h) 3 safety tin openers;

(i) first-aid outfit complying with the requirements of Part 6 of Schedule 15;

(j) one rust-proof drinking vessel, graduated in 10, 20, and 50 cc;

(k) one waterproof electric torch suitable for morse-signalling together with one spare set of batteries and spare bulb in a waterproof container;

(l) one daylight signalling mirror and one signalling whistle;

(m) 2 parachute distress rocket signals complying with the requirements of Part 3 of Schedule 15;

(n) 6 hand-held distress flare signals complying with the requirements of Part 4 of Schedule 15;

(o) one fishing line and 6 hooks;

(p) 340 grammes of suitable non-thirst-provoking food providing at least 4.8 calories per gramme weight and 170 grammes of barley sugar or other equally suitable sweets for each person the liferaft is deemed fit to accommodate;

(q) watertight receptacles containing one litre of fresh water for each person the liferaft is deemed fit to accommodate, of which litre per person may be replaced by a suitable desalting apparatus capable of producing an equal amount of fresh water;

(r) 6 anti-seasickness tablets for each person which the liferaft is deemed fit to accommodate;

(s) instructions printed in the English language on how to survive in the liferaft;

(t) one copy of a suitable rescue signal table.

97 General provisions relating to the stowage and handling of life-saving appliances

(1) In every vessel to which this Order applies the arrangement of each lifeboat, Class C boat, inflatable boat or liferaft where carried shall be such that it will not interfere with the operation of other life-saving appliances or impede in any way their prompt handling or the marshalling of persons at the launching stations or their embarkation.

(2) In every such vessel lifeboats, Class C boats, inflatable boats or liferafts shall be so stowed that they can all be launched safely in the shortest possible time.

98 Stowage and handling of lifeboats and Class C boats

(1) In every vessel to which this Order applies, subject to the provisions of paragraphs (2) and (3), every lifeboat attached to a set of davits, other than a lifeboat which is carried as an alternative to a Class C boat, shall be so arranged that even under unfavourable conditions of trim and of up to 15 degrees of list either way it can be put into the water when loaded with its full complement of persons and equipment required by this Order.

(2) In every such vessel, every lifeboat which is carried as an alternative to a Class C boat and every Class C boat which is attached to a davit or set of davits other than a

mechanically controlled single-arm davit shall be so arranged that when loaded with its equipment required by this Order and a launching crew of 2 persons it can be put into the water on one side of the vessel when the vessel is upright or is listed to 15 degrees towards that side.

(3) In every such vessel every lifeboat or Class C boat attached to a mechanically controlled single-arm davit shall be so arranged that when loaded with its equipment required by this Order and a launching crew of 2 persons it can be put into the water on one side of the vessel when the vessel is upright or is listed up to 15 degrees towards that side, except that in vessels which carry a lifeboat in compliance with Article 80(1)(a)(i) the lifeboat shall be so arranged that when loaded with its required equipment and a launching crew of 2 persons it can be put into the water on either side of the vessel or, if the vessel has a list, on the side to which the vessel is listed.

(4) In every such vessel every lifeboat or Class C boat carried in compliance with Article 79(1)(b)(iii) or Article 80(1)(b)(i), if not attached to a davit or set of davits, shall be attached to a device which shall be provided primarily for the purpose of launching the boat and which shall be capable of putting the boat into the water on one side of the vessel when it is loaded with its equipment required by this Order and a launching crew of 2 persons and when the vessel is upright or is listed up to 15 degrees towards that side.

(5) In every such vessel not more than one lifeboat or Class C boat shall be attached to any set of davits, davit or other means of launching.

(6) In every such vessel lifeboats shall only be stowed on more than one deck on condition that proper measures are taken to prevent lifeboats on a lower deck being fouled by those stowed on a deck above.

(7) In every such vessel lifeboats shall not be placed in the bows of the vessel, and they shall be situated in such positions as to ensure safe launching having particular regard to clearance from the propeller and steeply overhanging portions of the hull aft, and to ensure so far as is practicable that they can be launched down the straight side of the vessel.

(8) In every such vessel davits, where fitted, shall be suitably placed.

(9) In every such vessel davits, winches, falls, blocks and all other launching gear provided in accordance with this Order shall comply with the requirements of Schedule 16.

(10) In every such vessel all lifeboats or Class C boats attached to davits shall be served by wire rope falls and winches in the following cases –

(a) when they are attached to gravity davits; or

(b) when they are attached to mechanically controlled single-arm davits; or

(c) when the weight of the attached lifeboat or Class C boat in the lowering condition exceeds 2.3 tonnes.

(11) In every such vessel in which lifeboats or Class C boats are served by wire rope falls, winches shall be provided for handling such falls.

(12) In every such vessel where davits are recovered by action of the falls by power, safety devices shall be fitted which will automatically cut off the power before the davits come against the stops and ensure that the wire rope falls or davits are not over-stressed.

(13) In every such vessel to facilitate the launching of lifeboats against a list of 15 degrees, skates or other suitable means shall be provided for any lifeboat stowed

under davits which are of such strength that the lifeboat can be lowered with its full complement of persons and its equipment required by this Order.

(14) In every such vessel means shall be provided for bringing the lifeboats, which are required to be capable of being lowered in the fully loaded condition, against the vessel's side and for holding them there for the safe embarkation of persons.

(15) In every such vessel other than a vessel in which the lifeboat or Class C boat is attached to a mechanically controlled single-arm davit, the davits shall be fitted with a wire rope span so positioned that when the boat is in the lowering position the span is as near as practicable over the centre line of the boat. There shall be at least 2 lifelines fitted to the span and the lifelines shall be long enough to reach the water with the vessel at her lightest seagoing draught and listed to 15 degrees either way.

(16) In every such vessel lifeboats and Class C boats attached to davits shall have the falls ready for service and the falls shall be at least long enough to reach the water with the vessel at her lightest sea-going draught and listed to 15 degrees either way. Means shall be provided for detaching the lifeboats or Class C boats from the falls. Lower fall blocks shall be fitted with a suitable ring or long link for attaching to the sling hooks, unless disengaging gear complying with the requirements of Schedule 17 is fitted. The points of attachment of the lifeboats and Class C boats to the falls shall be at such height above the gunwale as to ensure stability when lowering the lifeboats or Class C boats.

(17) In every such vessel when a lifeboat is attached to any set of davits, davit, or other means of launching not of sufficient strength that the lifeboat can be safely lowered into the water when loaded with its full complement of persons and equipment required by this Order under the conditions of Trim and List specified in this Order, or when any Class C boat not of sufficient strength that it can be safely lowered into the water when loaded with its full complement of persons and equipment required by this Order is attached to any set of davits, davit, or other means of launching, each davit or other means of launching shall be conspicuously marked with a red band 150 millimetres wide painted on a white background.

99 Stowage and handling of inflatable boats

(1) A mechanical appliance for the launching and recovering of inflatable boats shall be provided in every vessel to which this Order applies which carries an inflatable boat in compliance with this Order. Such appliance shall be capable of launching and recovering the inflatable boat when the vessel is upright or listed up to 15 degrees towards the side on which the appliance is fitted.

(2) The working load of every such appliance shall be taken to be the sum of the weights of –

(a) the inflatable boat and its full equipment;

(b) the blocks and falls;

(c) a launching crew of 2 persons at 75 kilogrammes each;

(d) a weight of 60 kilogrammes or the weight of the engine together with its fuel tank and at least sufficient fuel for 3 hours' operation, whichever is the greater.

(3) In association with the working load defined in paragraph (2) every such appliance shall be designed to have a factor of safety of 5 when the vessel is upright and 4.5 when the vessel has a trim of 10 degrees and is listed 15 degrees to either side.

(4) Every such appliance shall be tested to a static load of 2.2 times the working load.

(5) Blocks provided with every such appliance shall be proof tested to 2.5 times the working load and falls shall have a factor of safety of 6.0.

(6) Every such appliance shall be –

(a) capable of recovering the inflatable boat and bringing it on board with an injured man and one crew member;

(b) readily available and not stowed or used for any other purpose while the vessel is at sea;

(c) provided with suitable means for manual operation;

(d) satisfactorily tested after installation.

(7) Every such appliance shall be provided with a winch when the inflatable boat is situated more than 4.6 metres above the lightest sea-going waterline. The winch shall be adequate for the lowering operation and shall be tested to 1.5 times the working load. The brake gear of the winch shall include means for automatically controlling the lowering speed to not less than 18 metres per minute or greater than 36 metres per minute.

100 Stowage and handling of liferafts, lifebuoys and lifejackets

(1) In every vessel to which this Order applies, liferafts shall be so stowed that they can be put into the water safely even under unfavourable conditions of trim and of up to 15 degrees of list either way.

(2) In every such vessel every liferaft launching appliance shall comply with the requirements of Schedule 18.

(3) In every such vessel liferafts for which launching appliances are provided, and such launching appliances, shall not be placed in the bows of the vessel and shall be so placed as to ensure safe launching having particular regard to clearance from the propeller and steeply over-hanging portions of the hull aft, and to ensure so far as is practicable that they can be launched down the straight side of the vessel.

(4) In every such vessel means shall be provided for bringing liferafts for which launching appliances are provided, against the vessel's side and for holding them there for the safe embarkation of persons.

(5) In every such vessel lifebuoys shall be so stowed as to be readily accessible to all persons on board, and in such a way that they can be rapidly cast loose.

(6) In every such vessel lifejackets shall be so stowed as to be readily accessible to all persons on board. Their position shall be clearly and permanently indicated.

101 Embarkation into lifeboats, class C boats, inflatable boats and liferafts

(1) In every vessel to which this Order applies arrangements shall be made to ensure that it is possible to effect embarkation into any lifeboats, Class C boats, inflatable boats and liferafts rapidly and in good order.

(2) In every such vessel arrangements shall be made for warning the crew when the vessel is about to be abandoned.

(3) In every vessel of 45 metres in length and over to which this Order applies one ladder shall be carried at each set of lifeboat davits where the davits are capable of lowering the lifeboat when loaded with its full complement of persons and its equipment required by this Order.

(4) In every vessel to which this Order applies which carries a Class C boat or a lifeboat which is not capable of being lowered into the water when loaded with its full complement of persons and its equipment required by this Order, suitable means shall be provided for embarking persons into the boat.

(5) In every such vessel the ladders provided in compliance with paragraph (3) shall be of sufficient length to reach the water line with the vessel at her lightest sea-going draught and listed to 15 degrees either way.

(6) In every such vessel where liferafts are the prime survival craft ladders or other suitable means shall be provided for safe embarkation into the liferafts.

(7) Every such vessel shall be provided with means situated outside the machinery spaces whereby any discharge of water into the lifeboats, or into liferafts at fixed launching positions, including those under launching appliances, can be prevented.

(8) In every such vessel means shall be provided for the electric lighting of the launching gear for lifeboats, inflatable boats or davit launched rafts during the preparation for and process of launching and also for the lighting of the stowage position of the liferafts.

102 Stowage of pyrotechnic distress signals

In every vessel to which this Order applies all pyrotechnic distress signals shall be packed in a watertight container and shall be clearly and indelibly labelled to indicate their purpose.

B – Fire appliances

103 Requirements for vessels of 60 metres in length and over

(1) In every vessel of 60 metres in length and over to which this Order applies fire appliances shall be provided whereby at least 2 jets of water can reach any part of the vessel normally accessible to the crew while the vessel is being navigated, and any store room and any part of any hold space when empty.

(2) In every such vessel at least 2 fire pumps operated by power shall be provided. Each pump shall be capable of delivering at least one jet simultaneously from each of any 2 fire hydrants, hoses and nozzles provided in the vessel and shall comply with the requirements of Article 109.

(3) In every such vessel –

(a) where a fire in any one compartment could put all the fire pumps out of action there shall be provided, in a position outside the machinery spaces, an independently driven power operated emergency fire pump and its source of power and sea connection;

(b) the emergency fire pump shall be capable of producing at least 2 jets of water from any of the fire hydrants and hoses through nozzles which shall comply with Article 111(3)(a), while simultaneously maintaining pressure of at least 2 kilogrammes force per square centimetre at any hydrant in the vessel.

(4) In every such vessel –

(a) a fire main, water service pipes and hydrants shall be provided which shall comply with the requirements of Article 110;

(b) at least one fire hose for each 30 metres length of vessel but in no case less than 5 hoses in addition to any fire hoses provided in the machinery spaces, shall be provided and these hoses shall have a total length of at least 60% of the length of the vessel. In addition to these hoses there shall be provided one spare fire hose;

(c) where oil-fired boilers or internal combustion type propelling machinery is installed there shall be provided in each space containing such boilers or machinery at least 2 fire hydrants, one on the port side and one on the starboard side and in addition where there is access to the machinery space by way of a shaft tunnel a fire hydrant shall be provided in the tunnel at the end adjacent to that space. A fire hose and spray nozzle shall be provided at every such fire hydrant.

(5) In every such vessel a sufficient number of portable fire extinguishers shall be provided to ensure that at least one such extinguisher will be readily available for use in any part of the accommodation or service spaces. Not less than 6 extinguishers shall be provided of which one extinguisher suitable for extinguishing oil fires shall be provided adjacent to any oil fired central heating appliance which may be fitted. The extinguishing medium provided in any extinguisher placed in an area of fire risk shall be suitable for the type of fire risk involved.

(6) In every such vessel at least one of the following fixed fire extinguishing installations shall be provided for the protection of any space containing any oil-fired boiler, oil fuel settling tank or oil fuel unit –

(a) a pressure water spraying system complying with the requirements of Article 114;

(b) a fire smothering gas installation complying with the requirements of Article 115;

(c) a foam fire extinguishing installation complying with the requirements of Article 116. If the engine room and boiler rooms are not entirely separated from each other by a bulkhead, or if fuel oil can drain from the boiler room into the engine room, a combined engine and boiler room shall, for the purposes of this paragraph be regarded as a single space.

(7) In every such vessel in addition to the requirements of paragraph (6) there shall be provided –

(a) if the number of burners in each boiler room is 3 or more, one foam fire extinguisher of at least 45 litres capacity or a carbon dioxide fire extinguisher of at least 16 kilogrammes capacity. If the number of such burners is less than 3 there shall be provided for each burner one portable fire extinguisher suitable for extinguishing oil fires;

(b) in each firing space and in each space which contains any part of any oil fuel installation at least 2 portable fire extinguishers suitable for extinguishing oil fires, in addition to any which may be carried in compliance with sub-paragraph (a);

(c) in each firing space a receptacle containing 0.3 cubic metres of sand or other dry material suitable for quenching oil fires together with a scoop for its distribution, or alternatively an additional portable fire extinguisher suitable for extinguishing oil fires.

(8) In every such vessel at least one of the fixed fire extinguishing installations required by paragraph (6) shall be provided for the protection of any space containing internal

combustion type machinery used for main propulsion, or having in the aggregate a total power of not less than 1,000 b.h.p. for auxiliary purposes.

(9) In every such vessel in addition to the requirements of paragraph (8) there shall be provided in any such space –

(a) one foam fire extinguisher of at least 45 litres capacity or a carbon dioxide fire extinguisher of at least 16 kilogrammes capacity;

(b) one portable fire extinguisher suitable for extinguishing oil fires for each 1,000 b.h.p. or part thereof of such machinery but in no event less than 2 such extinguishers, provided that no more than 6 such extinguishers shall be required in any such space.

(10) In every such vessel in spaces containing steam turbines or reciprocating steam engines used either for main propulsion or having in the aggregate a total power of not less than 1,000 b.h.p. for auxiliary purposes there shall be provided –

(a) foam fire extinguishers each of at least 45 litres capacity or carbon dioxide fire extinguishers each of at least 16 kilogrammes capacity sufficient in number to enable foam or carbon dioxide to be directed on to any part of the lubrication system and on to any part of the casings enclosing pressure lubricated parts of the turbines, engines or associated gearing, if any, provided that such extinguishers shall not be required if equivalent protection is provided in such spaces by a fixed extinguishing installation fitted in compliance with paragraphs (6) or (8);

(b) one portable fire extinguisher for each 1,000 b.h.p. or part thereof of such machinery, suitable for extinguishing oil fires, but in no event less than 2 such extinguishers, provided that no more than 6 such extinguishers shall be required in any one such space and provided that such extinguishers shall not be required in addition to any provided in compliance with paragraph (9).

(11) In every such vessel a water spray system, independent of any system fitted in the machinery space and which may be connected to the fire main, shall be fitted in the net store and be operable from outside the store.

(12) In every such vessel –

(a) at least 2 firemen's outfits, which shall comply with the requirements of Article 117 shall be carried;

(b) at least one of these outfits shall include a breathing apparatus of the air hose type;

(c) where firemen's outfits containing only breathing apparatus of the air hose type are carried and an air hose exceeding 36 metres in length would be necessary to reach from the open deck well clear of any hatch or doorway to any part of the accommodation, service hold or machinery spaces, at least one breathing apparatus of the self-contained type shall also be provided.

(13) In every such vessel at least one international shore connection complying with the specifications set out in Schedule 20 shall be provided, and fixed provision shall be made to enable such a connection to be used on the port side and on the starboard side of the vessel.

104 Requirements for vessel of 45 metres in length and over but less than 60 metres in length

(1) In every vessel of 45 metres in length and over but less than 60 metres in length to which this Order applies fire appliances shall be provided in accordance with this Article whereby at least 2 jets of water can reach any part of the vessel normally accessible to the crew while the vessel is being navigated and any store room and any part of any hold space when empty.

(2) In every such vessel at least 2 fire pumps operated by power shall be provided one of which may be driven by the main engine. Each pump shall be capable of delivering at least one jet of water from any fire hydrant, hose and nozzle provided in the vessel and shall comply with the requirements of Article 109.

(3) In every such vessel –

(a) where a fire in any one compartment could put all the fire pumps out of action, there shall be provided, in a position outside the machinery spaces, an emergency fire pump and its source of power and sea connection;

(b) the emergency fire pump may be operated by power or manually, and shall be capable of producing from any of the fire hydrants and hose provided, through a nozzle which shall comply with Article 111(3)(a), a jet of water having a throw of not less than 12 metres.

(4) In every such vessel –

(a) a fire main, water service pipes and hydrants shall be provided which shall comply with the requirements of Article 110;

(b) at least 2 fire hoses having a total length of at least 60% of the length of the vessel and one spare fire hose shall be provided in addition to any fire hose provided in the machinery spaces;

(c) where oil-fired boilers or internal combustion type propelling machinery are installed at least one fire hydrant shall be provided in each space containing such machinery. A fire hose and spray nozzle shall be provided at every such hydrant.

(5) In every such vessel at least one of the following fixed fire extinguishing installations shall be provided for the protection of any space containing any oil-fired boiler, oil settling tank or oil fuel unit –

(a) a pressure water spraying system complying with the requirements of Article 114;

(b) a fire smothering gas or steam installation complying with the requirements of Article 115;

(c) a foam fire extinguishing installation complying with the requirements of Article 116.

If the engine room and boiler rooms are not entirely separated from each other by a bulkhead, or if fuel oil can drain from the boiler room into the engine room, the combined engine room and boiler room shall, for the purpose of this paragraph, be regarded as a single space.

(6) In every such vessel in addition to the requirements of paragraph (5) there shall be provided –

(a) if the number of burners in each boiler room is 3 or more, one foam fire extinguisher of at least 45 litres' capacity or a carbon dioxide fire extinguisher of at least 16 kilogrammes' capacity. If the number of such burners is less than

3, for each burner one portable fire extinguisher suitable for extinguishing oil fires;

(b) in each firing space, and in each space which contains any part of any oil fuel installations, at least 2 portable fire extinguishers suitable for extinguishing oil fires in addition to any such extinguishers which may be carried in compliance with sub-paragraph (a);

(c) in each firing space a receptacle containing at least 0.15 cubic metres of sand or other dry material suitable for quenching oil fires together with a scoop for its distribution, or alternatively an additional portable fire extinguisher suitable for extinguishing oil fires.

(7) In every such vessel one foam fire extinguisher of at least 45 litres' capacity or a carbon dioxide fire extinguisher of at least 16 kilogrammes' capacity shall be provided in any space containing internal combustion type machinery used for main propulsion, or having in the aggregate a total power of not less than 250 b.h.p. for auxiliary purposes.

(8) In every such vessel one portable fire extinguisher suitable for extinguishing oil fires for each 100 b.h.p. or part thereof of such machinery shall be provided in any space containing internal combustion type machinery, provided that no more than 6 extinguishers shall be required in any such space.

(9) In every such vessel in spaces containing steam turbines or reciprocating steam engines used either for main propulsion or having in the aggregate a total power of not less than 500 b.h.p. for auxiliary purposes there shall be provided one portable extinguisher for each 500 b.h.p. or part thereof of such machinery, suitable for extinguishing oil fires, but in no event less than 2 such extinguishers, provided that no more than 6 such extinguishers shall be required in any one such space and provided that such extinguishers shall not be required in addition to any provided in compliance with paragraph (6).

(10) In every such vessel at least 2 firemen's outfits which shall comply with the requirements of Article 117 and which shall contain a breathing apparatus of the air hose type shall be provided.

(11) In every such vessel a water spray system, independent of any system fitted in the machinery space and which may be connected to the fire main, shall be fitted in the net store and be operable from outside the space.

(12) In every such vessel at least one international shore connection complying with the specifications set out in Schedule 20 shall be provided and fixed provision shall be made to enable such a connection to be used on the port side and on the starboard side of the vessel.

(13) In every such vessel a sufficient number of portable fire extinguishers shall be provided to ensure that at least one such extinguisher will be readily available for use in any part of the accommodation or service spaces. Not less than 4 extinguishers shall be provided of which one extinguisher suitable for extinguishing oil fires shall be provided for any oil-fired central heating appliances which may be fitted. The extinguishing medium provided in any extinguisher placed in an area of fire risk shall be suitable for the type of fire risk involved.

105 Requirements for vessels of 24 metres in length and over but less than 45 metres in length[110]

(1) In every vessel of 24 metres in length and over but less than 45 metres in length to which this Order applies a fixed fire smothering gas installation shall be provided in every vessel, the hull of which is constructed of wood or glass reinforced plastic, for the protection of the machinery space. Such installation shall comply with the requirements of Article 115 except that the quantity of free fire smothering gas provided shall be equivalent to at least 60% of the gross volume of the machinery space, or in the case of any such vessel where the machinery space is bounded by steel bulkheads the quantity of fire smothering gas shall be equivalent to at least 40% of the gross volume of that space.[111]

(2) In every such vessel fire appliances shall be provided whereby at least one of the jets of water required by this Article can reach any part of the vessel normally accessible to the crew while the vessel is being navigated and any store room and any part of any hold space when empty.

(3) In every such vessel at least one fire pump operated by power shall be provided which shall be capable of delivering at least one jet of water from any fire hydrant, hose and nozzle provided in the vessel and which shall comply with the requirements of Article 109.

(4) In every such vessel if the pump required by paragraph (3) and its source of power and sea connection are not situated outside spaces containing oil-fired boilers or internal combustion type propelling machinery, there shall be provided in a position outside such spaces an additional fire pump and its source of power and sea connection. If this pump is operated by power it shall comply with the requirements of paragraph (3) and if it is manually operated it shall be provided with a hose and a 9.5 millimetre diameter nozzle through which it shall be capable of producing a jet of water having a throw of not less than 6 metres which can be directed on to any part of the vessel.

(5) In every such vessel a fire main, water service pipes and hydrants shall be provided, which shall comply with the requirements of Article 110 and at least 2 fire hoses and one spare fire hose.

(6) A spray nozzle suitable for use with the fire hoses required by paragraph (5) shall be provided in every such vessel fitted with oil-fired boilers or internal combustion type propelling machinery.

(7) In every such vessel a sufficient number of portable fire extinguishers shall be provided to ensure that at least one such extinguisher will be readily available for use in any part of the accommodation or service spaces. Not less than 3 extinguishers shall be provided of which one extinguisher suitable for extinguishing oil fires shall be provided adjacent to any oil-fired central heating appliance which may be fitted. The extinguishing medium provided in any extinguisher placed in an area of fire risk shall be suitable for the type of fire risk involved.

(8) In every such vessel at least one of the following fixed fire extinguishing installations shall be provided for the protection of any space containing any oil-fired boiler, oil fuel settling tank or oil fuel unit in vessels other than those which comply with paragraph (1) –

(a) a pressure water spraying system complying with the requirements of Article 114;

(b) a fire smothering gas or steam installation complying with the requirements of Article 115;

(c) a foam fire extinguishing installation complying with the requirements of Article 116.

If the engine and boiler rooms are not entirely separated from each other by a bulkhead, or if fuel oil can drain from the boiler room into the engine room, the combined engine room and boiler room shall, for the purpose of this paragraph, be regarded as a single space.

(9) In every such vessel in addition to the requirements of paragraph (8) there shall be provided –

(a) in each boiler room and in each space which contains any part of any oil fuel installation, at least 2 portable fire extinguishers suitable for extinguishing oil fires;

(b) in each firing space a receptacle containing at least 0.15 cubic metres of sand or other dry material suitable for quenching oil fires together with a scoop for its distribution, or alternatively an additional portable fire extinguisher suitable for extinguishing oil fires.

(10) In every such vessel one portable fire extinguisher suitable for extinguishing oil fires for each 100 b.h.p. or part thereof of such machinery shall be provided in any space containing internal combustion type machinery, except that no more than 7 such fire extinguishers shall be required in any one space and that alternatively there may be provided 2 such extinguishers together with either –

(a) one foam fire extinguisher of at least 45 litres capacity; or

(b) one carbon dioxide fire extinguisher of at least 16 kilogrammes capacity.

(11) In every such vessel at least one fireman's outfit shall be provided.

(12) In every such vessel a water spray system, independent of any system fitted in the machinery space and which may be connected to the fire main, shall be fitted in the net store and be operable from outside the space.

106 [112]

107 [113]

108 [114]

109 Requirements for fire pumps

(1) In every vessel to which this Order applies fire pumps operated by power (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 Article 110 which shall not be less than the quantity obtained from the following formula –

Quantity of water in cubic metres per hour = km^2

Where:

k = 0.008 for vessels required to be provided with more than one fire pump (excluding any emergency fire pump) and k = 0.004 for vessels required to be provided with only one fire pump; and

$m = 25 + 1.68 \sqrt{L(B + D)}$ to the nearest 5.

Where:

L = principal length of the vessel in metres;

B = principal breadth of the vessel in metres;

D = principal depth of the vessel in metres.

Provided that in any such vessel the total capacity of the fire pumps for fire fighting purposes shall not be required to exceed 180 cubic metres per hour.

(2) In every such vessel every fire pump required to be operated by power shall, except as expressly provided otherwise, be operated by a means other than the vessel's main engines. Fire pumps may be sanitary, ballast, bilge or general service pumps provided that they are not normally used for pumping oil and that if they are subject to occasional duty for the transfer or pumping of oil, suitable changeover arrangements are fitted and operating instructions are conspicuously displayed at the changeover position, stating that the pump must be flushed through and returned to fire duty immediately after the oil pumping duty is completed.

(3) In every such vessel –

(a) where more than one fire pump operated by power is required (other than any emergency pump) every fire pump shall have a capacity of not less than 80% of the total capacity of the fire pumps required by paragraph (1) divided by the number of fire pumps required to be provided. In any vessel where more fire pumps operated by power are provided than are required by this Order the capacity of any such additional fire pumps may be less than that required by paragraph (1);

(b) every fire pump required to be operated by power shall be capable of producing from any fire hydrant or hydrants at least the minimum number of jets of water required by this Order as appropriate to the length of vessel, while maintaining the pressure required by Article 110(2).

(4) In every such vessel relief valves shall be provided in conjunction with all fire pumps if the pumps are capable of developing a pressure exceeding the design pressure of the fire main, water service pipes, hydrants and hoses. These valves shall be placed and adjusted so as to prevent excessive pressure in any part of the fire main system.

(5) In every such vessel every centrifugal pump connected to the fire main shall be fitted with a non-return valve.

(6) In every such vessel power pumps driven by the main propulsion machinery shall only be used as fire pumps if the main machinery can be readily disconnected from the propeller shafting.

(7) In every such vessel –

(a) independent starting arrangements for emergency fire pumps shall be provided and shall be readily accessible and easy to operate;

(b) where the emergency fire pump is electrically driven the emergency generator shall be capable of being started manually;

(c) where the emergency fire pump is driven by a direct or hydraulically coupled diesel engine the engine shall be capable of being started manually;

(d) these pumps shall be positioned so that the supply of water is ensured at all times and the pumps are not likely to be cut off by fire or smoke in the compartment containing the main fire pumps;

(e) a discharge connection from the emergency fire pump to the fire main shall be fitted and means provided for isolating the machinery spaces from the fire main;

(f) where the emergency fire pump is used for the production of foam for a machinery space fixed foam system, or for recharging a pre-mixed foam installation, the pump capacity shall be sufficient to provide such facility in addition to the jets of water required by this Order;

(g) any service fuel tank for use with emergency pumping units shall provide at least 3 hours running on full load and sufficient fuel shall be available to enable the unit to be run at full output for at least 12 hours.

110 Requirements for the fire main, water service pipes and hydrants

(1) In every vessel to which this Order applies where fire pumps are 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 this Order from –

(a) the power pump where only one pump is required by the Order; or

(b) both power pumps operating simultaneously where 2 such pumps are so required:

Provided that the diameter of the fire main and of the water service pipes shall be required to be sufficient only for the discharge of 140 cubic metres per hour.

(2) In every such vessel when the fire pumps are discharging the quantity of water required by paragraph (1) through adjacent fire hydrants in any part of the vessel from nozzles of sizes specified in Article 111 the following minimum pressure shall be capable of being maintained at any hydrant –

(a) in vessels of 60 metres in length and upwards – 2.6 kilogrammes force per square centimetre; or

(b) vessels under 60 metres in length – 2 kilogrammes force per square centimetre.

(3) Where any such vessel is required by this Order to provide –

(a) 2 jets of water under the conditions required by this Order a sufficient number of hydrants shall be so positioned as to enable at least 2 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 vessel normally accessible to the crew while the vessel is being navigated, and any store room and any part of any hold space when empty;

(b) one jet of water under the conditions required by this Order a sufficient number of hydrants shall be so positioned as to enable one jet of water from a single length of hose to reach any part of the vessel normally accessible to the crew while the vessel is being navigated, and any store room and any part of any hold space when empty.

(4) In every such vessel the fire main shall have no connections other than those necessary for fire-fighting and washing down.

(5) In every such vessel materials readily rendered ineffective by heat shall not be used for fire mains unless adequately protected. The pipes and fire hydrants shall be so placed that the fire hoses may be easily coupled to them. Unless one fire hose and

nozzle is provided for each fire hydrant in the vessel all fire hose couplings and nozzles shall be interchangeable.

(6) In every such vessel valves of the screw lift type or cocks shall be fitted in such positions on the pipes that any of the fire hoses may be removed while the fire pumps are at work.

(7) In every such vessel the water pipes shall not be made of cast iron, and if made of iron or steel shall be galvanised.

(8) In every such vessel where wash deck lines are not self-draining suitable drain cocks shall be fitted to avoid damage by frost.

111 Requirements for fire hoses, nozzles etc.

(1) In every such vessel to which this Order applies fire hoses provided in compliance with this Order shall not exceed 18 metres in length. These hoses shall be made of closely woven flax canvas or other suitable material and shall be provided with couplings, branch-pipes and other necessary fittings, and with a plain nozzle in addition to any spray nozzle required by this Order.

(2) In every such vessel every fire hose, together with the tools and fittings necessary for its use, shall be kept in a conspicuous position near the hydrant or connections with which it is intended to be used.

(3) In every such vessel –

(a) fire pumps operated by power shall be provided with nozzles of 12 millimetres, 16 millimetres or 20 millimetres in diameter, or as near thereto in diameter as possible. Nozzles larger in diameter may be provided if the requirements of this Order relating to the provision of water for fire-fighting purposes are otherwise met;

(b) the diameter of the nozzles for machinery spaces and exterior locations shall be such as to obtain the maximum possible discharge from the minimum number of jets of water and at the pressure required by this Order from the smallest fire pump permitted by Article 109(3)(a) provided that the diameter of the nozzles shall not be required to be greater than 20 millimetres;

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

(d) every spray nozzle shall be capable of producing a water spray suitable for extinguishing oil fires and shall be provided in addition to any plain nozzle required by paragraph (1) provided that a dual-purpose nozzle capable of producing such a spray and a plain water jet may be provided as a substitute.

112 Requirements for fire extinguishers

(1) In every vessel to which this Order applies non-portable foam and carbon dioxide fire extinguishers shall be constructed in accordance with the requirements of Schedules 21 and 22 respectively.

(2) In every such vessel –

(a) portable fire extinguishers (other than carbon dioxide fire extinguishers) shall, if they are of a type discharging fluid, have a capacity of not more than 13.5 litres and not less than 9 litres;

(b) portable carbon dioxide fire extinguishers shall have a capacity of not less than 3 kilogrammes of carbon dioxide;

(c) portable dry powder fire extinguishers shall have a capacity of not less than 4.5 kilogrammes of dry powder;

(d) portable fire extinguishers of other types shall be of not less fire extinguishing capability than a 9 litres fluid fire extinguisher;

(e) portable fire extinguishers shall not exceed 25 kilogrammes in weight in the fully charged service condition.

(3) In every such vessel portable fire extinguishers for use in accommodation or service spaces shall, so far as practicable, have a uniform method of operation.

(4) In every such vessel portable fire extinguishers shall, subject to the limitations of paragraphs (2) and (3), be constructed in accordance with the specifications set out in Schedule 23.

(5) In every such vessel where portable dry powder fire extinguishers are provided in accommodation and service spaces or in machinery spaces their number shall not exceed one half of the total number of extinguishers provided in either of those spaces.

(6) In every such vessel fire extinguishers shall not contain an extinguishing medium which is harmful to persons.

(7) In every such vessel for the purposes of this Order the capacity of any fire extinguisher other than a carbon dioxide fire extinguisher shall be taken to be the greatest volume or weight of extinguishing medium which it can contain when sufficient space is left to ensure the proper operation of the extinguisher and the capacity of a carbon dioxide fire extinguisher shall be taken to be 2/3 of a kilogramme of carbon dioxide for each litre of water capacity of the cylinder.

(8) In every such vessel every fire extinguisher provided shall be kept fully charged at all times.

(9) In every such vessel a spare charge shall be provided for every portable fire extinguished except that for each such fire extinguisher which is of a type that cannot readily be recharged while the vessel is at sea, an additional portable fire extinguisher of the same type or its equivalent shall be provided in lieu of a spare charge.

113 Requirements for fire alarm and fire detection systems

(1) In every vessel to which this Order applies, where an automatic fire alarm and fire detection system is installed it shall comply with the requirements specified in this Article and shall be installed and so arranged as to protect all accommodation spaces and service spaces in the vessel provided that the foregoing provisions of this Article shall not apply –

(a) to the extent that there is no substantial fire risk in the accommodation spaces and service spaces; or

(b) in respect of any store room which is provided with adequate arrangements for the detection of fire or for the smothering of fire by gas or other suitable means.

(2) In every such vessel every fire detection system shall be fit for its intended service and be capable of automatically indicating the presence of fire and its location. The indicators shall be positioned in the wheelhouse or they may be distributed among

several stations provided such distribution is at least as effective as if the indicators were positioned in the wheelhouse.

(3) The indicating system of any fire detecting system in every such vessel shall operate both audible and visible alarms at the stations referred to in paragraph (2).

(4) In every such vessel electrical equipment used in the operation of any fire detection system fitted in compliance with this Order shall be supplied from 2 sources of electric power one of which shall be the emergency source of power required by Article 43.[115]

114 Requirements for fixed pressure water spraying system for machinery spaces

(1) In every vessel to which this Order applies every fixed pressure water spraying system shall be provided with a pump, piping system, control valve and spraying nozzles.

(2) In every such vessel the spraying nozzles shall be of such a type, sufficient in number and so arranged as to ensure such distribution of water spray as will effectively extinguish oil on fire in the spaces protected thereby. Spraying nozzles shall be fitted above bilges, tank tops and other areas over which oil fuel is liable to spread and above other main fire hazards in the spaces to be protected.

(3) In every such vessel the water spraying system may be divided into sections and shall be controlled from distribution manifolds, the valves of which shall be capable of being operated from easily accessible positions outside the spaces to be protected, and which will not be readily cut off by an outbreak of fire.

(4) In every such vessel the water spraying system shall be kept charged at the necessary pressure and the pump supplying the water for the system shall be automatically put into action by a pressure drop in the system.

(5) In every such vessel the pump shall be capable of supplying water at the necessary pressure simultaneously to all sections of the water spraying system in any one compartment to be protected. The pump and its controls shall be installed outside the space or spaces to be protected. It shall not be possible for a fire in the space or spaces protected by the water spraying system to put the system out of action.

(6) In every such vessel means shall be provided which will prevent nozzles from becoming clogged by impurities in the water or corrosion of piping, nozzles, valves and pump.

(7) In every such vessel the water spraying system shall include mobile sprayers ready for immediate use in the firing area of the boiler or in the vicinity of the oil fuel unit.

(8) In every such vessel operating instructions in clear and permanent lettering shall be affixed to every water-spraying system or in a position adjacent thereto.

115 Requirements for fixed fire smothering gas and steam installations

(1) In every vessel to which this Order applies fixed fire smothering gas or steam installations shall where fitted comply with the requirements of this Article except that in vessels to which Articles 105(1), 106(2) and 107(2) apply the quantity of gas carried shall be sufficient to give the minimum quantity of free gas required by those Articles.

(2) In every such vessel in every installation provided for the injection of gas or steam into machinery or hold spaces for fire extinguishing purposes, the pipes for conveying the gas or steam shall be provided with control valves or cocks which

shall be so placed that they will be easily accessible and not readily cut off from use by an outbreak of fire. These control valves or cocks shall be permanently marked to indicate clearly the compartments to which the pipes are led. Suitable provision shall be made to prevent inadvertent admission of the gas or steam to any compartment.

(3) In every such vessel the piping shall be so arranged as to provide effective distribution of fire smothering gas or steam. Where steam is used in any hold exceeding 18 metres in length there shall be at least 2 pipes one of which shall be fitted in the forward part and one in the after part of the hold.

(4) In every such vessel –

(a) where carbon dioxide is used as the extinguishing medium in hold spaces, the quantity of gas available shall be sufficient to give a minimum volume of free gas equal to 30% of the gross volume of the largest hold compartment in the vessel which is capable of being sealed;

(b) where carbon dioxide is used as an extinguishing medium for spaces containing boilers or machinery, the quantity of gas carried shall be sufficient to give a minimum quantity of free gas equal to the larger of the following quantities, either –

(i) 40% of the gross volume of the largest space containing boilers or machinery, such volume being measured up to the level at which the horizontal area of the casing is 40% or less of the gross area of such space, or

(ii) 35% of the gross volume of the largest space containing boilers or machinery, including the casing:

Provided that the aforesaid percentages may be reduced to 35% and 30% respectively for vessels of under 70 metres in length and provided that if 2 or more spaces containing boilers or machinery are not entirely separate they shall, for the purposes of this Article be considered as forming one compartment;

(c) where carbon dioxide is used as the extinguishing medium for a space containing any oil-fired boiler or oil fuel installation a quantity of gas which can be discharged without danger to the operator shall be available for manual application, by means of a suitable applicator, in the firing area of the boiler and in the vicinity of the oil fuel unit;

(d) where carbon dioxide is used as the extinguishing medium both for hold spaces and for spaces containing boilers or machinery the quantity of gas shall not be required to be more than the maximum required either for the largest hold compartment or machinery space. For the purpose of this paragraph the volume of gas shall be calculated at 0.56 cubic metres to one kilogramme;

(e) when carbon dioxide is used as the extinguishing medium for any space containing boilers or machinery the fixed piping system shall be such that 85% of the gas required to provide the concentration referred to in paragraph (b), when applied to the space concerned, can be discharged into that space within 2 minutes;

(f) means shall be provided for giving audible warning to persons within the space when carbon dioxide, other than that specified in paragraph (c), is about to be released into any working space.

(5) In every such vessel when steam is used as the extinguishing medium in hold spaces the boiler or boilers available for supplying steam shall have an evaporation of at

least one kilogramme of steam per hour for each 0.75 cubic metres of the gross volume of the largest hold compartment. The arrangements shall be such that steam will be available immediately and will not be dependent on the lighting of boilers and that it can be supplied continuously until the end of the voyage in the quantity required by this paragraph in addition to any steam necessary for the normal requirements of the vessel including propulsion and that provision is made for extra feed water necessary to meet this requirement.

(6) In every such vessel operating instructions in clear and permanent lettering shall be affixed to every fixed fire smothering gas installation or in a position adjacent thereto.

116 Requirements for fixed foam fire extinguishing installations

(1) In every vessel to which this Order applies every fixed foam fire extinguishing installation 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 152 millimetres the largest single area over which oil fuel is liable to spread. This installation shall be capable of generating foam suitable for extinguishing oil fires and means shall be provided for the effective distribution of the foam through a permanent system of piping and control valves or cocks to discharge outlets, and for the foam to be effectively directed by fixed sprayers on other main oil fire hazards in the protected space either simultaneously or separately. The installation shall include mobile sprayers ready for immediate use in the firing area of the boiler and in the vicinity of the oil fuel unit.

(2) In every such vessel every fixed foam fire extinguishing installation shall be so arranged that a fire in any of the spaces it protects will not render the controls inaccessible or put the installation out of action.

(3) In every such vessel operating instructions in clear and permanent lettering shall be affixed to every fixed foam fire extinguishing installation or in a position adjacent thereto.

117 Requirements for firemen's outfits

(1) In every vessel to which this Order applies every fireman's outfit shall consist of –

(a) a breathing apparatus complying with the requirements set out in Schedule 24;

(b) a portable self-contained electric battery-operated safety lamp capable of functioning efficiently for a period of at least 3 hours; and

(c) a fireman's axe.

(2) In every such vessel where 2 or more such outfits are provided they shall be kept in readily accessible and widely separated positions which are not likely to be cut off in the event of fire.

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

(1) In every vessel to which this Order applies means for stopping ventilating fans serving machinery, accommodation and hold spaces shall be provided. Means shall be provided for closing all skylights, doorways, ventilators, funnel ventilation openings and other openings in machinery and hold spaces. Such means shall be

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

(2) In every such vessel 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 such vessel 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 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 similarly secured to the tank may be substituted. In the case of an oil fuel deep tank traversed by any shaft or pipe tunnel, a valve shall be fitted on the tank but an additional valve or valves may be fitted on the pipeline or lines outside the tunnel or tunnels to enable control to be exercised in the event of fire.

(4) In every such vessel the remote electric stops of ventilation fans serving accommodation spaces shall be operable from the wheelhouse.

119 Fire control plans

(1) In every vessel of 45 metres in length and over to which this Order applies there shall be permanently exhibited for the guidance of the crew general arrangement plans showing clearly for each deck the position of the control stations, the sections of the vessel which are enclosed by fire resisting bulkheads, the sections of the vessel which are enclosed by fire retarding bulkheads, together with particulars of the fire detection systems, the fixed and portable fire extinguishing appliances and firemen's outfits, the means of access to the various compartments and decks in the vessel, 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 vessel, the location of the international shore connection and the position of all means of control referred to in Article 118.

(2) In every such vessel the general arrangement plans required by this Article shall be kept up-to-date, any alterations being recorded thereon without delay.

120 Availability of fire-fighting appliances

In every vessel to which this Order applies, fire appliances shall be maintained in good order and shall be kept available for immediate use at all times. All movable fire appliances, other than firemen's outfits, shall be stowed where they will be readily accessible from 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.

C – Musters and drills

121 Muster list

(1) The skipper of every vessel to which this Order applies shall prepare or cause to be prepared a muster list showing in respect of each member of the crew the special duties which are allotted to him or her and the station to which he or she shall go in the event of an emergency (hereinafter referred to as "emergency station").[116]

(2) In every such vessel, the muster list shall specify definite signals to be made on the whistle or siren for calling the crew to the emergency station and shall include the emergency signal which shall consist of a succession of 7 or more short blasts followed by one long blast. In every vessel of 45 metres in length and over the signals made on the whistle or siren shall be supplemented by bells or other means of warning which shall be electrically operated and which shall be capable of being operated from the bridge. The muster list shall also specify the means of indicating when the vessel is to be abandoned.

(3) In every such vessel the muster list shall show the duties assigned to the different members of the crew in connection with –

(a) the preparation and launching of the boats and life-rafts attached to davits or to other launching appliances;

(b) the preparation and launching of life-rafts not attached to davits and other life-saving appliances;

(c) the operation of fire appliances for extinction of fire.[117]

(4) In every such vessel the muster list shall be prepared, or if a new list is not necessary revised, each time a new agreement with the crew has been signed and before the vessel proceeds to sea, and shall be dated and signed by the skipper.

(5) In every such vessel if, after the muster list has been prepared, any change takes place in the crew which necessitates an alteration in the muster list, the skipper shall either revise the list or prepare a new list.

(6) In every such vessel, copies of the muster list shall be posted in the crew's quarters and at the main control station before the vessel proceeds to sea and shall be kept so posted while the vessel is at sea.

122 Training

(1) In vessels to which this Order applies musters of the crew shall take place at the commencement of each voyage and at intervals of not more than 14 days thereafter, and if more than 25% of the crew have been replaced at any port one of such musters shall take place within 48 hours of leaving that port to ensure that the crew understand and are drilled in the duties assigned to them in the event of an emergency.[118]

(2) [119]

(3) In vessels of 75 metres in length and over to which this Order applies drills shall be so arranged that every lifeboat is swung out at least once per month and, if reasonable and practicable, lowered at least once every 4 months.

(4) In vessels of 24 metres in length and over but less than 75 metres in length to which this Order applies the Class C boat or inflatable boat shall be swung out at each drill and, if equipped with an engine, the engine shall be operated.[120]

123 Inspections[121]

In vessels to which this Order applies life-saving and fire appliances and equipment shall be inspected when musters of the crew are held, and in any case at intervals of not more than one month to ensure that all equipment is in good condition and always ready for immediate use.

124 Penalties for offences under Part 3[122]

(1) In the case of any vessel to which this Order applies if any provision of this Part applicable to the vessel is contravened or not complied with the owner or master of the vessel shall for each offence be liable to a fine.

(2) A surveyor of ships appointed by the Minister may inspect any fishing vessel for the purpose of seeing that it complies with this Part and for that purpose shall have all the powers of an inspector under the Shipping (Jersey) Law 2002.[123]

PART 4

EXCEPTIONAL PROVISIONS

125 Exceptional provisions

Where this Order require that the hull or machinery of a vessel shall be constructed in a particular manner or that any particular equipment, fitting, material, appliance or apparatus shall be provided or that particular provisions shall be made, the hull or machinery of the vessel may be constructed in any other manner or any other equipment, fitting, material appliance or apparatus may be provided or other provision made which is at least as effective as that required by this Order.

PART 5

SURVEYS AND CERTIFICATES

126 Surveys and periodical inspections

Every vessel to which this Order applies shall be surveyed and periodically inspected in accordance with the requirements of this Part.[124]

127 Surveys

A surveyor appointed by the Minister shall survey the vessel, after such plans, drawings, specifications, documents and information as he or she may require have been provided for his or her use by the owner of the vessel and the prescribed fee has been paid to the Minister, in order to ascertain whether the vessel complies with such requirements of Parts 2 and 3 as apply to it and for that purpose may require the vessel and any of its machinery, fittings and equipment to be submitted to such tests as the Minister considers necessary.[125]

128 Surveyor's report and declaration of survey

(1) On completion of the survey, the surveyor shall provide the Minister with a declaration of survey.

(2) The surveyor shall complete and append to the declaration of survey a record of particulars and report in the form set out in Schedule 2 or a form as near thereto as circumstances permit which shall contain the particulars required by that form. Such particulars may be given by attaching to the record a copy of the surveyor's report and associated plans and documents, if any, and specifying in the record passages in the report in which the relevant particulars are given.

(3) 2 copies of the record shall be sent to the owner of the vessel on first survey and shall be produced for inspection with the addition of the surveyor's report and subsequent surveys.

129 Issue and form of fishing vessel certificates

If the Minister is satisfied that the vessel has been duly surveyed in accordance with Article 127 and –

(a) complies with such of the requirements of Parts 2 and 3 as are or will be applicable to the vessel; and

(b) is properly provided with the lights, shapes and means of making sound signals required by the collision orders,

a Jersey fishing vessel certificate in the form set out in Schedule 1 shall be issued to the owner of the vessel.[126]

130 Appeals

Rights of appeal under the Shipping (Jersey) Law 2002 in respect surveys carried out under that Law for the purpose of the issue of passenger certificates shall apply with the necessary modifications to surveys carried out under this Part for the purpose of the issue of fishing vessel certificates.

131 Duration of certificates

(1) Except as otherwise provided in this Order a Jersey fishing vessel certificate shall be in force for such period, as may be specified in the certificate.

(2) The provisions that apply under the Shipping (Jersey) Law 2002 in respect to the delivery up and posting of passenger certificates and penalty for forgery shall apply in relation to any certificate provided for by this Part as they apply in relation to a passenger certificate.

132 Extension of certificates

(1) Subject to paragraph (2), where application has been made to the Minister by the owner of a vessel in respect of which a Jersey fishing vessel certificate is in force, for issue of a further Jersey fishing vessel certificate to take effect on the expiry of the current certificate and following that application the vessel has been duly surveyed in accordance with Article 127, if the Minister is satisfied on receipt of the surveyor's report that the vessel complies with the requirements of Parts 2 and 3 (other than those Articles relating to stability) but by reason of the absence of

stability information or otherwise, the further Jersey fishing vessel certificate may not be issued before the date of expiry of the current certificate, the period of validity of that current certificate may be extended for a period not exceeding 2 months:

Provided that no such extension shall have effect after the date on which this Order ceases to be in force.[127]

(2) No such extension shall have effect for the purposes of this Order unless particulars of the date to which the period of validity is extended, together with particulars of the place at and the date on which such extension was given, are endorsed by the Minister on the current certificate.

(3) The period of validity of any Jersey fishing vessel certificate coming into force immediately on the expiry of a certificate extended pursuant to this Article shall not exceed the period during which this Order remains in force or a period of 5 years from the date on which the survey referred to in paragraph (1) was begun, whichever is the shorter.[128]

133 Cancellation of certificates

The Minister may cancel a Jersey fishing vessel certificate –

(a) if the Minister is satisfied –

(i) that any declaration of survey on which the certificate was founded has been in any particular made fraudulently or erroneously,

(ii) that the certificate has been issued upon false or erroneous information,

(iii) that since the making of the declaration, the hull, equipment or machinery have sustained any damage or are otherwise inadequate for their intended service;

(b) if the certificate is not endorsed in the manner set out in Article 134 where the vessel is required to have been inspected in accordance with the requirements of that Article;

(c) if a new certificate is issued in respect of the vessel;

(d) if the vessel has ceased to be registered under the Shipping (Jersey) Law 2002; or

(e) if the vessel has ceased to be classed with Lloyd's Register of Shipping.

134 Periodical inspection of fishing vessels

(1) Every vessel in respect of which a Jersey fishing vessel certificate is in force shall be periodically inspected in accordance with the provisions of this Article by a surveyor appointed by the Minister in order to ascertain that –

(a) the fittings and appliances for the protection of openings, the guard rails, the freeing ports, the means of access to and escape from the crew accommodation, the life saving appliances and machinery and fittings used in the operation of fishing, the radio equipment and installations and the lights, shapes and means of making sound signals required by the collision orders are in an effective condition and comply with the requirements of this Order applicable to them; and

(b) since the date of issue of the current certificate, no changes have been made or taken place in the hull, machinery, pumping arrangements or superstructures of the vessel as a result of which the vessel fails to comply

with such of the requirements of Parts 2 and 3 as apply to it or the stability characteristics of the vessel have been altered.[129]

(2) Application for periodical inspection shall be made by or on behalf of the owner of the vessel to the Minister.

(3) The surveyor appointed by the Minister to carry out the periodical inspection may in the course of that inspection require the vessel and any of its machinery, fittings and equipment to be submitted to such tests as he or she may consider necessary to determine whether the vessel complies with the requirements of paragraph (1).

(4) Every such vessel shall be inspected in accordance with the provisions of this Article not less than 27 and not more than 33 months from the date of issue of the certificate.[130]

(5) The surveyor, if satisfied after such periodical inspection that the vessel complies with the requirements of paragraph (1), shall endorse a record of the inspection in the space provided on the Jersey fishing vessel certificate and shall certify that the vessel was found to comply with the requirements of paragraph (1).

135 Prohibition on going to sea without certificates and penalty therefor

(1) No vessel to which this Order applies shall go to sea unless there is in force in respect of it a certificate issued under Article 129.

(2) If such a vessel goes to sea or attempts to go to sea in contravention of this Article, the owner or master of the vessel shall be liable to a fine.

(3) The master of such a vessel shall on demand produce a certificate issued under Article 129 to the Harbour Master or a person appointed by the Harbour Master for the purpose or an Officer of Customs and the vessel may be detained until the certificate is so produced.

PART 6

MISCELLANEOUS

136 Transitional provision[131]

Anything done, approved, issued or granted under this Order and in force immediately before the Shipping (Fishing Vessels Safety Provisions) (Amendment) (Jersey) Order 2015 came into force continues in force as if done, approved, issued or granted under this Order after the coming into force of that Order.

PART 7

CITATION

137 Citation

This Order may be cited as the Shipping (Fishing Vessels of 24 Metres in Length and Over) (Safety Provisions) (Jersey) Order 2004.[132]

SCHEDULE 1[133]

(Article 129)

FORM OF JERSEY FISHING VESSEL CERTIFICATE

Jersey Fishing Vessel Certificate

Shipping (Fishing Vessels of 24 Metres in Length and Over) (Safety Provisions) (Jersey) Order 2004

Name of vessel	*Official number and fishing number*	*Port of registry*	*Registered length*	*Overall length*	*Date on which keel laid*

This is to certify –

I that the vessel has been surveyed in accordance with the provisions of the Order referred to above and is in accordance with such of the requirements of Parts 2 and 3 of the Order as are applicable to the vessel;

II that the life-saving appliances are sufficient for a total of ..... persons;

II that the vessel is fitted with the lights, shapes and sound signals to comply with the International Collision orders and is fitted with nautical equipment in accordance with the Order;

This certificate is valid until …….subject to the periodical inspection in accordance with the Shipping (Fishing Vessels of 24 Metres in Length and Over) (Safety Provisions) (Jersey) Order 2004.

Issued at ..... on ..... 20....

The undersigned declares that he or she is duly authorized by the Minister to issue this Certificate.

Signature and designation .....

.....

RECORD OF SUBSEQUENT, INTERMEDIATE, PARTIAL OR INCOMPLETE INSPECTIONS		
DATE	NATURE OF SURVEY	SIGNED NAME OF SURVEYOR

EXEMPTIONS

REGULATION	FILE REFERENCE	PROVISION, APPLIANCE OR FITTING	CONDITIONS

MACHINERY AND BOILERS

ENGINES			CYLINDERS		
Number	Steam or Internal Combustion		Number	Diameter	Length of Stroke
Year when made	By whom made				

BOILERS

	No.	Type	By whom made	Year when made
Main				
Auxiliary				

EVAPORATORS

No.	Of what material made	By whom made	Year when made	Maximum pressure of inlet steam	Diameter of reduced orifice in reducing nozzle if fitted

SAFETY VALVES

	Description	By whom made	Number of each Boiler or evaporator	Limiting pressure
Main Boilers				
Auxiliary Boilers				
Evaporators				

COMPASSES

No. on board		The number and date of any Admiralty Compass Observatory Certificate if available

MISCELLANEOUS PARTICULARS

Number and Type of Anchors	
Length and Diameter of Chain Cables and/or Wire Ropes	Fathoms Diameter
Windlass or other recovery device	
Make: Power:	
Documentation supplied to skipper	
Stability book date of approval	

STRUCTURAL FIRE PROTECTION

Description of the main and the auxiliary Steering Gears	
Maximum Speed Ahead	K
Maximum Speed Astern	K
L P G Installation	
Position and stowage of gas bottles	
Number of gas consuming appliances	

Fire Doors		
Total Number fitted:		
Position	Type and Standard	

Ventilation Fire Valves	
Total number fitted:	
Position	

WATERTIGHT DOORS. Source of Power for Operating .....

Position of Source of Power .....

Bulkhead Position	Position on Bulkhead (Port, Centre, Starboard)	Size of Opening	Sill Below Bulkhead Deck	Type of Door	How Operated		
					Hand Fixed Wheel, Crank or Tee Handle	Power Type of Drive Power of Motor if Electric	

BILGE PUMPS

BILGE SUCTIONS. Size of Bilge Main .....

Description of Pumps	Compartment in which Pump is situated?	Capacity of Pump	Source of Power and its Position in Vessel	Compartment	Number and Size of Suction to Compartments	Position to which Valves are geared		Non-return or geared-up Screw-down Valves to prevent inter-compartment flooding
Main Engine or equivalent pump								
1st Power Pump								
2nd Power Pump								
3rd Power Pump								
State which is the Emergency Pump or describe other equipment provided for emergency pumping.								
Particulars of Main Circulating Pumps and size of bilge injection.								

Fire Pumps-excluding emergency pump	
Alternative means of extinguishing fire in machinery spaces	

FIREMEN'S OUTFITS

	No.	Description
Breathing Apparatus		
Safety Lamps		
Axes		

AUTOMATIC SYSTEMS

The Fire Detection System Consists of:	The Bilge Alarm System Consists of:

EMERGENCY ELECTRIC POWER

Source of Power including rating or capacity	
If generator, means of starting	
Services supplied	

Fire Appliances

		No.	Description
Portable Extinguishers	Machinery Spaces		
	Crew Spaces		
	Other Spaces		
Non-portable Extinguishers			
Hoses	Lengths with Couplings Machinery Spaces		
	Other Spaces		
Spray Nozzles - Size	Machinery Spaces		
	Other Spaces		
Plain Nozzles - Size	Machinery Spaces		
	Other Spaces		
Sand Boxes and Scoops			
Fixed Installations	Machinery Spaces		
	Other Spaces		

Emergency Controls

Closing Devices	
Remote stops	
Controls for sea inlet, discharge, and bilge injection valves	
Other distant controls including OF suction valves	
Fire Control Plans	
International Shore Connection	
Fire Buckets Crew Spaces	
Other Spaces	

Sound Signals and Shapes

Diameter and Position of Bell	
Type of Whistle(s)	
Foghorn	
Gong	
Number of NUC Shapes	
Black Diamond	
Additional Lanterns/Shapes	
Description of day signals	

Position of Sidelights		
Breadth of Chocks	Port	Starboard
Oil		
Electric		
Signalling Lantern	Maker's name and/or marks	

Miscellaneous Equipment	
Pilot Ladder - details of equipment Bulwark Ladder - if provided Pilot hoist - if provided	
Survival craft	Type:
Portable radio	Serial No.:

Is screening sufficient to ensure working lights cannot be mistaken for navigation lights?

Rockets and Signals

Line-throwing appliance	Manufacturer's Name and Descriptions
Means provided for making emergency signals	

Navigation Lights

	Oil/Electric			Electric	
Lantern	Maker Number	Lens Type: Mark	Burner	Maker Number	Lens Type: Mark
Mast Fore					
Mast Main					
Port					
Starboard					
Stern					
Anchor					
Anchor					
Not Under Command					
Not Under Command					
All Round Coloured					
All Round White					

LIFE-SAVING APPLIANCES

LIFEBOATS AND CLASS 'C' BOATS

* No. of Boat	Description	Measurements			Cubic Capacity	No. of persons	Internal Buoyancy		Weight fully laden (Tonnes)
		Length	Breadth	Depth			Material	Cubic Capacity	

*Boats to be numbered from forward, odd numbers starboard, even numbers port.

INFLATABLE BOATS

Maker's Name	Length	Number of persons	Weight with equipment and engine (Kgs)
Type of Engine			

DAVITS AND WINCHES

Davits or Launch/Recovery Device	Description		Type of purchase
	SWL Are they of sufficient strength to lower fully-laden boats?		Rope or Wire: Size:
Winches	Description		Construction: Breaking Strain:
	SWL	Falls	

Manufacturer and type	Persons	Number	Stowage

Liferafts

Manufacturer and type	Fittings	No.	Stowage
	with buoyant line		
	with self-igniting light		
	with smoke marker		
	with smoke marker and self-igniting light		
	Other		
	Total		

Lifebouys

Lifejackets

Manufacturer and Type -		
Number	Stowage	

Number of Donning Instructions Displayed

Is a table of live-saving signals available on the Vessel's Bridge?

Particulars of Scuppers inlets and discharges: -

Inlet or Discharge	Position of inboard end or Compartment	DIA	Vertical Dist. from DWL to inboard end	Position of valve	Type of Valve	Material

Particulars of Side Scuttles

Deck	Position	DIA	BSS Ref. number	Frame material	Method of attachment to structure	Deadlight Material
Vertical distance of Sill of lowest Side Scuttle above highest waterline						

Particulars of Freeing Arrangements on weather decks and factory decks

Deck	Length of Bulwark	Height of Bulwark	Size of Freezing Ports	Number each side	Area each side	Rule area each side

State position of each freeing port (F. and A. position and height above deck edge) { After Well: - / Forward Well:-

State whether the freeing ports are fitted with shutters, bars or rails, any means of closing and give particulars of such: -

Particulars of any special freeing arrangements from spaces above weather deck:-

Particulars of Guard Rails, Wires or Chains, lifelines, storm rails, safety belts, etc.

Factory deck pumping arrangements.

Particulars Flush Scuttles (And Position on Vessels): -

Particulars of Spurling Pipes and closing arrangements: -

Particulars of Companionways (And Position on Vessels): -

Particulars of Air Pipes in Exposed Positions

Ref. Number	Compartment	No. Off	DIA	Coaming Height to open end	Closing Appliance	Material

Particulars of Ventilators in Exposed Positions

Ref. Number	Position	Coamings				Type of Head	Closing Appliance
		Dimensions	Thkss	Height	Material		

HATCHWAYS ON WEATHER AND SUPERSTRUCTURE DECKS

Description of Hatchway								
Dimensions of Hatchway (Length & Breadths)								
COAMINGS	Material							
	Height above deck							
	Thickness { Sides							
	{ Ends							
	Stiffeners							
	Brackets, Stays							
	Spacing of cleats							
HATCH COVERS	Type							
	No. of Sections							
	Material							
	Thickness							
	How are wood covers fitted							
	Bearing Surface							
	Method of Gasketing							
	Clamping Devices							
Spacing of Cleats								
Number of layers of tarpaulin								
HATCH BEAMS AND/OR FORE AND AFTERS	Number							
	Spacing							
	Unsupported Lengths							
	Scantling and Sketch							
	Bearing Surface							

Are wood fore and afters steel shod at all bearing surfaces?

Are battens and wedges efficient and in good condition?

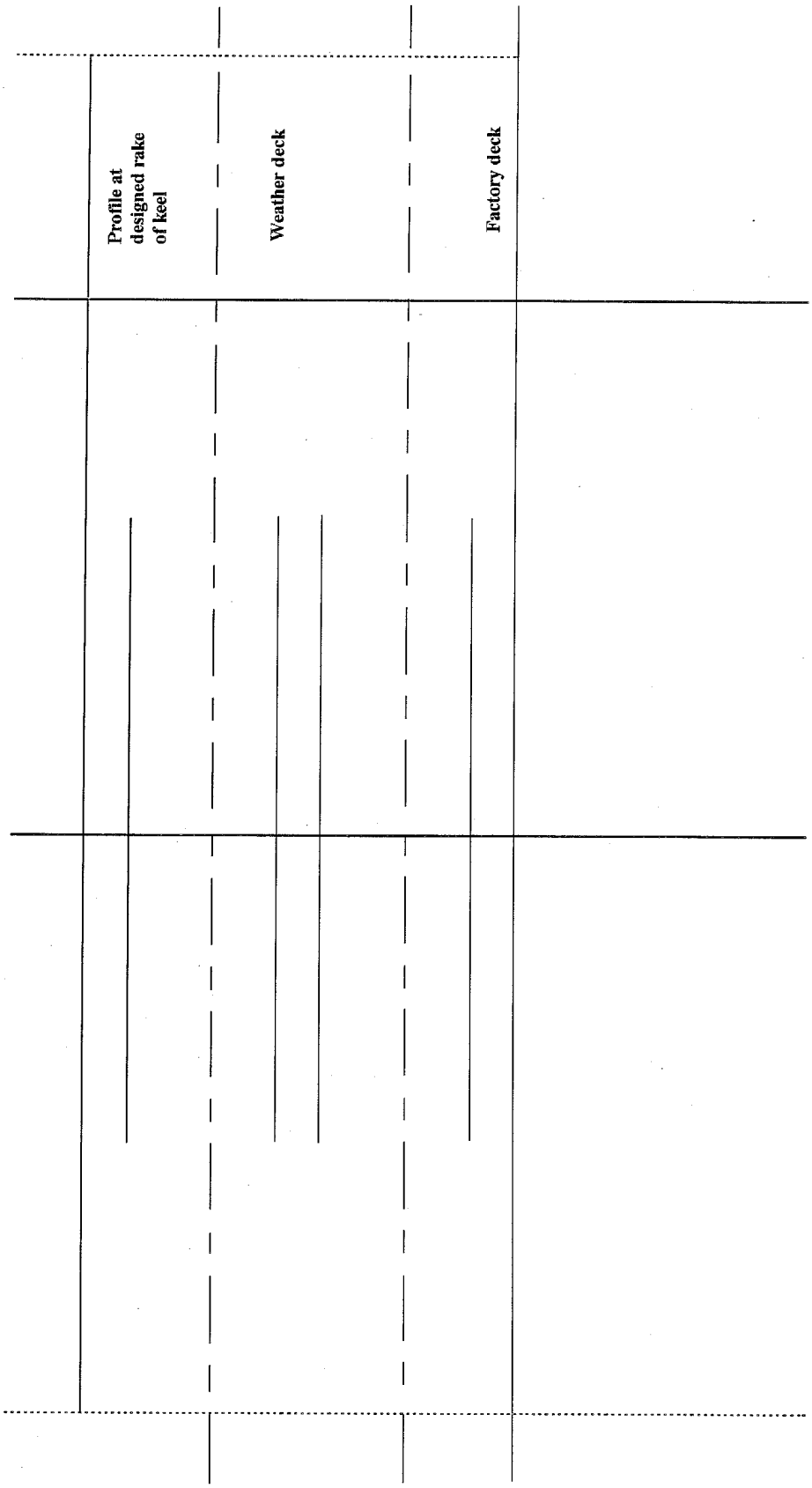
Are waterproof covers in good condition and in accordance with the requirements of Regulation 7(1)(c) of these Regulations?

Are steel locking bars provided in accordance with Regulation 7(1)(g) of these Regulations?

Are gaskets and securing devices efficient and in good condition?

Particulars of fiddles, funnel and ventilator coamings, engine room skylight and other openings in machinery casings tops and their means of closing:

DISPOSITION AND DIMENSIONS OF SUPERSTRUCTURES, DECKHOUSES AND MACHINERY CASINGS, AND POSITION OF HATCHES, DOORS, COMPANIONWAYS, VENTILATORS, EXPOSED PORTABLE PLATES TO BE INSERTED IN THE DIAGRAM;



PARTICULARS OF SUPERSTRUCTURES, CASINGS, DECKHOUSES, DOORS

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Height of Casings	Size of Door Openings	Height of Sills	Type of Door	Operate Both Sides
Poop Bulkhead										
Raised Quarter Deck Bulkhead										
Bridge, After Bulkhead										
Bridge, Forward Bulkhead										
Forecastle Bulkhead										
Exposed Machinery Casings on Freeboard or Raised Quarter Decks										
Exposed Machinery Casings on Superstructure Decks										
Machinery Casings within Superstructures not fitted with Closing Appliances										
Deckhouses										
(1) Enclosing Openings in Freeboard Deck										
(2) Enclosing Openings in Exposed Superstructure Deck										
(3) Enclosing Openings giving Access to spaces below Freeboard Deck										
Particulars of shell doors, stern ramp doors, etc.										

SCHEDULE 2[134]

(Article 128(2))

FORM OF RECORD OF PARTICULARS OF A JERSEY FISHING VESSEL

SHIPPING (FISHING VESSELS OF 24 METRES IN LENGTH AND OVER) (SAFETY PROVISIONS) (JERSEY) ORDER 2004.
RECORD OF PARTICULARS OF FISHING VESSEL

Name, Official Number, Fishing Letters and Numbers	Port of Registry	Registered Dimensions	Overall Length	Name and address of Owner, Managing Owner or Agent
		Length		
		Breadth	Hull Material	
		Depth		

Year keel laid or vessel built*	Type of fishing undertaken	Type of Machinery and Brake or Shaft Horse Power	Brake Horse Power of Auxiliaries	Type of Boiler

* For vessels built in 2004 the actual date of signing contract should be given	Area of Operation

The vessel and fittings described in this record were surveyed on ..... 20 ..... and found to be in good condition and in accordance with the Shipping (Fishing Vessels of 24 Metres in Length and Over) (Safety Provisions) (Jersey) Order 2004.

The documentation to be carried for the guidance of the skipper was sighted on board and meets the requirements of the said Regulations.

The life-saving appliances provide for a total of ..... persons and no more.

Date ..... 20..... Surveyor's Signature .....

PERIODICAL INSPECTION		
DATE OF INSPECTION	PLACE OF INSPECTION	SIGNATURE OF SURVEYOR

THIS CERTIFICATE MUST BE KEPT FRAMED AND POSTED UP IN SOME CONSPICUOUS PLACE ON BOARD THE VESSEL SO LONG AS IT REMAINS IN FORCE AND THE VESSEL IS IN USE.

RECORD OF EXEMPTIONS GRANTED			
Relevant Part No. of Order.	Authorised by and date	Valid Until	Subject to Following conditions

SCHEDULE 3

(Articles 18 and 75)

INFORMATION AS TO STABILITY OF FISHING VESSELS

The book to be kept on board the vessel pursuant to Article 75 shall contain the following information:

1. A statement of the vessel's name, port of registry, official number, registration letters, principal dimensions, gross and register tonnages, displacement and minimum freeboard in the deepest foreseeable operating condition shall be included in such information.

2. A profile plan of the vessel drawn to scale showing with their names all compartments, tanks, storerooms, crew accommodation spaces and the position of the midpoint of the length between perpendiculars shall be provided.

3. A tabular statement of the capacity and position of the centre of gravity, longitudinally and vertically of every compartment available for the carriage of cargo fuel, stores, feed water, domestic water, water ballast, and crew and effects shall be included in such information. The free surface function defined in paragraph 9 shall also be included for each tank designed to carry liquid. Details of the volumetric-centre of the total internal volume of the fish-hold shall be included in such information. The calculation may take into account the effect of assuming a void space between the top of the catch and the underside of the deckhead provided that under normal operating conditions provision has been made for the effective control of the loading in order to ensure that the actual void space will always be equal to or greater than that assumed in such a calculation.

4. Where deck cargo is carried by a vessel the estimated weight and disposition of deck cargo the vessel may be expected to carry while satisfying the stability criteria set out in Article 18 shall be included in such information.

5. A diagram or tabular statement shall be provided showing for a suitable range of mean draughts and at the trim stated, the following hydrostatic particulars of the vessel –

   (i) the heights of the transverse metacentres;

   (ii) moments to change trim one centimetre;

   (iii) tonnes per centimetre immersion;

   (iv) longitudinal position of the centre of flotation;

   (v) vertical and longitudinal positions of the centre of buoyancy;

   (vi) displacement in tonnes.

   Where vessels have raked keels the same datum shall be used for the hydrostatics as was employed in determining the requirements of paragraph 3 above. In such cases full information shall be included in respect of the rake and dimensions of the keel and may be given in the form of a diagram.

6. A diagram shall be provided showing cross curves of stability indicating the assumed position of the axis from which the righting levers are measured and the trim which has been assumed. Where vessels have raked keels any datum other than a line through the top of the keel amidships shall be clearly defined.

7. The information provided under paragraphs 5 and 6 shall be at such a nominal trim that represents accurately the vessel in all normal operating trims. Where

calculations show that there are significant numerical variations in these operating trims the information provided under paragraphs 5 and 6 shall be repeated over such a range of trims to allow an accurate interpolation of such information at any normal operating trim.

8. Superstructure deckhouses, companionways located on the freeboard deck, including hatchway structures may be taken into account in deriving such cross-curves of stability provided that their location, integrity and means of closure will effectively contribute to the buoyancy.

9. An example shall be included in such information to show the corrections applied to the transverse metacentric height and righting levers (GZ) for the effects of the free surfaces of liquids in tanks and shall be calculated and taken into account as follows –

(i) the metacentric height in metres shall be reduced by an amount equal to the total of the free surface functions for each tank divided by the vessel's displacement in tonnes. For each tank the free surface function is given by –

1.025 x pi where –

p = specific gravity of the liquid;

I = transverse moment of inertia of the surface;

(i.e. $\frac{LB^3}{12}$ where L = length and B = breadth of the surface of metres);

i.e. correction = $\frac{\sum pi}{\text{Displacement}}$

(ii) the righting lever (GZ) curves shall be corrected by either –

(a) adding the free surface correction calculated under (i) to the value in metres of the calculated height of centre of gravity of the vessel above the datum; or

(b) making direct calculations of the heeling moment due to the liquid surface being inclined at the selected angle of heel where such calculations take proper account of the position of liquid surface in relation to the geometric configuration of the tank. The correction to the righting lever (GZ) at any selected angle of heel shall then be the summation of the individual heeling moments of the tanks considered, divided by the vessel's displacement.

10. A stability statement and diagram shall be provided for the usual condition of the vessel –

(a) in the lightship condition:

the vessel shall be assumed to be empty except for water in boilers and liquid in pipe systems including header tanks. The weight and position of the centre of gravity of any permanent ballast or fishing gear shall be indicated where this is known;

(b) in each of the following circumstances so far as they may be applicable to the vessel in its foreseeable operating conditions –

(i) on departure from port:

the vessel shall be assumed to be loaded with the necessary equipment, materials and supplies including ice, fuel, stores and water;

(ii) on arrival at fishing grounds:

as sub-paragraph (i) but account taken of the consumption of fuel and stores:

(iii) on arrival at fishing grounds:

as sub-paragraph (ii) but the appropriate icing-up allowance as set out in paragraph 14 shall be taken into account;

(iv) on departure from fishing grounds:

the vessel shall be assumed to be loaded with its maximum catch but account taken of the consumption of fuel and stores;

(v) on departure from fishing grounds:

as sub-paragraph (iv) but the appropriate icing-up allowance as set out in paragraph 14 shall be taken into account;

(vi) on departure from fishing grounds:

the vessel shall be assumed to be loaded with 20% of its maximum catch but account taken of the consumption of fuel and stores;

(vii) on departure from fishing grounds:

as sub-paragraph (vi) but the appropriate icing-up allowance as set out in paragraph 14 shall be taken into account;

(viii) on arrival at port with maximum catch:

account shall be taken of the consumption of fuel and stores;

(ix) on arrival at port with 20% maximum catch:

account shall be taken of the consumption of fuel and stores;

(x) if any part of the catch normally remains on deck, further statements and diagrams appertaining to that condition in all the appropriate circumstances set out in sub-paragraphs (iv) to (ix) inclusive shall be provided.

The total free surface correction for the effect of liquid in tanks shall be applied to each loading condition set out in the foregoing provisions of this paragraph. The free surface correction shall take into account the amounts of fuel, lubricating oil, feed and fresh water in the vessel in each such loading condition.

The working instructions placed on board pursuant to Article 76 shall generally be based upon the conditions specified in this paragraph and shall form part of this stability statement.

11. Where provision is made in a particular area of the vessel for the washing and cleaning of the catch which could lead to an accumulation of loose water a further statement and diagram shall be provided appropriate to that condition which takes into account the adverse effects of such loose water, it being assumed that –

(i) the amount of loose water on deck is determined by the size and disposition of the retaining devices; and

(ii) in all other respects the vessel is loaded in accordance with paragraph 10(iv) or paragraph 10(vi), whichever is the less favourable with regard to the vessel's stability.

12. Each stability statement shall consist of –

(i) a profile drawn to a suitable scale showing the disposition of the deadweight components;

(ii) a tabular statement of all the components of the displacement including weights, positions of centres of gravity, transverse metacentric height corrected for free surface effects, trim and draughts;

(iii) a diagram showing a curve of righting levers (GZ), corrected for free surfaces effects and derived from the cross-curves of stability, showing, if appropriate, the angle at which the lower edges of any opening which cannot be closed watertight will be immersed. The diagram shall also show the corresponding numerical values of the stability parameters defined in Article 18.

13. The information provided under paragraph 12(iii) may be supplemented by a graph or tabular statement showing the maximum permissible deadweight moment over a range of draughts which shall cover foreseeable operating conditions. At any given draught this maximum permissible deadweight moment value is the total vertical moment, about a convenient base line, of all the component weights of the total deadweight which, at that draught, will ensure minimum compliance with the stability criteria requirements of Article 18. If an allowance for the weight due to icing-up is required this shall be taken into account by a suitable reduction in the permissible moment. Where the stability information is supplied in accordance with the requirements of this paragraph the tabular statement required in accordance with paragraph 12(ii) shall include the deadweight moment appropriate to each condition and an example shall be added to the stability information to demonstrate the assessment of the stability.

14. The icing-up allowances which represent the added weight due to ice accretion on the exposed surfaces of the hull, superstructure, deck, deckhouses and companionways shall be calculated as follows –

(i) full icing allowance:

all exposed horizontal surfaces (decks, house tops, etc.) shall be assumed to carry an ice weight of 30 kilogrammes per square metre. The projected lateral area of the vessel above the waterline (a silhouette) shall be assumed to carry an ice weight of 15 kilogrammes per square metre.

The height of the centre of gravity shall be calculated according to the heights of the respective areas and in the case of the projected lateral area the effect of sundry booms, rails, wires, etc., which will not have been included in the area calculated shall be taken into account by increasing by 5% the weight due to the lateral area and the moment of this weight by 10%. This allowance shall apply in winter (1st November to 30th April inclusive in the northern hemisphere) to vessels which operate in the following areas –

(a) the area north of latitude 66°30N. between longitude 10°W and the Norwegian Coast;

(b) the area north of latitude 63°N between longitude 28°W and 10°W;

(c) the area north of latitude 45°N. between the North American continent and longitude 28°W;

(d) all sea areas north of the European, Asian and North American continents east and west of the areas defined in (a), (b) and (c);

(e) Bering and Okhotsk seas and Tatar Strait;

(f) South of latitude 60°S.

(ii) half of the full icing allowance:

this shall be taken as one half of that calculated under sub-paragraph (i) and shall apply in winter to vessels which operate in all areas north of latitude 61°N between longitude 28°W and the Norwegian coast and south of the areas defined as the lower limit for full icing allowance between longitude 28°W and the Norwegian coast.

15. Information shall be provided in respect of the assumptions made in calculating the condition of the vessel in each of the circumstances set out in paragraph 10 for the following –

(i) duration of the voyage in terms of days spent in reaching the fishing grounds, on the grounds and returning to port;

(ii) the weight and disposition of the ice in the hold at departure from port including the heights of stowage;

(iii) consumption rates during the voyage for fuel, water, stores and other consumables;

(iv) ratio by weight of the ice packed with the catch in the fish hold;

(v) melting rates for each part of the voyage of the ice packed with the catch and the ice remaining unused in the hold.

16. A copy of a report of an inclining test of the vessel and the derivation therefrom of the lightship particulars shall be provided.

17. A statement shall be given by or on behalf of the owner of the vessel that the statements and diagrams supplied with respect to the operating conditions set out in paragraph 10 are based on the worst foreseeable service conditions in respect of the weights and disposition of fish carried in the hold or on deck, ice in the hold, fuel, water and other consumables.

SCHEDULE 4

(Article 84(1))

GENERAL REQUIREMENTS FOR LIFEBOATS

1. Every lifeboat shall be constructed with rigid sides.
2. In any lifeboat fitted with a rigid shelter the shelter shall be capable of being readily opened from both inside and outside and shall not impede rapid embarkation and disembarkation or the launching and handling of the lifeboat. Such a shelter where fitted may be accepted as complying with the requirements of Article 92(1)(x).
3. Every lifeboat except wooden lifeboats made of planks shall have a block co-efficient of the cubic capacity as determined in accordance with Schedule 5 of not less than 0.64.
4. Every lifeboat shall be of such form and proportions that it shall have ample stability in a seaway and sufficient freeboard when loaded with its full complement of persons and equipment.
5. Every lifeboat shall be so constructed that it shall be capable of maintaining positive stability when open to the sea and loaded with its full complement of persons and equipment.
6. Every lifeboat shall be properly constructed for the purpose for which it is intended and shall be of sufficient strength to permit its being safely lowered into the water when loaded with its full complement of persons and equipment. It shall be of such strength that it will not suffer residual deflection if subjected to an overload of at least 25%.
7. No lifeboat shall be less than 4.9 metres in length except that where this Order permits a lifeboat to be carried as an alternative to a Class C boat, the length of such lifeboat shall not be less than that of the Class C boat as determined in accordance with paragraph 1 of Schedule 8.
8. No lifeboat when laden with its full complement of persons (calculated at 75 kilogrammes per person) and equipment shall weigh more than 20 tonnes.
9. In every lifeboat all thwart and side seats shall be fitted as low in the lifeboat as practicable and bottom boards shall be fitted.
10. Every lifeboat shall have a mean sheer at least equal to 4% of its length. The sheer shall be approximately parabolic in form.
11. Every lifeboat shall be fitted with internal buoyancy appliances which shall consist either of air cases or buoyant material which shall not be adversely affected by oil or oil products and which shall not adversely affect the boat.
12. In every lifeboat the total volume of the internal buoyancy appliances shall be such that it will be at least equal to the sum of the volumes of:
    (a) that required to float the lifeboat and its full equipment when the lifeboat is flooded and open to the sea so that the top of the gunwale amidships is not submerged; and
    (b) that equal to 10% of the cubic capacity of the lifeboat.

SCHEDULE 5

(Article 84(2))

CALCULATION OF CUBIC CAPACITY OF LIFEBOATS

1. Subject to the provisions of paragraph 4, the cubic capacity of a lifeboat for the purposes of this Order shall be measured in cubic metres and shall be determined by Stirling's (Simpson's) Rule, which may be considered as given by the following formula –

   Cubic Capacity = (4A + 2B + 4C), where L denotes the length of the lifeboat in metres from the inside of the shell at the top of the stem to the corresponding point at the top of the stern post; in the case of a lifeboat with a square stern the length is measured to the inside of the top of the transom; and

   A, B, C, denote respectively the areas of the cross-sections at the quarter length forward, amidships and the quarter length aft which correspond to the 3 points obtained by dividing L into 4 equal parts (the areas corresponding to the 2 ends of the lifeboat shall be considered negligible).

   The areas A, B, C shall be deemed to be given in square metres by the successive application of the following formula to each of the 3 cross-sections –

   Area = (a + 4b + 2c + 4d + e), where h denotes the depth measured in metres inside the shell from the keel to the level of the gunwale, or, in certain cases, to a lower level as determined hereafter; and a, b, c, d, e denote the horizontal breadths of the lifeboat measured in metres inside the shell at the upper and lower points of the depth and at the 3 points obtained by dividing h into 4 equal parts (a and e being the breadths at the extreme points, and c at the middle point of h).

   The capacity of a square-sterned lifeboat shall be calculated as if the lifeboat had a pointed stern.

2. If the sheer of the gunwale, measured at 2 points situated at a quarter of the length of the lifeboat from the ends, exceeds 1% of the length of the lifeboat, the depth employed in calculating the area of the cross-section A or C shall be deemed to be the depth amidships plus 1% of the length of the lifeboat.

3. If the depth of the lifeboat amidships exceeds 45% of the breadth, the depth employed in calculating the area of the amidship cross-section B shall be deemed to be equal to 45% of the breadth, and the depth employed in calculating the areas of the quarter length sections A and C is obtained by increasing this last figure by an amount equal to 1% of the length of the lifeboat:

   Provided that in no case shall the depths employed in the calculations exceed the actual depths at these points.

4. Unless the owner of the lifeboat requires the cubic capacity to be determined by exact measurements, the cubic capacity of a lifeboat constructed of wooden planks may be assumed to be the product of the length, the breadth and the depth multiplied by 0.6 if this formula does not give a greater capacity than that obtained by the formula set out in paragraph 1. The dimensions shall be measured in the following manner –

   Length – from the intersection of the outside of the planking with the top of the stem to the corresponding point at the stern post, or in the case of a square-sterned lifeboat, to the after side of the top of the transom;

Breadth – from the outside of the planking at the point where the breadth of the lifeboat is greatest;

Depth – amidships inside the planking from the keel to the level of the top of the gunwale, but the depth used in calculating the cubic capacity may not in any case exceed 45% of the breadth.

5. The cubic capacity of a motor lifeboat or a lifeboat fitted with other propelling gear shall be obtained from the gross capacity by deducting a volume equal to that occupied by the motor and its accessories or the gearbox of the other propelling gear.

SCHEDULE 6

(Article 84(5)(a))

REQUIREMENTS FOR MACHINERY OF MOTOR LIFEBOATS

1. The engine shall be capable of being readily started in cold weather and of running reliably under conditions of extremes of temperatures.
2. The engine shall operate properly under conditions of at least 10 degrees list and 10 degrees trim. Circulating water pumps where fitted shall be self-priming.
3. The engine and its accessories, including the fuel tank, pipes and fittings, shall be adequately protected to ensure reliable operation under conditions likely to arise at sea during adverse weather. The engine casing shall additionally be fire-resisting and in the case of air-cooled diesel engines shall be so designed that the supply of cooling air is not restricted.
4. Means shall be provided in all lifeboats to prevent the spread of oil. In a wooden lifeboat a metal tray shall be fitted under the engine.
5. The fuel tank shall be substantially constructed, securely fixed in position with a metal tray underneath and fitted with suitable filling, vapour venting and relief arrangements. No part of the tank or its connections nor any part of the fuel piping or fittings shall depend on soft solder for tightness, and tanks made of steel shall be protected externally against corrosion by sea water by metal spraying or similar means. The tanks and its connections shall be capable of withstanding hydraulic pressure corresponding to a head of at least 4.5 metres. A cock shall be fitted at each end of the fuel pipe.
6. The engine and fuel tank spaces shall be efficiently ventilated.
7. The shafting and other moving parts shall be fenced where necessary to protect the persons in the lifeboat from injury.

SCHEDULE 7

(Article 85)

REQUIREMENTS FOR CLASS C BOATS

1. Every Class C boat shall be an open boat constructed with rigid sides.
2. The boat shall be of such form and proportions that it shall have ample stability in a seaway and sufficient freeboard when loaded with its equipment and the number of persons specified in column (3) of paragraph 3.
3. The length of the boat and the number of persons for whom seating shall be provided in the boat shall be determined in accordance with the following table –

(1) Number of persons on board the vessel	(2) Minimum length of boat in metres	(3) Minimum seating capacity of boat (persons)
More than 8	4.8	9
8	4.5	8
6 or 7	4.2	7
5	3.9	5
4 or less	3.6	4

4. All thwart and side seats in the boat shall be fitted as low in the boat as practicable and bottom boards shall be fitted.
5. The boat shall be square-sterned and shall have a mean sheer at least equal to 5% of its length.
6. The boat shall be fitted with internal buoyancy appliances which shall be so placed as to secure stability when the boat is fully laden under adverse weather conditions.
7. Every boat shall be fitted with internal buoyancy appliances which shall consist either of air cases or buoyant material which shall not be adversely affected by oil or oil products and which shall not adversely affect the boat.
8. The total volume of the internal buoyancy appliances shall be such that it will be at least equal to the sum of the volumes of –
   (a) that required to float the boat and its full equipment when the boat is flooded and open to the sea so that the top of the gunwale amidships is not submerged; and
   (b) that equal to 7.5% of the cubic capacity of the boat which shall be determined in the same manner as that prescribed for lifeboats in Schedule 5.

SCHEDULE 8

(Article 93)

REQUIREMENTS FOR INFLATABLE BOATS

Every inflatable boat shall comply with the following requirements –

1. The overall length of the boat shall be not less than 3 metres and the boat shall be of such form and proportions as to have ample stability in a seaway when afloat in the empty, laden or swamped condition. The boat shall be suitable for the accommodation of at least 6 persons.
2. The boat shall be of sufficiently robust construction to survive when fully loaded, without such deterioration as would involve any loss of seaworthiness, for 30 days afloat under extremes of temperatures (60°C to minus 30°C) and in weather likely to be encountered at sea anywhere in the world.
3. All materials and components used in the construction of the boat and its accessories shall be able to withstand the worldwide seagoing climatic conditions referred to in paragraph 2. The boat and its accessories shall be resistant to the effects of humidity when stowed on board a vessel and all fabrics, cordage, webbing and thread shall be rot-proof. The boat shall be so constructed that it is not adversely affected by oil or oil products.
4. The boat shall possess a sufficient margin of durability to ensure that its performance will not be affected after 24 months' stowage on board a vessel in a weather deck stowage with a minimum of additional protection.
5. The main buoyancy chambers forming the boundary of the boat shall on inflation provide at least 0.17 cubic metres of volume for each person the boat is certified to accommodate. The diameter of the main buoyancy chambers of single tube boats shall be at least 0.43 metres.
6. The main buoyancy chambers shall be divided into at least 2 compartments along each side and one compartment in the bow, making a minimum total of 5 compartments.
7. In boats of more than one tube the volume of either tube shall not exceed 60% of the total volume.
8. At least one thwart shall be fitted so that the boat can be rowed satisfactorily.
9. The floor of the boat shall be waterproof and shall provide an efficient working platform.
10. A transom which shall not be inset by more than 20% of the overall length of the boat shall be provided.
11. A bow cover of a highly visible colour and extending for at least 15% of the overall length of the boat shall be provided.
12. A non-return valve shall be fitted to each buoyancy chamber for manual inflation.
13. A safety relief valve designed to operate at a pressure not exceeding 125% of the designed working pressure of the buoyancy chamber shall be fitted in each buoyancy chamber. Means for deflating shall be fitted in each chamber.
14. The boat shall be provided with the following equipment –
    (a) a painter of adequate length and size;

(b) a grab line secured round the outside of the boat and a grab line fitted round the inside of the boat;

(c) a drain plug;

(d) a crutch or steering grommet in the transom;

(e) hand-holds or straps for the purpose of righting the boat from the inverted position;

(f) a sea anchor attached to the boat by a line of adequate strength at least 9 metres in length;

(g) an efficient manually operated bellows or pump;

(h) 2 buoyant rescue quoits each attached to 18 metres of light buoyant line;

(i) at least 2 buoyant oars and 2 buoyant paddles;

(j) a safety knife;

(k) bridle slinging arrangements to enable the boat to be lowered into or raised from the water;

(l) a bailer and 2 sponges;

(m) a repair kit in a suitable container for repairing punctures in buoyancy compartments;

(n) one waterproof electric torch suitable for morse signalling together with one spare set of batteries and one spare bulb in a waterproof container.

SCHEDULE 9

(Article 87)

REQUIREMENTS FOR LIFERAFTS

PART 1 – INFLATABLE LIFERAFTS

EVERY inflatable liferaft shall comply with the following requirements –

(a) the liferaft shall be so constructed that, when fully inflated and floating with the cover uppermost, it shall be stable in a seaway;

(b) the liferaft shall be so constructed that if it is dropped into the water from a height of 18 metres, neither the liferaft nor its equipment will be damaged;

(c) the construction of the liferaft shall include a cover of a highly visible colour which shall automatically be set in place when the liferaft is inflated. This cover shall be capable of protecting the occupants against injury from exposure, and means shall be provided for collecting rain. The top of the cover shall be fitted with a lamp which derives its luminosity from a sea-activated cell and a similar lamp shall also be fitted inside the liferaft;

(d) the liferaft shall be fitted with a painter and shall have a lifeline 111ucketed round the outside. A lifeline shall also be fitted round the inside of the liferaft;

(e) the liferaft shall be capable of being readily righted by one person if it inflates in an inverted position;

(f) the liferaft shall be fitted at each opening with efficient means to enable persons in the water to climb on board;

(g) the liferaft shall be contained in a valise or other container so constructed as to be capable of withstanding hard wear under conditions encountered at sea. The liferaft in its valise or other container shall be inherently buoyant;

(h) the buoyancy of the liferaft shall be so arranged as to ensure by a division into an even number of separate compartments, half of which shall be capable of supporting out of the water the number of persons which the liferaft is fit to accommodate, or by some other equally efficient means, that there is a reasonable margin of buoyancy if the raft is damaged or partially fails to inflate;

(i) the total weight of the liferaft, its valise or other container and its equipment shall not exceed 180 kilogrammes;

(j) the number of persons which a liferaft shall be deemed fit to accommodate shall be equal to –

  (i) the greatest whole number obtained by dividing by .096 the volume measured in cubic metres of the main buoyancy tubes (which for this purpose shall include neither the arches nor the thwart or thwarts if fitted) when inflated; or

  (ii) the greatest whole number obtained by dividing by 3,720 the area measured in square centimetres of the floor (which for this purpose may include the thwart or thwarts if fitted) of the liferaft when inflated;

  whichever number shall be the less;

(k) the floor of the liferaft shall be waterproof and shall be capable of being sufficiently insulated against cold, either –

(i) by means of one or more compartments which the occupants can inflate if they so desire, or which inflate automatically and can be deflated and re-inflated by the occupants; or

(ii) by other equally efficient means not dependent on inflation;

(l) the liferaft shall be inflated by a gas which is not injurious to the occupants and the inflation shall take place automatically either on the pulling of a line or by some other equally simple and efficient method. Means shall be provided whereby a topping-up pump or bellows may be used to maintain pressure;

(m) the liferaft shall be of suitable material and construction, and shall be so constructed as to be capable of withstanding exposure for 30 days afloat in all sea conditions;

(n) every liferaft which is designed for use with a launching appliance shall be properly constructed for the purpose for which it is intended and shall be of sufficient strength to permit it to be safely lowered into the water when loaded with its full complement of persons and equipment;

(o) the liferaft shall have a carrying capacity calculated in accordance with sub-paragraph (j) of not less than 6 persons or more than 25 persons; provided that in vessels in which the total number of persons on board is less than 6, the minimum carrying capacity of the liferaft shall be 4 persons;

(p) the liferaft shall be capable of operating throughout a temperature range of 66°C to minus 30°C;

(q) the liferaft shall be fitted with arrangements enabling it to be readily towed;

I every liferaft carried on a vessel which is provided with portable radio equipment which complies with the specification set forth in Part 1 of Schedule 14 shall be provided with arrangements for accommodating properly in the operating position the aerial referred to in the specification set out in the said Schedule;

(s) notwithstanding the provisions of the foregoing paragraphs of this Part of this Schedule, any liferaft the inflatable chambers or floor of which are made of rubber-proofed cotton shall be treated as not complying with the requirements of this Part of this Schedule.

PART 2 – RIGID LIFERAFTS

(Article 87)

Every rigid liferaft shall comply with the following requirements –

(a) the liferaft shall be so constructed that if it is dropped into the water from its stowed position neither the liferaft nor its equipment will be damaged;

(b) any liferaft which is designed for use with a launching appliance shall be properly constructed for the purpose for which it is intended and shall be of sufficient strength to permit it to be safely lowered into the water when loaded with its full complement of persons and equipment;

(c) the liferaft shall be so constructed that its air cases or buoyant material are placed as near as possible to its sides;

(d) the deck area of the liferaft shall be situated within that part of the liferaft which affords protection to its occupants. The nature of the deck shall be such

as to prevent so far as practicable the ingress of water and it shall effectively support the occupants out of the water;

(e) the liferaft shall be fitted with a cover or equivalent arrangement of a highly visible colour, which shall be capable of protecting the occupants against injury whichever way up the liferaft is floating;

(f) the equipment of the liferaft shall be so stowed as to be readily available whichever way up the liferaft is floating;

(g) the total weight of any liferaft and its equipment shall not exceed 180 kilogrammes except that such total weight may be exceeded where the liferaft is capable of being launched from both sides of the vessel or if means are provided for putting it into the water mechanically on either side of the vessel;

(h) the liferaft shall at all times be effective and stable when floating either way up;

(i) the number of persons which the liferaft shall be deemed fit to accommodate shall be equal to –

(i) the greatest whole number obtained by dividing by .096 the volume measured in cubic metres of the air cases or buoyant material; or

(ii) the greatest whole number obtained by dividing by 3,720 the deck area of the liferaft measured in square centimetres; whichever number shall be the less;

(j) the liferaft shall have a painter attached and a lifeline securely 113ucketed round the outside. A lifeline shall also be fitted round the inside of the liferaft;

(k) the liferaft shall be fitted at each opening with efficient means to enable persons in the water to climb on board;

(l) the liferaft shall be so constructed as not to be affected by oil or oil products;

(m) a buoyant light of the electric battery type shall be attached to the liferaft by a lanyard;

(n) the liferaft shall be fitted with arrangements enabling it to be readily towed;

(o) liferafts shall be so stowed as to float free in the event of the vessel sinking;

(p) every liferaft carried on a vessel which is provided with portable radio equipment which complies with the specification set forth in Part 1 of Schedule 14 shall be provided with arrangements for accommodating properly in the operating position the aerial referred to in the specification set out in the said Schedule.

SCHEDULE 10[135]

(Article 89)

REQUIREMENTS FOR LIFEBUOYS

1. Every lifebuoy shall be constructed of cork, evenly formed and securely plugged, or of other equally efficient buoyant material which shall not be adversely affected by oil or oil products, and shall be capable of floating in fresh water for at least 24 hours with 14.5 kilogrammes of iron suspended from it.
2. Every lifebuoy made of plastic or other synthetic compounds shall be capable of retaining its buoyant properties and durability in contact with sea water or oil products, or under variation of temperature or climatic changes prevailing in open sea voyages.
3. A lifebuoy shall not be filled with rushes, cork shavings, granulated cork or any other loose granulated material, and its buoyancy shall not depend upon air compartments which require to be inflated.
4. The inside diameter of a lifebuoy shall be 455 millimetres and the outside diameter 760 millimetres. The major axis of the section shall be 150 millimetres. The minor axis of the section shall be 10 millimetres.
5. Every lifebuoy shall be of a highly visible colour.
6. Every lifebuoy shall be marked in block letters with both the name and the port of registry or the fishing number of the vessel in which it is carried. Lifebuoys constructed of materials other than cork shall be permanently marked with the manufacturer's trade name for that product.
7. Every lifebuoy shall be fitted with grab lines which shall be of good quality unkinkable line and well secured at 4 equidistant points providing 4 loops of line each not less than 700 millimetres long.
8. The weight of a lifebuoy shall not exceed 6.15 kilogrammes when newly constructed.

SCHEDULE 11[136]

(Articles 78(3)(d)(i), 79(5)(d)(i) and 80(3)(d)(i))

REQUIREMENTS FOR LIFEBUOY MARKER SMOKE SIGNALS

1. Every smoke signal shall be fitted with a self-contained means of ignition, and with means for being efficiently attached to a lifebuoy.
2. The signal shall be capable of emitting dense orange-coloured smoke for at least 15 minutes while floating in water.
3. The signals shall be water proofed and capable of functioning after immersion for 2 hours in water under a head of one metre.
4. After completion of the ignition cycle the signal shall continue to function after immersion for 10 seconds under a head of water of 10 centimetres.
5. The signal shall be capable of quick release from the stowed position.
6. The signal shall be capable of functioning after being dropped into water from a height of 25 metres at a speed of 30 knots.
7. The signal shall be safe to operate in oil covered waters.
8. Lifebuoy marker smoke signals may also be provided with self igniting lights which are required under Article 31.
9. All components, composition and ingredients of the signals shall be of such character and quality as to enable them to maintain their serviceability under good average storage conditions in the marine environment for a period of at least 3 years.
10. The date of manufacture and the date of expiry shall be marked indelibly on the signal.
11. Clear and concise directions for use in the English language supported by illustrations shall be printed indelibly on the signal.

SCHEDULE 12[137]

(Articles 78(3)(b), 79(5)(b) and 80(3)(b))

REQUIREMENTS FOR LIFEJACKETS

PART 1

1. Subject to the provisions of paragraph 7 of this Part of this Schedule, every lifejacket for use by a person weighing 32 kilogrammes or more shall provide a minimum of 15.8 kilogrammes buoyancy in fresh water for 24 hours.
2. Every such lifejacket shall be marked indelibly on both sides in letters not less than 12 millimetres in size with the words "PERSON OF 32 KILOGRAMMES OR MORE" and on one side only with the maker's name or other identification mark.
3. Every such lifejacket shall also comply with the following requirements –
   (a) it shall be so constructed as to eliminate as far as possible all risk of its being put on incorrectly and it shall be capable of being worn inside out;
   (b) it shall turn the wearer on entering still water to a safe floating position within 5 seconds with the body inclined backwards from its vertical floating position and shall support the head of the conscious or unconscious wearer so that the mouth shall not be less than 150 millimetres above the water;
   (c) it shall not be adversely affected by oil or oil products;
   (d) it shall be of a highly visible colour;
   (e) it shall be fitted with a ring or loop or similar device of adequate strength to facilitate rescue;
   (f) it shall be made of materials of low flammability and the fabric with which it is covered and its tapes shall be rotproof;
   (g) it shall be fitted with an approved whistle firmly attached by a lanyard;
   (h) it shall have fastening tapes securely attached to the lifejacket cover which comply with British Standards Specification No. B.S. 2F 49: 1959 and are capable of taking a load of 140 kilogrammes. The method of fastening the tapes shall be such as to be easily understood and capable of being readily carried out. Metal fastenings when used shall be of a size and strength consistent with the fastening tapes and of corrosion resistant material; and
   (i) it shall allow the wearer to jump a vertical distance of 6 metres into the water without injury and without dislodgement of the lifejacket.
4. The buoyancy of every such lifejacket shall be provided by kapok or other equally effective buoyant material.
5. Every such kapok lifejacket shall, in addition to complying with the requirements of paragraph 1 to 4 of this Part of this Schedule, comply with the following requirements –
   (a) it shall contain not less than one kilogramme of kapok;
   (b) the kapok shall be of good flotation quality, well teased, evenly packed and free from seeds and other foreign matter;
   (c) the kapok shall be protected from the effects of oil or oil products so that the loss of buoyancy in the lifejacket, after floating in disturbed water containing a layer of not less than 3 millimetres in depth of a mixture of gas oil for a

period of 48 hours, shall not exceed 2% of the initial buoyancy and for the purpose of this test the lifejacket shall be loaded with weights equal to half its initial buoyancy;

(d) the covering shall be of pre-shrunk cotton material or a suitable synthetic material the weight of which in loom state per linear yard shall be not less than 170 grammes for a width of 685 millimetres and in proportion for other widths. The fabric shall be free from admixture of sizing or other foreign matter. The threads per inch in loomstate shall be warp 44 two-fold threads and weft 34 two-fold threads; and

(e) the sewing shall be carried out with thread of undyed linen yarn having a count of 25 lea, 3 cord reverse twist (resultant Tex count 66), satin finish and complying with the specifications in Clauses 2, 3 and 4 (except paragraph 4(a)) of British Standards Specification No. BS. 4F 34: 1960: for thread of that count.

6. Every such lifejacket using a buoyant material other than kapok shall, in addition to complying with the requirements of paragraphs 1 to 4 and paragraph 5(d) of this Part of this Schedule, comply with the following requirements –

(a) the material shall not stable.

7. Every lifejacket the buoyancy of which depends on inflation, which may be carried for use by members of the crew shall comply with the requirements of paragraph 3 of this Part of this Schedule and in addition shall comply with the following requirements –

(a) it shall have 2 separate buoyancy compartments in either of the following forms –

(i) one compartment of inherent buoyancy equal to at least 9 kilogrammes and one air compartment of at least 6 kilogrammes; or

(ii) 2 separate air compartments each of at least 9 kilogrammes buoyancy;

(b) it shall be marked indelibly on both sides in letters not less than 25 millimetres in size with the words "CREW ONLY" and on one side only with the maker's name or other identification mark in smaller letters; and

(c) it shall be capable of being inflated both mechanically and by mouth.

PART 2

1. Every lifejacket for use by a person weighing less than 32 kilogrammes shall provide a minimum buoyancy of 6.8 kilogrammes in fresh water for 24 hours.

2. Every such lifejacket shall be marked indelibly on both sides in letters not less than 12 millimetres in size with the words "FOR PERSON UNDER 32 KILOGRAMMES" and on one side only with the maker's name or other identification mark.

3. Every such lifejacket shall comply with the requirements of paragraphs 3 and 4 of Part 1 of this Schedule.

4. Every such kapok lifejacket shall contain not less than 425 grammes of kapok and shall in addition to complying with the requirements of paragraph 1 to 3 of this Part of this Schedule comply with the requirements of paragraph 5(b), (c) and (d) of Part 1 of this Schedule.

5. Every such lifejacket using a buoyant material other than kapok shall, in addition to complying with the requirements of paragraphs 1 to 3 of this Part of this Schedule comply with paragraph 5(d), and 6(a) and (b) of Part 1 of this Schedule.

SCHEDULE 13

(Article 91)

REQUIREMENTS FOR LINE-THROWING APPLIANCES

1. Every line-throwing appliance shall consist of a rocket pistol and 4 individual rockets with 4 lines, or 4 separate self-contained units each of which contains a rocket and line ready for use.
2. The appliance shall be so constructed that the end from which the rocket is ejected can be positively identified by day or night.
3. The lines used in line-throwing appliances shall have a breaking load of not less than 2,000 newtons.
4. Every line-throwing appliance shall be capable of throwing a line a minimum of 12.0 millimetres in circumference a distance of 230 metres in calm weather.
5. Every line-throwing appliance shall be capable of throwing the line in such a manner that the lateral deflection on either side of the direction of firing does not exceed 10% of the length of flight of the rocket in calm weather.
6. The rocket (in the case of a pistol fired rocket) or the assembly (in the case of an integral rocket and line) shall function after immersion for one minute under a head of water of 10 centimetres.
7. The lines and the rockets together with the means of igniting them, shall be kept in suitable cases to afford protection from the weather.
8. All components, compositions and ingredients of the rockets and the means of igniting them shall be of such character and quality as to enable them to maintain their serviceability under good average storage conditions in the marine environment for a period of at least 3 years.
9. The date of manufacture and the date of expiry shall be marked indelibly on the rockets and these date markings shall be similarly stamped on the cartridges.
10. Clear and concise directions for use in the English language, supported by illustrations, shall form an integral part of the appliance.

SCHEDULE 14[138]

(Articles 78(3)(b), 79(5)(a) and 80(3)(a))

REQUIREMENTS FOR PORTABLE RADIO EQUIPMENT FOR USE IN LIFEBOATS AND LIFERAFTS

Every portable radio equipment for survival craft shall comply with one of the following performance specifications –

Part I. Man powered equipment

(a) a Man-Powered Portable Radio Equipment for Survival Craft, 1964, issued by the Postmaster General, as reprinted in 1967;

(b) a Man-Powered Portable Radio Equipment for Survival Craft, MPT 1207 issued by the Secretary of State for the Home Department.

Part II. Battery Powered equipment

(c) a Compulsory Radiotelephone Distress Equipment suitable for use in Fishing Boats' Survival Craft, 1965, issued by the Postmaster General, as reprinted in 1968.

(d) a Radiotelephone Equipment operating on the Frequency 2182 kHz for use on Fishing Boat Survival Craft, MPT 1205, issued by the Secretary of State for the Home Department.

SCHEDULE 15

SPECIFICATIONS OF EQUIPMENT FOR LIFEBOATS, BOATS AND LIFERAFTS

PART 1 – COMPASSES FOR LIFEBOATS

(Article 92(1)(j))

1. Every compass shall be of the liquid type. The liquid used shall be a mixture of industrial methylated spirit and water, specific gravity 0.93 at 15°C. It shall be clear and free from sediment, cloudiness, and dirt defects. The compass shall function efficiently over a temperature range of 50°C to minus 20°C.
2. The magnet shall have ample directive force. In Jersey a period of 18 to 22 seconds after a deflection of 40 degrees at a temperature of about 15°C shall be deemed to comply with this requirement. For the purposes of this paragraph a "period" is the time taken by a complete oscillation of the card after a deflection of 40 degrees, a swing past the position of rest, and back again to the completion of its swing on the side to which it was originally deflected.
3. Over a range of 50°C to minus 20°C, the card system when immersed in the compass liquid shall rest on the pivot with a weight between 4 and 10 grammes.
4. The card shall be not less than 100 millimetres in diameter and shall have a clearance from the bowl of at least 6 millimetres. It shall be marked to half points, the 8 principal points being distinctively marked. The card shall be luminised or fitted with a suitable means of illumination.
5. The centre of the card shall be of sapphire or equally hard jewel and shall be removable from the float.
6. The pivot of the card shall be of iridium or equally suitable hard material.
7. The arrangements made to allow for the expansion and contraction of the liquid shall enable the compass to withstand a temperature range of 50°C to minus 20°C without leakage, formation of bubbles or other defects.
8. The bowl shall be adequately weighted and properly poised in the gimbals which shall give a fore and aft and thwartship action. The gimballing shall be in the same horizontal plane as the point of suspension of the card and the outer gimbal pins shall be placed fore and aft. The bowl shall be placed in a binnacle or box of non-magnetic material and the lubber line or point shall be luminised or fitted with suitable means of illumination. The card system shall remain free when the bowl is tilted by 10 degrees.
9. The direction of the lubber line or point from the centre of the card shall lie in the same vertical plane as the outer gimbal axis or other fore and aft datum line. The cumulative effect of card, pivot, directional and other similar errors, and of inaccurate positioning of the lubber's point shall be such that in the undisturbed earth's field the direction as read on the card against the lubber's point shall not differ by more than 3 degrees from the magnetic direction of the outer gimbal axis or other fore and aft datum line for any direction of the latter.
10. The minimum thickness of the metal used in the construction of the compass shall be as follows –

Compass bowl	4.00 millimetres
Binnacle	3.85 millimetres

Lamp 3.85 millimetres

The compass bowl shall be efficiently stiffened to take gimbal pins. The binnacle shell shall be swaged or spun into the base ring and soldered all round.

The gimbal ring shall be of naval brass or other rigid non-magnetic metal 15 millimetres by 3 millimetres. Gimbal pins shall be of naval brass or other hard non-magnetic material of 6 millimetres diameter: both they and the bearings in which they engage shall be perfectly smooth.

11. The paint inside the bowl shall show no sign of blistering.

12. The materials and workmanship shall be good throughout and the compass shall be such as will remain efficient under sea-going conditions.

13. The bowl of the compass shall be engraved or stamped with the maker's name or other identification mark.

PART 2 – SEA ANCHORS FOR LIFEBOATS AND BOATS OTHER THAN CLASS C BOATS

(Article 92(1)(k))

1. Every sea anchor shall comply with the following requirements –
   (a) it shall be constructed of No. 1 best flax canvas, or other suitable material;
   (b) the canvas part shall be strongly sewn together and be roped at the seams with 45 millimetres in circumference bolt rope; the ropes then being formed into a bridle with a thimble seized in the connecting end, and the ropes extended and seized into a parcelled loop to form the attachment for the tripping line;
   (c) a hawser shall be attached to the sea anchor by means of a shackle of suitable size to take the thimble;
   (d) the length of the hawser shall be 3 times the length of the lifeboat or boat;
   (e) a tripping line 3.5 metres longer than the hawser shall be provided.

2. A circular sea anchor shall be fitted at the mouth with a galvanised iron hoop. Any other type of sea anchor shall be fitted with galvanised iron spreaders across the mouth and with an ash spreader at the upper edge.

3. The size of sea anchors shall be as follows –
   (a) or lifeboats over 9 metres in length –

   Non-circular folding sea anchors –

   Mouth 760 millimetres upper edge

   685 millimetres lower edge

   685 millimetres each side

   Area of mouth 4,968 square centimetres

   Length of canvas bag – 1.35 metres.

   Hawser – 75 millimetres in circumference.

   Tripping line – 50 millimetres in circumference.

   (b) for lifeboats over 6 metres in length but not over 9 metres in length –

   Circular sea anchors –

   Mouth 685 millimetres diameter.

   Non-circular folding sea anchors

Mouth 610 millimetres each side.

Length of canvas bag – 1.25 metres.

Hawser – 75 millimetres in circumference.

Tripping line – 50 millimetres in circumference.

(c) for lifeboats not over 6 metres in length and other boats (other than Class C boats) –

Circular sea anchors –

Mouth 610 millimetres diameter.

Non-Circular folding sea anchors –

Mouth 545 millimetres each side.

Length of canvas bag – 1.10 metres.

Hawser – 65 millimetres in circumference

Tripping line – 35 millimetres in circumference.

PART 3 – PARACHUTE DISTRESS ROCKET SIGNALS FOR LIFE BOATS AND LIFERAFTS

(Articles 92(1)(n) and 96(m))

1. Every parachute distress rocket signal shall consist of a single bright red flare which is projected to the required height by means of a rocket, and which burns while falling, descent being controlled by a parachute or other means at an average rate not greater than 5 metres per second.
2. The signal shall be so constructed that the end from which the rocket is ejected can be positively identified by day or night.
3. When the rocket is fired approximately vertically the flare and parachute shall be ejected at or before the top of the trajectory at a minimum height of 300 metres. The signal shall in addition be capable of functioning when the rocket is fired at an angle of 45 degrees to the horizontal.
4. The flare shall burn with an average luminous intensity of not less than 30,000 candela for not less than 40 seconds. It shall burn out at a height of not less than 50 metres above sea level, when the rocket has been fired approximately vertically.
5. The signal may be ignited by any suitable method but the ignition system shall be an integral part of the signal, easy to operate with wet, cold or gloved hands in adverse conditions and require the minimum of preparation. The sealing shall not depend on adhesive tapes.
6. The signal shall be capable of functioning after immersion for 2 hours under a head of water of one metre.
7. In the ready-to-fire condition the signal shall function after immersion for one minute under a head of water of 10 centimetres.
8. All components, compositions and ingredients of the signal and the means of igniting it shall be of such character and quality as to enable the signal to maintain its serviceability under good average storage conditions in the marine environment for a period of at least 3 years.
9. For carriage in lifeboats signals shall be packed in a container which shall be durable, damp proof and effectively sealed.

10. The date of manufacture and the date of expiry shall be marked indelibly on the signal.

11. Clear and concise directions for use in the English language supported by illustrations shall be printed indelibly on the signal.

PART 4 – HAND HELD DISTRESS FLARE SIGNALS FOR LIFEBOATS AND LIFERAFTS

(Articles 92(1)(n) and 96(n))

1. Every hand held distress signal shall be capable of being used from a lifeboat or liferaft without harm to the occupants and without causing discomfort to the uncovered hand of the operator.

2. The signal shall be so constructed that when fired, no burning composition will fall from the signal which might cause damage to an inflated liferaft.

3. The signal shall be capable of emitting a red light of an average luminous intensity of not less than 15,000 candela for not less than one minute.

4. The signal shall be fitted with an integral means of firing, easy to operate with wet, cold or gloved hands in adverse conditions without external aid and requiring the minimum of preparation. Sealing shall not depend on adhesive tapes.

5. The signal shall be so constructed that the end from which the light is emitted can be positively identified by day or night.

6. The signal shall be capable of functioning after immersion for 2 hours under a head of water of one metre.

7. In the ready-to-fire condition the signal shall function after immersion for one minute under a head of water of 10 centimetres.

8. After ignition the signal shall continue to function after immersion for 10 seconds under a head of water of 10 centimetres.

9. All components, composition and ingredients shall be of such a character and quality as to enable the flare to burn evenly and maintain its serviceability under good average storage conditions in the marine environment for a period of at least 3 years.

10. The date of manufacture and the date of expiry shall be marked indelibly on the flare.

11. Clear and concise directions for use in the English language supported by illustrations shall be printed indelibly on the signal.

PART 5 – BUOYANT SMOKE SIGNALS FOR LIFEBOATS

(Article 92(1)(o))

1. The signal shall be capable, while floating on the water, of emitting dense orange-coloured smoke for a period of not less than 2 minutes and not more than 4 minutes.

2. Every buoyant smoke signal shall be fitted with an integral means of ignition, easy to operate with wet, cold or gloved hands in adverse conditions without external aid, require the minimum of preparation and be so designed as to enable the signal to be released from a lifeboat without harm to the occupants.

3. The signal shall be capable of functioning after immersion for 2 hours under a head of water of one metre.

4. After completion of the ignition cycle the signal shall continue to function after immersion for 10 seconds under a head of water of 10 centimetres.

5. The signal shall be safe to operate in oil-covered waters.

6. All components, composition and ingredients shall be of such character and quality as to burn evenly and as to enable the signal to maintain its serviceability under good average storage conditions in the marine environment for a period of at least 3 years.

7. The date of manufacture and the date of expiry shall be marked indelibly on the signal.

8. Clear and concise directions for use in the English language supported by illustrations shall be printed indelibly on the signal.

PART 6 – FIRST AID OUTFITS FOR LIFEBOATS AND LIFERAFTS

(Article 92(1)(p))

The first aid outfit provided in every lifeboat or liferaft carried by the vessel shall comply with the following requirements –

1. It shall be packed in a durable, damp-proof and effectively sealed container, which shall bear on its outside an itemised list of its contents.

2. It shall include the following items, each of which shall comply with any standards or requirements specified in relation to it in the current issue of the British Pharmacopoeia, the British Pharmaceutical Index or the National Formulary –

Article		Quantity
(a)	Standard dressing No. 14, medium BPC (15cm x 10cm)	4
(b)	Standard dressing No. 15, large BPC (15cm x 20cm)	4
(c)	Bandages, triangular, not less than 90cm sides, 130cm base	6
(d)	Open wove bandage, BPC 75cm x 3.5 metres	10
(e)	Self adhesive waterproof wound dressings, assorted sizes	1 packet
(f)	Paraffin gauze dressing for burns, individual (10cm x 10cm approx.) 10 dressings per carton	1 carton
(g)	Antiseptic burn or wound cream, Cetrimide BP 0.5% w/w 50gm tube	2
(h)	Analgesic tablets, in containers clearly labelled with the name of the analgesic, e.g. Aspirin Compound tablets, Paracetamol tablets, and directions for use	50
(i)	Scissors 10cm, 1 sharp, 1 blunt point, of rustless and stainless steel	1
(j)	Safety pins	4
(k)	First aid instructions in the English language printed on linen or waterproof paper.	

PART 7 – MANUAL PUMPS FOR LIFEBOATS

(Article 92(1)(u))

Every lifeboat manual pump shall comply with the following requirements –

1. The capacity when operated at not more than 60 double strokes per minute at 1.25 metres suction head, shall be not less than –

(a) 30 litres per minute in lifeboats of 7 metres in length or over; or

(b) 20 litres per minute in lifeboats of less than 7 metres length.

2. In its normal dry state (excluding internal grease or other assistance) the pump shall be readily self-priming when operated at a suction head of not less than 1.25 metres.

3. All parts of the pump shall be of material unaffected by the corrosive effects of sea water.

4. The interior of the pump, including valves, shall be readily accessible for emergency cleaning, and the cover for access shall be capable of being easily removed without the use of a spanner or other special tool.

5. The pump branches shall be suitable for use with rubber hose connections of at least 30 millimetres bore. The metal part of the operating handle shall be suitably sheathed by material other than wood to ensure that the hands of the operator are protected when the pump is used in extreme cold. The spindle gland shall be of the spring loaded seal ring type.

SCHEDULE 16

(Article 98(9))

DAVITS AND LIFEBOAT LAUNCHING GEAR

PART 1 – GENERAL

Definition of "working load"

In this schedule the expression "working load" means –

(a) in relation to davits to which paragraph 1(a) of Part 2 of this Schedule applies, the sum of the weight of the lifeboat, its full equipment, the blocks and falls, and the maximum number of persons which the lifeboat is deemed fit to carry, the weight of each person being taken to be 75 kilogrammes;

(b) in relation to davits and other means of launching to which paragraph 1(b) or (c) of Part 2 of this Schedule applies, the sum of the weight of the lifeboat, Class C boat or other boat, its full equipment, the blocks and falls, and a launching crew consisting of 2 persons, the weight of each person being taken to be 75 kilogrammes;

(c) in relation to winches the maximum pull exerted by the fall or falls at the winch drum during lowering, hoisting or stowing which in any case is to be taken as not less than the working load on the davit divided by the velocity ratio of the lowering tackle.

PART 2 – CONSTRUCTION

1. Strength –

(a) every davit serving a lifeboat which is required by Article 98(1) to be put into the water when loaded with its full complement of persons shall, together with its winch, falls, blocks and all other associated lowering gear, be of such strength that the lifeboat with its full equipment and manned by a launching crew of not less than 2 persons can be turned out and then safely lowered into the water from the embarkation position with its full complement of persons, when the vessel has a trim of up to 10 degrees and is listed up to 15 degrees either way;

(b) every mechanically controlled single-arm davit shall, together with its winch, falls, blocks and all other associated lowering gear be of such strength and the operating gear shall be of such power that the lifeboat when fully equipped and manned with a launching crew of 2 members can be turned out and then safely lowered into the water with the vessel listed to 25 degrees;

(c) every set of davits, davit or other means of launching to which a lifeboat, Class C boat or other boat is attached, other than a davit the strength of which is specified in sub-paragraph (a) or (b) shall, together with its winch, falls, blocks and all other associated lowering gear be of such strength that the lifeboat, Class C boat or other boat with its full equipment and manned by a launching crew of 2 members, can be turned out and then safely lowered into the water when the vessel has a trim of 10 degrees and is listed up to 15 degrees either way;

(d) every set of davits, davit or other means of launching to which a lifeboat, Class C boat or other boat is attached, together with its winch and all associated hoisting gear shall be of such strength that the boat can be safely hoisted and stowed when loaded with its full equipment and at least 2 persons,

and in addition, in the case of an emergency lifeboat, that it can be safely hoisted from the water to the embarkation deck at a speed of not less than 18 metres per minute when loaded with its full equipment and a distributed load of one tonne.

2. Gravity davits. All gravity davits shall be so designed that there is a positive turning out moment during the whole of the davit travel from the inboard to the outboard position when the vessel is upright and also when the vessel is listed at any angle up to and including 25 degrees either way from upright.

   In the case of gravity type davits comprising arms mounted on rollers which engage with the travel down fixed inclined trackways, the trackways shall be inclined at an angle of not less than 30 degrees to the horizontal when the vessel is upright.

3. Luffing davits. The operating gear of all luffing type davits shall be of sufficient power to ensure that the lifeboats, Class C boats or other boats fully equipped and manned with the launching crew, but not loaded with other persons, can be turned out against a list of at least 15 degrees.

4. Mechanically controlled single-arm davits. The working load of any mechanically controlled single-arm davit shall not exceed 1.5 tonnes.

5. Stresses –

   (a) in the case of davits other than mechanically controlled single-arm davits the designed stress on the davit arms, when operating under maximum load and conditions of trim and of list, shall afford an adequate factor of safety having regard to the quality of the material used, the method of construction and the live nature of the load to which the davits are subjected;

   (b) in the case of mechanically controlled single-arm davits the designed stress on the davit when operating under maximum load and conditions of favourable list shall afford an adequate factor of safety having regard to the quality of the material used, the method of construction and the live nature of the load to which the davit is subjected.

6. Static load test. Each davit with its arm at full out-reach shall be capable of withstanding a static load test of not less than 2.2 times that part of the working load supported by the arm.

7. Attachments at the davit head. The attachments at the davit head from which the blocks are suspended shall be capable of withstanding a proof load test of not less than 2 times the maximum load on the attachments.

8. Blocks –

   (a) all blocks used in the operation of hoisting and lowering of lifeboats, Class C boats or other boats shall be of a design that affords an adequate factor of safety. Lower blocks, when fitted, shall be non-toppling and in the case of emergency lifeboats, provision shall be made to prevent the falls from cabling. The size of blocks shall be commensurate with the size of the falls;

   (b) a metal block shall be capable of withstanding a proof load test of not less than 2½ times the maximum load it is intended to carry in service. The clearance between the sheaves and the block cheeks of metal blocks in which wire rope is used shall be kept to a practical minimum that will prevent the rope from overriding the rim of the sheave of any block or lead sheave. Component parts of blocks other than their sheaves shall be of ductile material;

   (c) a wood block shall be capable of withstanding a proof load of not less than 2½ times the load on the block. The width between the cheeks shall be

10 millimetres greater than the diameter of new cordage ropes when those ropes are 95 millimetres in circumference, and less in proportion to the circumference of the ropes when they are smaller.

9. Wire ropes –

(a) the breaking tensile load of each wire rope used for lowering lifeboats, Class C boats or other boats shall be not less than 6 times the maximum load on the wire rope when lowering, hoisting or stowing;

(b) wire ropes shall be securely attached to the drum of the winch, and the end attachment of the wires and other parts from which the lifeboat, Class C boat or other boat is to be suspended shall be capable of withstanding a proof load of not less than 2½ times the load on such attachments and other parts;

(c) where wire rope splices or ferrule-secured eye terminals are used they shall be capable of withstanding a proof test of not less than 2½ times the load imposed on them in service unless samples representing each size of wire on which they are used show a factor of safety of at least 5 when tested to destruction.

10. Winches –

(a) in the case of davits other than mechanically controlled single-arm davits, winch drums shall be arranged to keep the 2 falls separate and to enable them to pay out at the same rate. The leads of the wire ropes shall be such that they will wind evenly on the drums and lead blocks shall be arranged to give a fleet angle or angle of lead of not more than 5 degrees for grooved drums and 3 degrees for ungrooved drums. In the case of mechanically controlled single-arm davits the lead of the wire rope fall shall be such that the fall winds evenly on the drum;

(b) winch brakes shall be of robust construction and afford complete control and limitation of speed in the operation of lowering. The hand brake shall be so arranged that it is normally in the "ON" position and returns to the "ON" position when the control handle is not being operated. The weight on the brake lever shall be sufficient to operate the brake effectively without additional pressure. The brake gear shall include means for automatically controlling the speed of lowering to ensure that the lifeboat, Class C boat or other boat is lowered expeditiously without exceeding a rate of lowering consistent with safety. For this purpose, the automatic brake shall be set to give a speed of lowering of the lifeboat of between 18 and 36 metres per minute. Ratchet gear shall be incorporated in the hand brake mechanism of lifeboat winches. Where practicable the brake gear shall be so situated as to enable the person operating the winch to have the lifeboat, Class C boat or other boat under observation during the whole process of its being launched into the water, provided that winches serving emergency lifeboats shall in any case be so placed;

(c) each winch shall be capable of lowering and holding a test load of 1.5 times the working load as defined in paragraph (c) of Part 1 of this Schedule;

(d) winches shall be so constructed that the crank handle or handles are not rotated by moving parts of the winch when the lifeboat, Class C boat or other boat is being lowered or when it is being hoisted by power, and provision shall be made to allow the falls to be manually unwound.

11. Cordage rope falls. Cordage rope falls shall be of manilla or some other suitable material and shall be durable, unkinkable, firm laid and pliable. They shall be able to pass freely under any conditions through a hole 10 millimetres larger than the

nominal diameter of the rope. The breaking load of each rope used for lowering lifeboats, Class C boats or other boats shall be not less than 6 times the maximum load on the rope when lowering or hoisting. Rope of less than 65 millimetres in circumference shall not be used for lifeboat falls. Winding reels or flaking boxes for the manilla rope falls shall be provided.

12. Bollards. Suitable bollards or other equally effective appliances for lowering any lifeboat, Class C boat or other boat shall be provided in all cases where cordage rope falls are used. Such bollards or other appliances shall be sited so as to ensure that the lifeboat, Class C boat or other boat served by them can be safely lowered, and fairleads or lead sheaves shall be fitted so as to ensure that it shall not be lifted during the process of turning out or swinging out.

PART 3 – TESTS AFTER INSTALLATION ON BOARD

1. General. Tests shall be made to ensure that all lifeboats, Class C boats or other boats attached to davits can be re-stowed from the embarkation position safely and with facility when loaded with the required equipment and that when so loaded the lifeboat, Class C boat or other boat can, when released, be lowered by gravity into the water against the frictional resistance of the winch, falls, blocks and other associated gear.

2. Lowering tests.

   (a) Each pair of davits to which paragraph 1(a) of Part 2 of this Schedule applies and any associated lifeboat winches and their brakes shall be capable of withstanding the following test –

   the lifeboat at each set of davits shall be lowered from the embarkation deck into the water, loaded with the equipment required by this Order and a distributed weight equal to the full number of persons which it is deemed fit to accommodate plus 10% of the working load. Winch brakes exposed to the weather shall be capable of withstanding the foregoing test with the braking surface wetted.

   (b) In the case of davits to which paragraph 1(b) or (c) of Part 2 of this Schedule applies, the lifeboats, Class C boats or other boat shall be lowered into the water with the equipment required by this Order and a distributed weight equal to the weight of a launching crew of 2 persons plus 10% of the working load.

   (c) For the purpose of the tests required under sub-paragraphs (a) and (b) the weight of a person shall be taken to be 75 kilogrammes.

3. Hoisting tests for emergency lifeboats. Emergency lifeboats which are required by this Order to be served by winches for recovery shall, in addition to the tests required by paragraphs 1 and 2 of this Part of this Schedule, be tested by hoisting the emergency lifeboat with the equipment required by this Order and a distributed load of one tonne plus 10% of the total hoisting load, including blocks and falls, from the water to the embarkation deck at the maximum hoisting speed.

SCHEDULE 17

(Article 98(16))

LIFEBOAT DISENGAGING GEARS

1. Lifeboat disengaging gears shall be so arranged as to ensure simultaneous release of both ends of the lifeboat.
2. The means of effecting release shall be placed aft.
3. The gear shall be of a type which will permit the release of the lifeboat only when it is waterborne.
4. The gear shall be of a type which will permit release should there be a towing strain on the link or falls.
5. The hooks shall be suitable for instant unhooking by hand.
6. The point of attachment of the hook to the eye, ring or link of the block shall not be lower than when ordinary fixed hooks are fitted.
7. The gear and mechanism for effecting release shall be so constructed and arranged as to ensure the safety of the lifeboat independently of any safety pins.
8. The means for effecting release shall be by hauling on or letting go a line or by using a lever. If release is effected by a pull upon a line the line shall be properly cased in. Rods or other connections between hooks shall also be cased in whenever this is necessary for the safety or the efficient action of the gear or for the protection of persons from injury.

   The fairleads shall be properly arranged to prevent the lines from jamming or nipping and shall be strongly attached to permanent parts of the lifeboat. The lines shall be fitted with chains where necessary for efficiency.
9. Such parts of the gear as would otherwise be likely to be set fast by rust or corrosion shall be made of non-corrodible metal.
10. No part of the gear taking the weight of the lifeboat shall be made of cast metal.
11. The scantlings and proportions of all parts which support the weight of the lifeboat shall be designed to provide breaking strength proportionate to a load of at least 2 times the weight of the heaviest loaded lifeboat in which the gear is intended to be fitted.

SCHEDULE 18

(Article 100(2))

LIFERAFT LAUNCHING APPLIANCES

1. Definition of "working load". In this Schedule the expression "working load" means –

   the sum of weight of the liferaft and its equipment, all other associated gear that is supported by the launching appliance during the launching operation and the maximum number of persons which the liferaft is deemed fit to carry, the weight of each person being taken to be 75 kilogrammes.

2. Strength. Every liferaft launching appliance and all associated gear which during the launching operation is subjected to the working load or to a load imposed due to the working load shall be of such strength that the liferaft when loaded with its full complement of persons and equipment can be safely lowered when the vessel has a trim of up to 10 degrees and is listed up to 15 degrees either way.

3. Construction. Each part of every liferaft launching appliance shall be such that when the appliance is operating under the working load and unfavourable conditions of list and trim it shall have an adequate factor of safety having regard to the material used, the method of construction and the nature of its duty. Except for lead sheaves and block sheaves, all parts of the appliance and its associated gear which are subjected to the working load, or on which the safety of the appliance or the liferaft while in the process of launching depends, shall be constructed of ductile material and no part, other than lead sheaves and block sheaves, shall be constructed of cast metal.

4. Static Load Test. Every liferaft launching appliance shall be capable of withstanding a static load test of not less than 2.2 times the working load.

5. Operation –

   (a) every liferaft launching appliance shall be so designed that the liferaft when loaded with its full complement of persons and equipment can be safely lowered into the water;

   (b) the speed of lowering of the liferaft shall be automatically controlled at not less than 18 metres per minute nor more than 36 metres per minute and the descent of the liferaft shall be at all times under the manual control of the operator;

   (c) operation of the launching appliance shall not be solely dependent on the use of means other than manual effort or gravity. The arrangements shall be such that the liferaft can be lowered by gravity;

   (d) arrangements shall be such that on becoming waterborne the liferaft shall be automatically released from the launching appliance, and there shall be provision for the manual release of the liferaft by a person on board the liferaft;

   (e) when liferaft launching appliances incorporate winches, the winches shall be constructed in accordance with paragraph 10 of Part 2 of Schedule 16.

6. Lowering Tests. Every liferaft launching appliance shall be tested by lowering the largest liferaft it is intended to serve when loaded with its full equipment and a distributed weight equal to the full number of persons which it is deemed fit to accommodate plus 10% of the working load from the embarkation position into the water.

7. Operational Tests. Tests shall be made to ensure that any liferaft served by any launching appliance when loaded with only its full equipment can be lowered by gravity into the water. If more than one liferaft is served by any launching appliance effective successive launching shall be demonstrated.

SCHEDULE 19[139]

(Articles 78(3)(e), 79(5)(e) and 80(3)(e))

FISHING VESSELS PARACHUTE DISTRESS ROCKET SIGNALS

1. Every parachute distress rocket signal shall consist of a single bright red flare which is projected to the required height by means of a rocket, and which burns while falling, descent being controlled by a parachute or other means at an average rate not greater than 5 metres per second.
2. The signal shall be so constructed that the end from which the rocket is ejected can be positively identified by day or night.
3. When the rocket is fired approximately vertically the flare and parachute shall be ejected at or before the top of the trajectory at a minimum height of 300 metres. The signal shall in addition be capable of functioning when the rocket is fired at an angle of 45 degrees to the horizontal.
4. The flare shall burn with an average luminous intensity of not less than 30,000 candela for not less than 40 seconds. It shall burn out at a height of not less than 50 metres above sea level, when the rocket has been fired approximately vertically.
5. The signal may be ignited by any suitable method but the ignition system shall be an integral part of the signal, easy to operate with wet, cold or gloved hands in adverse conditions and require the minimum of preparation. The sealing shall not depend on adhesive tapes.
6. The signal shall be capable of functioning after immersion for 2 hours under a head of water of one metre.
7. In the ready-to-fire condition the signal shall function after immersion for one minute under a head of water of 10 centimetres.
8. All components, compositions and ingredients of the signal and the means of igniting it shall be of such character and quality as to enable the signal to maintain its serviceability under good average storage conditions in the marine environment for a period of at least 3 years.
9. For carriage on fishing vessels, signals shall be packed in a container which shall be durable, damp proof and effectively sealed.
10. The date of manufacture and the date of expiry shall be marked indelibly on the signal.
11. Clear and concise directions for use in the English language supported by illustrations shall be printed indelibly on the signal.

SCHEDULE 20

(Articles 103(13) and 104(12))

INTERNATIONAL SHORE CONNECTION

The international shore connection, as hereinafter illustrated, which is required by this Order to be carried in the vessel shall be in accordance with the following specification –

Outside diameter: 178 millimetres

Inner diameter: 64 millimetres

Bolt circle diameter: 132 millimetres

Holes: 4 holes of 19 millimetres diameter equidistantly placed, slotted to the flange periphery.

Flange thickness: 14.5 millimetres minimum

Bolts: 4, each 16 millimetres in diameter, 50 millimetres in length with 8 washers.

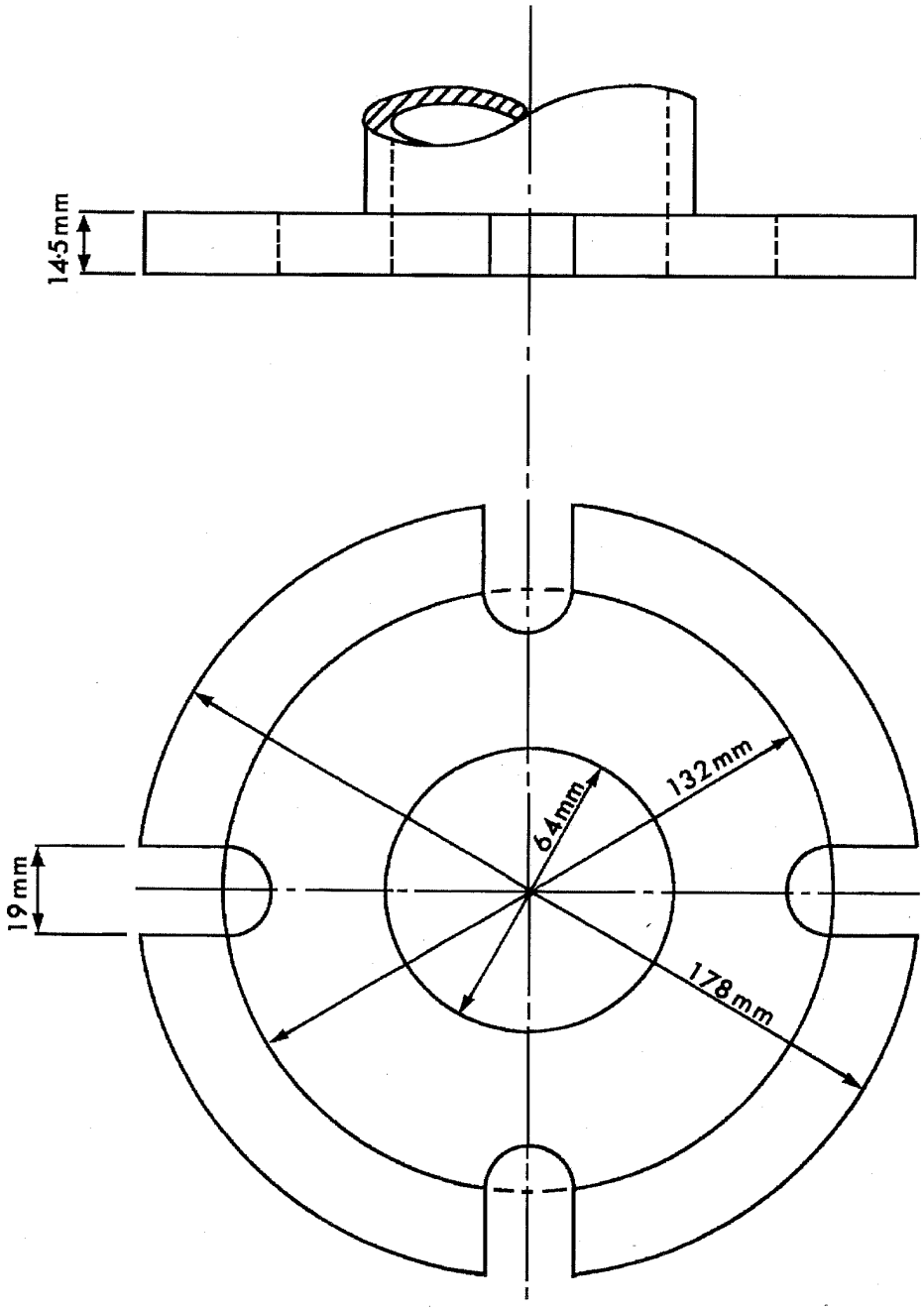
Flange surface: flat face.

Material: any suited to 10 kilogrammes force per square centimetre service.

Gasket: any suited to 10 kilogrammes force per square centimetre service.

The connection shall be constructed of material suitable for 10 kilogrammes force per square centimetre service. The flange shall have a flat face on one side, and to the other there shall be permanently attached a coupling which will fit the vessel's hydrants and hose. The connection shall be kept aboard the vessel together with its gasket, bolts and washers.

INTERNATIONAL SHORE CONNECTION



SCHEDULE 21

(Article 112(1))

NON-PORTABLE FOAM FIRE EXTINGUISHERS

1. Every foam fire extinguisher, other than a portable fire extinguisher, provided in compliance with this Order shall be so designed and constructed that the interior of the extinguisher can be examined.
2. The body of the extinguisher shall be cylindrical with ends which shall be dished outwards, without reverse flanging, to a radius not exceeding the diameter of the body. The body and ends shall be made of sheet steel which shall be tinned or lead-coated internally or they shall be provided with equivalent protection against corrosion internally. Each other part of the extinguisher shall, where necessary, be protected against corrosion.
3. The body of the extinguisher shall be welded or riveted. All riveted joints shall be soldered.
4. The body shall be provided with an opening for the introduction of an inner container. The opening shall be fitted with a cap of gunmetal or other suitable material, screwed with a continuous thread, through the side of which safety holes or slots shall be provided so that when the cap is being removed any pressure of gas remaining in the container may be released gradually should the discharge opening be choked. The cap joint shall be made with acid-resisting rubber, greased leather or other suitable material.
5. If the extinguisher is provided with an inner container, such container shall be adequately supported.
6. A reinforced discharge hose shall be provided, together with a nozzle, the area of which shall be such that, when the extinguisher is operated, the foam is projected a distance of 14 metres for a period of not less than 100 seconds in the case of an extinguisher of 136 litres capacity or over, and a distance of 11 metres for a period of not less than 90 seconds in the case of an extinguisher of under 136 litres.
7. The charge and the air space above the level of the solution in the body shall be so regulated that the maximum pressure in the extinguisher when put into action, with all outlets closed, does not exceed 19 kilogrammes force per square centimetre with the solution at a temperature of 38°C.
8. The extinguisher shall be capable of withstanding for a period of 5 minutes an internal pressure of 1½ times the pressure in the extinguisher when put into action with all outlets closed, and in no event of less than 24 kilogrammes force per square centimetre.
9. The outside of the extinguisher shall be clearly and permanently marked with –
   (a) the name of the maker or vendor of the extinguisher;
   (b) the capacity of the extinguisher;
   (c) the level of the solution, when the extinguisher is filled to its working capacity;
   (d) the pressure under which the extinguisher was tested;
   (e) instructions for operating the extinguisher;
   (f) the year in which the extinguisher was manufactured.

SCHEDULE 22

(Article 112(1))

NON-PORTABLE CARBON DIOXIDE FIRE EXTINGUISHERS

1. Every carbon dioxide fire extinguisher, other than a portable fire extinguisher, provided in compliance with this Order shall be provided with cylinders constructed in accordance with any of the following specifications of the British Standards Institution –

Numbers B.S.401: 1931.B.S. 1287: 1946. B.S. 1288: 1946.

2. Each cylinder shall be provided with an internal discharge tube and a valve to release the gas.

3. The extinguisher shall be provided with a discharge hose which shall be reinforced so as to withstand a pressure of at least 122.5 kilogrammes force per square centimetre when the necessary couplings are fitted. The bore of the discharge hose shall not be less than the sizes respectively set forth in the following table –

Capacity of extinguisher	*Minimum bore of discharge hose*
16 kilogrammes	9.5 millimetres
45 kilogrammes	12 millimetres

The discharge hose shall be provided with a horn which shall be of electrically non-conducting material and of a design which will reduce the velocity of the gas discharged. The metal part of the operating handle shall be suitably sheathed to protect the hands of the operator from extreme cold.

4. At any temperature between 15°C and 18°C inclusive, the extinguisher shall discharge gas at such a rate that carbon dioxide equal in weight to ¾ of the capacity of the container will be discharged in the periods respectively set for them in the following table –

Capacity of extinguisher	*Period*
16 kilogrammes	30 to 40 seconds
45 kilogrammes	60 to 90 seconds

5. The outside of the extinguisher shall be clearly and permanently marked in accordance with Section Four of the specification of the British Standards Institution Number B.S. 3326: 1960.

SCHEDULE 23

(Article 112(4))

PORTABLE FIRE EXTINGUISHERS

Portable fire extinguishers provided in compliance with this Order shall, subject to the limitations of Article 112(2) and (3), be constructed in accordance with the following specifications of the British Standards Institution –

Type of extinguisher	*Specification number*
Water Type (Soda-acid)	B.S.138: 1948
Water Type (Gas-pressure)	B.S.1382: 1948
Foam types (Chemical)	B.S.740: Part I:1948
Foam type (Gas-pressure)	B.S.740: Part I: 1952
Carbon dioxide	B.S.3326: 1960
Dry powder	B.S.3465: 1962
Halogenated hydrocarbon	B.S.1721: 1968

SCHEDULE 24

(Article 117(1)(a))

BREATHING APPARATUS

1. Every breathing apparatus provided in compliance with this Order may be either –

   (a) a smoke helmet or a smoke mask, each of which shall be provided with an air pump or bellows and an air hose; or

   (b) a self-contained breathing apparatus.

SMOKE HELMET AND SMOKE MASK

2. Every smoke helmet or smoke mask provided in compliance with this Order shall be provided with a hose for the supply of air from the outside atmosphere. An air pump or bellows shall be provided which shall be suitable for pumping air through the hose. The hose shall be of the non-collapsing type and shall be sufficient in length to enable the air pump or bellows to be on the open deck in clean air well clear of any hatch or doorway while the wearer of the helmet or mask is in any part of the accommodation, service, hold or machinery spaces. Efficient couplings shall be provided if 2 or more lengths of hose are to be joined in order to reach the aforesaid spaces. The air inlet to the pump or bellows shall be so protected as to ensure that the supply of air cannot be obstructed.

SELF-CONTAINED BREATHING APPARATUS

3.(a) Every self-contained breathing apparatus provided in compliance with this Order shall be of the open circuit compressed air type;

(b) the storage capacity of the compressed air cylinder or cylinders attached to the apparatus and carried by the wearer shall be at least 1,200 litres of free air. The storage cylinders shall be constructed of suitable material and shall be of efficient design and of sufficient strength to withstand with an adequate factor of safety the internal air pressure to which they may be subjected, and each cylinder shall be capable of withstanding a test by hydraulic pressure suitably in excess of the maximum working pressure;

(c) means shall be provided for the automatic Article of the air supply to the wearer of the apparatus in accordance with his or her breathing requirements when he or she is breathing any volume of free air of up to 85 litres per minute at any time when the pressure in the supply cylinder or cylinders is above 10 kilogrammes force per square centimetre. Means shall be provided for overriding the automatic air supply valve;

(d) a pressure gauge with an anti-bursting orifice shall be incorporated in the high-pressure air supply system to enable the wearer to read directly and easily the pressure of air in the supply cylinder or cylinders;

(e) means shall be provided for warning the wearer audibly when 80% of the usable capacity of the apparatus has been consumed;

(f) the maximum weight of any such apparatus shall not exceed 16 kilogrammes excluding any lifeline and, if they do not form an integral part of the apparatus, any safety belt or harness;

(g) every self-contained breathing apparatus shall be provided with fully charged spare cylinders having a spare storage capacity of at least 2,400 litres of free air except that –

(i) if the vessel is carrying 5 sets or more of such apparatus the total spare storage capacity of free air shall not be required to exceed 9,600 litres; or

(ii) if the vessel is equipped with means for re-charging the air cylinders to full pressure with air free from contamination, the spare storage capacity of the fully charged spare cylinders of each such apparatus shall be of at least 1,200 litres of free air, and the total spare storage capacity of free air provided in the vessel shall not be required to exceed 4,800 litres;

(h) a servicing and instruction manual shall be kept with each such apparatus.

GENERAL

4.(a) Every breathing apparatus shall be constructed of materials having adequate mechanical strength, durability and resistance to deterioration by heat or by contact with water and such materials shall be resistant to fire and shall not allow the breathing circuit to be penetrated by smoke or chemical fumes likely to be encountered in service. The fabric used in the construction of any harness provided with such apparatus shall be resistant to shrinkage. Exposed metal parts of the apparatus, harness and fittings shall be of materials so far as practicable resistant to frictional sparking;

(b) the following equipment shall be provided for use with each set of breathing apparatus –

(i) a fire-proof life-and-signalling-line at least 3 metres longer than is required to reach from the open deck in clean air well clear of any hatch or doorway to any part of the accommodation, service, hold or machinery spaces. The line shall be made of copper or galvanised steel wire rope having a breaking strength of at least 510 kilogrammes and shall be overlaid up to at least 32 millimetres in circumference by hemp or other covering to provide a surface which can be firmly gripped when wet;

(ii) an adjustable safety belt or harness to which such line shall be capable of being securely attached and detached by the wearer by means of a snap-hook;

(iii) means for protecting the eyes and face of the wearer against smoke;

(iv) plates of suitable non-flammable material bearing a clearly legible code of signals to be used between the wearer and his or her attendant, one of which shall be attached to the safety belt or harness and another attached to the free end of the life-line;

(v) (for every apparatus other than a smoke helmet) a lightweight safety helmet with line and adjustable head-band;

(c) Every breathing apparatus shall be clearly marked with the name of the maker or vendor and the year of manufacture. Operating instructions in clear and permanent lettering shall be affixed to such apparatus.

SCHEDULE 25[140]

(Article 72(3))

PUBLICATIONS, DIRECTIONS AND INFORMATION

	Column 1	*Column 2*
	Publication	Publisher
(a)	International Code of Signals	His Majesty's Stationery Office
(b)	Merchant Shipping Notices	Department of Trade
(c)	Mariners Handbook	Hydrographer of the Navy
(d)	Notices to Mariners	Hydrographer of the Navy
(e)	Nautical Almanac	–
(f)	Navigational Tables	–
(g)	Lists of Radio Signals	Hydrographer of the Navy
(h)	Lists of Lights	Hydrographer of the Navy
(i)	Sailing Directions	Hydrographer of the Navy
(j)	Tide Tables	–
(k)	Tidal Stream Atlases	–
(l)	Operating and Maintenance instructions for navigational aids carried by the vessel.	–

ENDNOTES

Table of Legislation History

Legislation	Year and No	Commencement
Shipping (Fishing Vessels Safety Provisions) (Jersey) Order 2004	R&O.43/2004	1 June 2004
States of Jersey (Amendments and Construction Provisions No. 10) (Jersey) Regulations 2005	R&O.50/2005	9 December 2005
Shipping (Fishing Vessels Safety Provisions) (Amendment) (Jersey) Order 2015	R&O.68/2015	14 July 2015

Table of Renumbered Provisions

Original	Current
137(1)	137
137(2)	spent, omitted from this revised edition

Table of Endnote References

[1] *This Order has been amended by the States of Jersey (Amendments and Construction Provisions No. 10) (Jersey) Regulations 2005. The amendments replace all references to Committee of the States of Jersey with a reference to a Minister of the States of jersey, and remove and add defined terms appropriately, consequentially upon the move from a committee system of government to a ministerial system of government*

[2] *Article 1* *amended by R&O.68/2015*
[3] *Article 2* *amended by R&O.68/2015*
[4] *Article 4(1)* *amended by R&O.68/2015*
[5] *Article 5* *amended by R&O.68/2015*
[6] *Article 6* *amended by R&O.68/2015*
[7] *Article 7(1)* *amended by R&O.68/2015*
[8] *Article 7(2)* *omitted by R&O.68/2015*
[9] *Article 7(3)* *amended by R&O.68/2015*
[10] *Article 8(1)* *amended by R&O.68/2015*
[11] *Article 9(1)* *amended by R&O.68/2015*
[12] *Article 10* *amended by R&O.68/2015*
[13] *Article 11* *amended by R&O.68/2015*
[14] *Article 12(1)* *amended by R&O.68/2015*
[15] *Article 13* *amended by R&O.68/2015*
[16] *Article 14(1)* *amended by R&O.68/2015*
[17] *Article 15(1)* *amended by R&O.68/2015*
[18] *Article 16(1)* *amended by R&O.68/2015*
[19] *Article 17* *amended by R&O.68/2015*
[20] *Article 18* *amended by R&O.68/2015*
[21] *Article 19(1)* *amended by R&O.68/2015*

[22] *Article 20(1)* *amended by R&O.68/2015*
[23] *Article 21(1)* *amended by R&O.68/2015*
[24] *Article 22(1)* *amended by R&O.68/2015*
[25] *Article 23* *amended by R&O.68/2015*
[26] *Article 24* *amended by R&O.68/2015*
[27] *Article 25* *amended by R&O.68/2015*
[28] *Article 26(1)* *amended by R&O.68/2015*
[29] *Article 27* *heading amended by R&O.68/2015*
[30] *Article 27(1)* *amended by R&O.68/2015*
[31] *Article 28* *revoked by R&O.68/2015*
[32] *Article 29* *heading amended by R&O.68/2015*
[33] *Article 29(1)* *amended by R&O.68/2015*
[34] *Article 30* *revoked by R&O.68/2015*
[35] *Article 31(1)* *amended by R&O.68/2015*
[36] *Article 32* *heading amended by R&O.68/2015*
[37] *Article 32(1)* *amended by R&O.68/2015*
[38] *Article 33* *revoked by R&O.68/2015*
[39] *Article 34(1)* *amended by R&O.68/2015*
[40] *Article 35* *amended by R&O.68/2015*
[41] *Article 36(1)* *amended by R&O.68/2015*
[42] *Article 36(3)* *amended by R&O.68/2015*
[43] *Article 36(8)* *amended by R&O.68/2015*
[44] *Article 36(9)* *omitted by R&O.68/2015*
[45] *Article 36(10)* *amended by R&O.68/2015*
[46] *Article 37(1)* *amended by R&O.68/2015*
[47] *Article 38* *heading substituted by R&O.68/2015*
[48] *Article 38(1)* *amended by R&O.68/2015*
[49] *Article 39* *revoked by R&O.68/2015*
[50] *Article 40* *amended by R&O.68/2015*
[51] *Article 41(1)* *amended by R&O.68/2015*
[52] *Article 42(1)* *amended by R&O.68/2015*
[53] *Article 43* *heading substituted by R&O.68/2015*
[54] *Article 43(1)* *amended by R&O.68/2015*
[55] *Article 43(9)* *amended by R&O.68/2015*
[56] *Article 44* *revoked by R&O.68/2015*
[57] *Article 45(1)* *amended by R&O.68/2015*
[58] *Article 45(6)* *omitted by R&O.68/2015*
[59] *Article 46(1)* *amended by R&O.68/2015*
[60] *Article 47* *heading amended by R&O.68/2015*
[61] *Article 47(1)* *amended by R&O.68/2015*
[62] *Article 48* *revoked by R&O.68/2015*
[63] *Article 49* *heading amended by R&O.68/2015*
[64] *Article 49* *amended by R&O.68/2015*
[65] *Article 50(1)* *amended by R&O.68/2015*
[66] *Article 50(3)* *amended by R&O.68/2015*
[67] *Article 51* *heading amended by R&O.68/2015*
[68] *Article 51* *amended by R&O.68/2015*
[69] *Article 52* *amended by R&O.68/2015*
[70] *Article 53(1)* *amended by R&O.68/2015*
[71] *Article 54* *amended by R&O.68/2015*
[72] *Article 55* *amended by R&O.68/2015*
[73] *Article 56* *amended by R&O.68/2015*

[74] *Article 57* *amended by R&O.68/2015*
[75] *Article 58(1)* *amended by R&O.68/2015*
[76] *Article 58(5)* *substituted by R&O.68/2015*
[77] *Article 58(6)* *amended by R&O.68/2015*
[78] *Article 58(9)* *amended by R&O.68/2015*
[79] *Article 58(10)* *amended by R&O.68/2015*
[80] *Article 58(20)* *amended by R&O.68/2015*
[81] *Article 59(1)* *amended by R&O.68/2015*
[82] *Article 59(11)* *amended by R&O.68/2015*
[83] *Article 60(1)* *amended by R&O.68/2015*
[84] *Article 60(10)* *amended by R&O.68/2015*
[85] *Article 61(1)* *amended by R&O.68/2015*
[86] *Article 62(1)* *amended by R&O.68/2015*
[87] *Article 62(2)* *substituted by R&O.68/2015*
[88] *Article 62(3)* *amended by R&O.68/2015*
[89] *Article 62(5)* *amended by R&O.68/2015*
[90] *Article 63(1)* *amended by R&O.68/2015*
[91] *Article 64* *substituted by R&O.68/2015*
[92] *Article 65(1)* *amended by R&O.68/2015*
[93] *Article 66(1)* *amended by R&O.68/2015*
[94] *Article 69* *substituted by R&O.68/2015*
[95] *Article 70(1)* *amended by R&O.68/2015*
[96] *Article 71* *amended by R&O.68/2015*
[97] *Article 73* *amended by R&O.68/2015*
[98] *Article 74* *amended by R&O.68/2015*
[99] *Article 75(1)* *amended by R&O.68/2015*
[100] *Article 76* *amended by R&O.68/2015*
[101] *Article 77* *heading amended by R&O.68/2015*
[102] *Article 77(2)* *amended by R&O.68/2015*
[103] *Article 80* *heading amended by R&O.68/2015*
[104] *Article 80(1)* *amended by R&O.68/2015*
[105] *Article 81* *revoked by R&O.68/2015*
[106] *Article 82* *revoked by R&O.68/2015*
[107] *Article 83* *revoked by R&O.68/2015*
[108] *Article 85* *amended by R&O.68/2015*
[109] *Article 89* *substituted by R&O.68/2015*
[110] *Article 105* *heading amended by R&O.68/2015*
[111] *Article 105(1)* *amended by R&O.68/2015*
[112] *Article 106* *revoked by R&O.68/2015*
[113] *Article 107* *revoked by R&O.68/2015*
[114] *Article 108* *revoked by R&O.68/2015*
[115] *Article 113(4)* *amended by R&O.68/2015*
[116] *Article 121(1)* *amended by R&O.68/2015*
[117] *Article 121(3)* *amended by R&O.68/2015*
[118] *Article 122(1)* *amended by R&O.68/2015*
[119] *Article 122(2)* *omitted by R&O.68/2015*
[120] *Article 122(4)* *amended by R&O.68/2015*
[121] *Article 123* *substituted by R&O.68/2015*
[122] *Article 124* *heading amended by R&O.68/2015*
[123] *Article 124(2)* *amended by R&O.68/2015*
[124] *Article 126* *amended by R&O.68/2015*
[125] *Article 127* *amended by R&O.68/2015*

[126] *Article 129*	*amended by R&O.68/2015*
[127] *Article 132(1)*	*amended by R&O.68/2015*
[128] *Article 132(3)*	*amended by R&O.68/2015*
[129] *Article 134(1)*	*amended by R&O.68/2015*
[130] *Article 134(4)*	*amended by R&O.68/2015*
[131] *Article 136*	*substituted by R&O.68/2015*
[132] *Article 137*	*amended by R&O.68/2015*
[133] *Schedule 1*	*amended by R&O.68/2015*
[134] *Schedule 2*	*amended by R&O.68/2015*
[135] *Schedule 10*	*amended by R&O.68/2015*
[136] *Schedule 11*	*amended by R&O.68/2015*
[137] *Schedule 12*	*amended by R&O.68/2015*
[138] *Schedule 14*	*amended by R&O.68/2015*
[139] *Schedule 19*	*amended by R&O.68/2015*
[140] *Schedule 25*	*revised on 11 January 2024 by Law Revision Board item 2023/1*