



SOLAS/CONF/4/3  
22 April 1974

Original: ENGLISH

INTERNATIONAL CONFERENCE ON  
SAFETY OF LIFE AT SEA, 1974  
Agenda item 7

IMCO

CONSIDERATION OF A DRAFT INTERNATIONAL CONVENTION  
FOR THE SAFETY OF LIFE AT SEA, 1974

Texts of Regulations of the 1960 Safety Convention  
which have been amended by the Assembly

Note by the Secretariat

Attached hereto are texts of Regulations of the 1960 Safety Convention which have been amended by the Assembly up to its eighth session.

The texts include all amendments to the 1960 Safety Convention, except

- amended Regulations of Parts D, E, F and the new Parts G and H of Chapter II which together with the fire safety requirements for tankers (Resolution A.271(VIII)) are now included in Chapter II bis (SOLAS/CONF/4/1), and
- the new Chapter VI - Carriage of Grain (SOLAS/CONF/4/4).

## CHAPTER I - GENERAL PROVISIONS

Regulation 4Exemptions

(a) A ship which is not normally engaged on international voyages but which, in exceptional circumstances, is required to undertake a single international voyage may be exempted by the Administration from any of the requirements of the present Regulations provided that it complies with safety requirements which are adequate in the opinion of the Administration for the voyage which is to be undertaken by the ship.

(b) The Administration may exempt any ship which embodies features of a novel kind from any of the provisions of Chapters II, III and IV of these Regulations the application of which might seriously impede research into the development of such features and their incorporation in ships engaged on international voyages. Any such ship shall, however, comply with safety requirements which, in the opinion of that Administration, are adequate for the service for which it is intended and are such as to ensure the overall safety of the ship and which are acceptable to the Governments of the States to be visited by the ship. The Administration which allows any such exemption shall communicate to the Organization particulars of same and the reasons therefor which the Organization shall circulate to the Contracting Governments for their information.

Regulation 7Initial and Subsequent Surveys of Passenger Ships

- (a) A passenger ship shall be subjected to the surveys specified below:
- (i) A survey before the ship is put in service.
  - (ii) A periodical survey once every twelve months.
  - (iii) Additional surveys, as occasion arises.

(b) The surveys referred to above shall be carried out as follows:

- (i) The survey before the ship is put in service shall include a complete inspection of its structure, machinery and equipment, including the outside of the ship's bottom and the inside and outside of the boilers. This survey shall be such as to ensure that the arrangements, material, and scantlings of the structure, boilers and other pressure vessels and their appurtenances, main and auxiliary machinery, electrical installation, radio installation, radiotelegraph installations in motor lifeboats, portable radio apparatus for survival craft, life-saving appliances, fire detecting and extinguishing appliances, radar, echo-sounding device, gyro-compass, pilot ladders and other equipment, fully comply with the requirements of the present Convention, and of the laws, decrees, orders and regulations promulgated as a result thereof by the Administration for ships of the service for which it is intended. The survey shall also be such as to ensure that the workmanship of all parts of the ship and its equipment is in all respects satisfactory, and that the ship is provided with the lights, means of making sound signals and distress signals as required by the provisions of the present Convention and the International Collision Regulations.
- (ii) The periodical survey shall include an inspection of the structure, boilers and other pressure vessels, machinery and equipment, including the outside of the ship's bottom. The survey shall be such as to ensure that the ship, as regards the structure, boilers and other pressure vessels and their appurtenances, main and auxiliary machinery, electrical installation, radio installation, radiotelegraph installations in motor lifeboats, portable radio apparatus for survival craft, life-saving appliances, fire detecting and extinguishing appliances, radar, echo-sounding device, gyro-compass, pilot ladders and other equipment, is in satisfactory condition and fit for the service for which it is intended, and that it complies with the requirements of the present Convention, and of the laws, decrees, orders and regulations promulgated as a result thereof by the Administration. The lights and means of making sound signals and the distress signals carried by the ship shall also be subject to

the above-mentioned survey for the purpose of ensuring that they comply with the requirements of the present Convention and of the International Collision Regulations.

(iii) A survey either general or partial, according to the circumstances, shall be made every time an accident occurs or a defect is discovered which affects the safety of the ship or the efficiency or completeness of its life-saving appliances or other equipment, or whenever any important repairs or renewals are made. The survey shall be such as to ensure that the necessary repairs or renewals have been effectively made, that the material and workmanship of such repairs or renewals are in all respects satisfactory, and that the ship complies in all respects with the provisions of the present Convention and of the International Collision Regulations, and of the laws, decrees, orders and regulations promulgated as a result thereof by the Administration.

(c) (i) The laws, decrees, orders and regulations referred to in paragraph (b) of this Regulation shall be in all respects such as to ensure that, from the point of view of safety of life, the ship is fit for the service for which it is intended.

(ii) They shall among other things prescribe the requirements to be observed as to the initial and subsequent hydraulic or other acceptable alternative tests to which the main and auxiliary boilers, connections, steam pipes, high pressure receivers, and fuel tanks for internal combustion engines are to be submitted including the test procedures to be followed and the intervals between two consecutive tests.

#### Regulation 8

##### Surveys of Life-Saving Appliances and other Equipment of Cargo Ships

The life-saving appliances, except a radiotelegraph installation in a motor life-boat or a portable radio apparatus for survival craft, the echo-sounding device, the gyro-compass, and the fire-extinguishing appliances of cargo ships to which Chapters II, III and V of the present Regulations apply

shall be subject to initial and subsequent surveys as provided for passenger ships in Regulation 7 of this Chapter with the substitution of 24 months for 12 months in sub-paragraph (a)(ii) of that Regulation. The fire control plans in new ships and the pilot ladders, lights and means of making sound signals carried by new and existing ships shall be included in the surveys for the purpose of ensuring that they comply fully with the requirements of the present Convention and, where applicable, the International Collision Regulations.

Regulation 9

Surveys of Radio and Radar Installations  
of Cargo Ships

The radio and radar installations of cargo ships to which Chapters IV and V of the present Regulations apply and any radiotelegraph installation in a motor lifeboat or portable radio apparatus for survival craft which is carried in compliance with the requirements of Chapter III of the present Regulations shall be subject to initial and subsequent surveys as provided for passenger ships in Regulation 7 of this Chapter.

## CHAPTER II - CONSTRUCTION

Regulation 27Precautions against Shock, Fire and other Hazards of Electrical Origin(a) Passenger Ships and Cargo Ships

(i) (1) All exposed metal parts of electrical machines or equipment which are not intended to be "live" but are liable to become "live" under fault conditions, shall be earthed (grounded); and all electrical apparatus shall be so constructed and so installed that danger of injury in ordinary handling shall not exist.

(2) Metal frames of all portable electric lamps, tools and similar apparatus, supplied as ship's equipment and rated in excess of a safety voltage to be prescribed by the Administration shall be earthed (grounded) through a suitable conductor, unless equivalent provisions are made such as by double insulation or by an isolating transformer. The Administration may require additional special precautions for electric lamps, tools or similar apparatus for use in damp spaces.

(ii) Main and emergency switchboards shall be so arranged as to give easy access back and front, without danger to attendants. The sides and backs and, where necessary, the fronts of switchboards shall be suitably guarded. There shall be non-conducting mats or gratings front and rear where necessary. Exposed current-carrying parts at voltages to earth (ground) exceeding a voltage to be specified by the Administration shall not be installed on the face of any switchboard or control panel.

(iii) (1) Where the hull return system of distribution is used, special precautions shall be taken to the satisfaction of the Administration.

(2) Hull return shall not be used in tankers.

(iv) (1) All metal sheaths and armour of cables shall be electrically continuous and shall be earthed (grounded).

(2) Where the cables are neither sheathed nor armoured and there might be a risk of fire in the event of an electrical fault, precautions shall be required by the Administration.

(v) Lighting fittings shall be arranged to prevent temperature rises that would be injurious to the wiring, and to prevent surrounding material from becoming excessively hot.

(vi) Wiring shall be supported in such a manner as to avoid chafing or other injury.

(vii) Each separate circuit shall be protected against short circuit. Each separate circuit shall also be protected against overload, except in accordance with Regulation 30 of this Chapter or where the Administration grants an exemption. The current-carrying capacity of each circuit shall be permanently indicated, together with the rating or setting of the appropriate overload protective device.

(viii) Accumulator batteries shall be suitably housed, and compartments used primarily for their accommodation shall be properly constructed and efficiently ventilated.

(b) Passenger Ships only

(i) Distribution systems shall be so arranged that fire in any main fire zone will not interfere with essential services in any other main fire zone. This requirement will be met if main and emergency feeders passing through any zone are separated both vertically and horizontally as widely as is practicable.

(ii) Electric cables shall be of a flame retarding type to the satisfaction of the Administration. The Administration may require additional safeguards for electric cables in particular spaces of the ship with a view to the prevention of fire or explosion.

(iii) In spaces where inflammable mixtures are liable to collect, no electrical equipment shall be installed unless it is of a type which will not ignite the mixture concerned, such as flameproof (explosion proof) equipment.

(iv) A lighting circuit in a bunker or hold shall be provided with an isolating switch outside the space.

(v) Joints in all conductors except for low voltage communication circuits shall be made only in junction or outlet boxes. All such boxes or wiring devices shall be so constructed as to prevent the spread of fire from the box or device. Where splicing is employed it shall only be by an approved method such that it retains the original mechanical and electrical properties of the cable.

(vi) Wiring systems for interior communications essential for safety and for emergency alarm systems shall be arranged to avoid galleys, machinery spaces and other enclosed spaces having a high risk of fire except in so far as it is necessary to provide communication or to give alarm within those spaces. In the case of ships the construction and small size of which do not permit of compliance with these requirements, measures satisfactory to the Administration shall be taken to ensure efficient protection for these wiring systems where they pass through galleys, machinery spaces and other enclosed spaces having a high risk of fire.

(c) Cargo Ships only

Devices liable to arc shall not be installed in any compartment assigned principally to accumulator batteries unless the devices are flameproof (explosion proof).



CHAPTER III - LIFE-SAVING APPLIANCES, ETC.

Regulation 5

Construction of Lifeboats

- (a) All lifeboats shall be properly constructed and shall be of such form and proportions that they shall have ample stability in a seaway, and sufficient freeboard when loaded with their full complement of persons and equipment. All lifeboats shall be capable of maintaining positive stability when open to the sea and loaded with their full complement of persons and equipment.
- (b) (i) All lifeboats shall have rigid sides and internal buoyancy only. The Administration may approve lifeboats with a rigid shelter, provided that it may be readily opened from both inside and outside, and does not impede rapid embarkation and disembarkation or the launching and handling of the lifeboat.
- (ii) Motor lifeboats may be fitted to the satisfaction of the Administration with a means for preventing the entry of water at the fore end.
- (iii) All lifeboats shall be not less than 24 feet (or 7.3 metres) in length except where owing to the size of the ship, or for other reasons, the Administration considers the carriage of such lifeboats unreasonable or impracticable. In no ship shall the lifeboats be less than 16 feet (or 4.9 metres) in length.
- (c) No lifeboat may be approved the weight of which when fully laden with persons and equipment exceeds 20 tons (or 20,300 kilogrammes) or which has a carrying capacity calculated in accordance with Regulation 7 of this Chapter of more than 150 persons.
- (d) All lifeboats permitted to carry more than 60 persons but not more than 100 persons shall be either motor lifeboats complying with the requirements of Regulation 9 of this Chapter or be lifeboats fitted with an approved means of mechanical propulsion complying with Regulation 10 of this Chapter. All lifeboats permitted to carry more than 100 persons shall be motor lifeboats complying with the requirements of Regulation 9 of this Chapter.
- (e) All lifeboats shall be of sufficient strength to enable them to be safely lowered into the water when loaded with their full complement of persons and equipment. All lifeboats shall be of such strength that they will not suffer residual deflection if subjected to an overload of 25 per cent.

- (f) All lifeboats shall have a mean sheer at least equal to 4 per cent of their length. The sheer shall be approximately parabolic in form.
- (g) In lifeboats permitted to carry 100 or more persons the volume of the buoyancy shall be increased to the satisfaction of the Administration.
- (h) All lifeboats shall have inherent buoyancy, or shall be fitted with watertight air cases or other equivalent non-corrodible buoyant material which shall not be adversely affected by oil or oil products, sufficient to float the boat and its equipment when the boat is flooded and open to the sea. An additional volume of watertight air cases or other equivalent non-corrodible buoyant material, which shall not be adversely affected by oil or oil products, equal to at least one-tenth of the cubic capacity of the boat shall also be provided. The Administration may permit the watertight air cases to be filled with a non-corrodible buoyant material which shall not be adversely affected by oil or oil products.
- (i) All thwarts and side-seats shall be fitted as low in the lifeboat as practicable.
- (j) The block coefficient of the cubic capacity as determined in accordance with Regulation 6 of this Chapter of all lifeboats, except wooden lifeboats made of planks, shall be not less than 0.64 provided that any such lifeboat may have a block coefficient of less than 0.64 if the Administration is satisfied with the sufficiency of the metacentric height and freeboard when the lifeboat is loaded with its full complement of persons and equipment.

#### Regulation 15

##### Requirements for Inflatable Liferrafts

- (a) Every inflatable 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 60 feet (or 18 metres) neither the liferaft nor its equipment will be damaged. If the raft is to be stowed on the ship at a height above the water of more than 60 feet (or 18 metres) it shall be of a type which has been satisfactorily drop-tested from a height at least equal to the height at which it is to be stowed.

- (c) The construction of the liferaft shall include a cover 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. The cover of the liferaft shall be of a highly visible colour.
- (d) The liferaft shall be fitted with a painter and shall have a line securely becketed round the outside. A lifeline shall also be fitted around 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 met with 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 permitted 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 400lbs. (or 180 kilogrammes).
- (j) The number of persons which an inflatable liferaft shall be permitted to accommodate shall be equal to:
- (i) the greatest whole number obtained by dividing by 3.4 the volume, measured in cubic feet (or by 96 the volume, measured in cubic decimetres) 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 4 the area, measured in square feet (or 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.
- (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 the topping-up pump or bellows required by Regulation 17 of this Chapter may be used to maintain pressure.
- (m) The liferaft shall be of approved material and construction, and shall be so constructed as to be capable of withstanding exposure for 30 days afloat in all sea conditions.
- (n) No liferaft shall be approved which has a carrying capacity calculated in accordance with paragraph (j) of this Regulation of less than six persons. The maximum number of persons calculated in accordance with that paragraph for which an inflatable liferaft may be approved shall be at the discretion of the Administration, but shall in no case exceed 25.
- (o) The liferaft shall be capable of operating throughout a temperature range of 150°F. to minus 22°F. (or 66°C. to minus 30°C.).
- (p) (i) The liferaft shall be so stowed as to be readily available in case of emergency. It shall be stowed in such a manner as to permit it to float free from its stowage, inflate and break free from the vessel in the event of sinking;
- (ii) if used, lashings shall be fitted with an automatic (hydrostatic) release system of a type approved by the Administration;
- (iii) the liferaft required by paragraph (o) of Regulation 35 of this Chapter may be securely fastened.
- (q) The liferaft shall be fitted with arrangements enabling it to be readily towed.

#### Regulation 21

##### Specification of a Lifebuoy

- (a) A lifebuoy shall satisfy the following requirements:
- (i) it shall be of solid cork or any other equivalent material;
- (ii) it shall be capable of supporting in fresh water for 24 hours at least 32lbs. (or 14.5 kilogrammes) of iron;

- (iii) it shall not be adversely affected by oil or oil products;
- (iv) it shall be of a highly visible colour;
- (v) it shall be marked in block letters with the name and port of registry of the ship in which it is carried.

(b) Lifebuoys filled with rushes, cork shavings or granulated cork, or any other loose granulated material, or whose buoyancy depends upon air compartments which require to be inflated, are prohibited.

(c) Lifebuoys made of plastic or other synthetic compounds shall be capable of retaining their buoyant properties and durability in contact with sea water or oil products, or under variations of temperature or climatic changes prevailing in open sea voyages.

(d) Lifebuoys shall be fitted with beackets securely seized. At least one lifebuoy on each side of the ship shall be fitted with a buoyant lifeline of at least 15 fathoms (or 27.5 metres) in length.

(e) In passenger ships not less than one-half of the total number of lifebuoys, and in no case less than six, and in cargo ships at least one-half of the total number of lifebuoys, shall be provided with efficient self-igniting lights.

(f) The self-igniting lights required by paragraph (e) of this Regulation shall be such that they cannot be extinguished by water. They shall be capable of burning for not less than 45 minutes and shall have a luminous intensity of not less than 2 candelas in all directions of the upper hemisphere. The lights shall be kept near the lifebuoys to which they belong, with the necessary means of attachment. Self-igniting lights used in tankers shall be of an approved electric battery type.\*

\* The following ranges of visibilities of the light might be expected in given atmospheric conditions.

Atmospheric transmissivity factor	Meteorological range of visibility (nautical miles)	Range of visibility of the light (nautical miles)
0.3	2.4	0.96
0.4	3.3	1.05
0.5	4.3	1.15
0.6	5.8	1.24
0.7	8.4	1.34
0.8	13.4	1.45
0.9	28.9	1.57

- (g) All lifebuoys shall be so placed as to be readily accessible to the persons on board, and at least two of the lifebuoys provided with self-igniting lights in accordance with paragraph (e) of this Regulation shall also be provided with an efficient self-activating smoke signal capable of producing smoke of a highly visible colour for at least 15 minutes, and shall be capable of quick release from the navigating bridge.
- (h) Lifebuoys shall always be capable of being rapidly cast loose and shall not be permanently secured in any way.

#### Regulation 22

##### Life-jackets

- (a) Ships shall carry for every person on board a life-jacket of an approved type and, in addition, unless these life-jackets can be adapted for use by children, a sufficient number of life-jackets suitable for children. Each life-jacket shall be suitably marked showing that it has been approved by the Administration.
- (b) In addition to the life-jackets required by paragraph (a) there shall be carried on passenger ships life-jackets for 5 per cent of the total number of persons on board. These life-jackets shall be stowed in a conspicuous place on deck.
- (c) An approved life-jacket shall comply with the following requirements:
- (i) It shall be constructed with proper workmanship and materials.
  - (ii) It shall be so constructed as to eliminate so far as possible all risk of its being put on incorrectly, except that it shall be capable of being worn inside out.
  - (iii) It shall be capable of lifting the face of an exhausted or unconscious person out of the water and holding it above the water with the body inclined backwards from its vertical position.
  - (iv) It shall be capable of turning the body in the water from any position to a safe floating position with the body inclined backwards from its vertical position.
  - (v) It shall not be adversely affected by oil or oil products.
  - (vi) It shall be of a highly visible colour.
  - (vii) It shall be fitted with an approved whistle, firmly secured by a cord.

- (viii) The buoyancy of the life-jacket required to provide the foregoing performance shall not be reduced by more than 5 per cent after 24 hours submergence in fresh water.
- (d) A life-jacket, the buoyancy of which depends on inflation, may be permitted for use by the crews of all ships except passenger ships and tankers provided that:
- (i) It has two separate inflatable compartments;
  - (ii) it is capable of being inflated both mechanically and by mouth; and
  - (iii) it complies with the requirements of paragraph (c) with either compartment inflated separately.
- (e) Life-jackets shall be so placed as to be readily accessible and their position shall be plainly indicated.

#### Regulation 25

##### Muster List and Emergency Procedure

- (a) Special duties to be undertaken in the event of an emergency shall be allotted to each member of the crew.
- (b) The muster list shall show all the special duties and shall indicate, in particular, the station to which each member must go, and the duties that he has to perform.
- (c) The muster list for each passenger ship shall be in a form approved by the Administration.
- (d) Before the vessel sails, the muster list shall be completed. Copies shall be posted in several parts of the ship, and in particular in the crew's quarters.
- (e) The muster list shall show the duties assigned to the different members of the crew in connexion with:
- (i) The closing of the watertight doors, valves and closing mechanisms of scuppers, ash-shoots and fire doors;
  - (ii) the equipping of the lifeboats (including the portable radio apparatus for survival craft) and the other life-saving appliances;
  - (iii) the launching of the lifeboat;
  - (iv) the general preparation of the other life-saving appliances;
  - (v) the muster of the passengers; and
  - (vi) the extinction of fire, having regard to the ship's fire control plans.

(f) The muster list shall show the several duties assigned to the members of the stewards' department in relation to the passengers in case of emergency.

These duties shall include:

- (i) Warning the passengers;
- (ii) seeing that they are suitably clad and have put on their life-jackets in a proper manner;
- (iii) assembling the passengers at muster stations;
- (iv) keeping order in the passages and on the stairways, and, generally, controlling the movements of the passengers; and
- (v) ensuring that a supply of blankets is taken to the lifeboats.

(g) The duties shown by the muster list in relation to the extinction of fire pursuant to sub-paragraph (e)(vi) of this Regulation shall include particulars of:

- (i) The manning of the fire parties assigned to deal with fires;
- (ii) the special duties assigned in respect of the operation of fire-fighting equipment and installations.

(h) The muster list shall specify definite signals for calling all the crew to their boat, liferaft and fire stations, and shall give full particulars of these signals. These signals shall be made on the whistle or siren and, except on passenger ships on short international voyages and on cargo ships of less than 45.7 metres (150 feet) in length, they shall be supplemented by other signals which shall be electrically operated. All these signals shall be operable from the bridge.

#### Regulation 26

##### Practice Musters and Drills

(a) (i) In passenger ships, musters of the crew for boat drill and fire drill shall take place weekly when practicable and there shall be such a muster when a passenger ship leaves the final port of departure on an international voyage which is not a short international voyage.



(ii) In cargo ships, a muster of the crew for boat drill and fire drill shall take place at intervals of not more than one month, provided that a muster of the crew for boat drill and fire drill shall take place within 24 hours of leaving a port if more than 25 per cent of the crew have been replaced at that port.

(iii) On the occasion of the monthly muster in cargo ships the boats equipment shall be examined to ensure that it is complete.

(iv) The date upon which musters are held, and details of any training and drills in fire fighting which are carried out on board shall be recorded in such log book as may be prescribed by the Administration; and, if in any week (for passenger ships) or month (cargo ships) no muster or a part muster only is held, an entry shall be made stating the circumstances and extent of the muster held. A report of the examination of the boat's equipment on cargo ships shall be entered in the log book, which shall also record the occasions on which the lifeboats are swung out and lowered in compliance with paragraph (c) of this Regulation.

(b) In passenger ships, except those engaged on short international voyages, a muster of the passengers shall be held within twenty-four hours after leaving port.

(c) Different groups of lifeboats shall be used in turn at successive boat drills and every lifeboat shall be swung out and, if practicable and reasonable, lowered at least once every four months. The musters and inspections shall be so arranged that the crew thoroughly understand and are practised in the duties they have to perform, including instructions in the handling and operation of liferafts where these are carried.

(d) The emergency signal for summoning passengers to muster stations shall be a succession of seven or more short blasts followed by one long blast on the whistle or siren. This shall be supplemented in passenger ships except those engaged on short international voyages, by other signals, which shall be electrically operated, throughout the ship operable from the bridge. The meaning of all signals affecting passengers, with precise instructions on what they are to do in an emergency, shall be clearly stated in appropriate languages on cards posted in their cabins and in conspicuous places in other passenger quarters.

Regulation 35Number and Capacity of Lifeboats and Liferafts

(a) (i) Every cargo ship, except ships employed as whale factory ships, fish processing or canning factory ships, and ships engaged in the carriage of persons employed in the whaling, fish processing or canning industries, shall carry lifeboats on each side of the ship of such aggregate capacity as will accommodate all persons on board, and in addition shall carry liferafts sufficient to accommodate half that number.

Provided that in the case of such cargo ships engaged on international voyages between near neighbouring countries, the Administration, if it is satisfied that the conditions of the voyage are such as to render the compulsory carriage of liferafts unreasonable or unnecessary, may to that extent exempt individual ships or classes of ships from this requirement.

(ii) (1) Subject to the provisions of sub-paragraph (2), every tanker of 3,000 tons gross tonnage and upwards shall carry not less than four lifeboats, two of which shall be carried aft and two amidships, except that in tankers which have no amidships superstructure all lifeboats shall be carried aft.

(2) A tanker of 3,000 tons gross tonnage and upwards which has no amidships superstructure may be permitted by the Administration to carry two lifeboats only, provided that:

- (aa) one lifeboat is carried aft on each side of the ship;
- (bb) each such lifeboat shall not exceed 8.5 metres (28 feet) in length;
- (cc) each such lifeboat shall be stowed as far forward as practicable, but at least so far forward that the after end of the lifeboat is one-and-a-half times the length of the lifeboat forward of the propeller; and
- (dd) each such lifeboat shall be stowed as near sea level as is safe and practicable.

(b) (i) Every ship employed as a whale factory ship, every ship employed as a fish processing or canning factory ship and every ship engaged in the carriage of persons employed in the whaling, fish processing or canning industries shall carry:

- (1) Lifeboats on each side of such aggregate capacity as will accommodate half the total number of persons on board.

Provided that the Administration may permit the substitution of lifeboats by liferafts of the same total capacity so however that there shall never be less than sufficient lifeboats on each side of the ship to accommodate  $37\frac{1}{2}$  per cent of all on board.

- (2) Liferafts of sufficient aggregate capacity to accommodate half the total number of persons on board.

Provided that, if in ships employed as fish processing or canning factory ships, it is impracticable to carry lifeboats which comply fully with the requirements of this Chapter, the Administration may permit instead the carriage of other boats, which shall however provide not less than the accommodation required by this Regulation and shall have at least the buoyancy and equipment required by this Chapter for lifeboats.

(ii) Every ship employed as a whale factory ship, every ship employed as a fish processing or canning factory ship and every ship engaged in the carriage of persons employed in the whaling, fish processing or canning industries shall carry two boats - one on each side - for use in an emergency. These boats shall be of an approved type and shall be not more than 28 feet (or  $8\frac{1}{2}$  metres) in length. They may be counted for the purposes of this paragraph provided that they comply fully with the requirements for lifeboats of this Chapter and for the purposes of Regulation 8 provided that in addition they comply with the requirements of Regulation 9, and, where appropriate, Regulation 14. They shall be kept ready for immediate use while the ship is at sea. In ships in which the requirements of paragraph (g) of Regulation 36 are met by means of appliances fitted to the sides of the lifeboats, such appliances shall not be required to be fitted to the two boats provided to meet the requirements of this Regulation.

(c) Every cargo ship with no amidships superstructure having a registered length of 150 metres (492 feet) and upwards shall carry, in addition to the liferafts required under paragraph (a)(i) of this Regulation, a liferaft capable of accommodating at least six persons which shall be stowed as far forward as is reasonable and practicable.

Regulation 36Davits and Launching Arrangements

- (a) In cargo ships lifeboats and liferafts shall be stowed to the satisfaction of the Administration.
- (b) Every lifeboat shall be attached to a separate set of davits.
- (c) Lifeboats and liferafts for which approved launching devices are required to be carried shall preferably be positioned as close to accommodation and service spaces as possible. They shall be stowed in such positions as to ensure safe launching, having particular regard to clearance from the propeller and steeply overhanging portions of the hull, with the object of ensuring so far as practicable that they can be launched down the straight side of the ship. If positioned forward they shall be stowed abaft the collision bulkhead in a sheltered position and in this respect the Administration shall give special consideration to the strength of the davits.
- (d) Davits shall be of approved design and shall be suitably placed to the satisfaction of the Administration.
- (e) In tankers of 1,600 tons gross tonnage and upwards, ships employed as whale factory ships, ships employed as fish processing or canning factory ships and ships engaged in the carriage of persons employed in the whaling, fishing processing or canning industries, all davits shall be of the gravity type. In other ships, davits shall be as follows:
- (i) luffing or gravity type for operating lifeboats weighing not more than  $2\frac{1}{2}$  tons (or 2,300 kilogrammes) in their turning out condition;
  - (ii) gravity type for operating lifeboats weighing more than  $2\frac{1}{2}$  tons (or 2,300 kilogrammes) in their turning out condition.
- (f) Davits, falls, blocks and all other gear shall be of such strength that the lifeboats can be turned out manned by a launching crew and then safely lowered with the full complement of persons and equipment, with the ship listed to 15 degrees either way, and with a 10 degrees trim.
- (g) Skates or other suitable means shall be provided to facilitate launching the lifeboats against a list of 15 degrees.
- (h) Means shall be provided for bringing the lifeboats against the ship's side and there holding them so that persons may be safely embarked.

(i) Lifeboats, together with the emergency boats required by sub-paragraph (b)(ii) of Regulation 35 of this Chapter, shall be served by wire rope falls, together with winches of an approved type which, in the case of the emergency boats, shall be capable of quick recovery of those boats. Exceptionally, the Administration may allow manila rope falls or falls of another approved material with or without winches (except that the emergency boats shall be required to be served by winches which are capable of quick recovery of those boats) where they are satisfied that manila rope falls or falls of another approved material are adequate.

(j) At least two lifelines shall be fitted to the davit spans, and the falls and lifelines shall be long enough to reach the water with the ship at its lightest sea-going draught and listed to 15 degrees either way. Lower fall blocks shall be fitted with a suitable ring or long link for attaching to the sling hooks unless an approved type of disengaging gear is fitted.

(k) Where mechanically powered appliances are fitted for the recovery of the lifeboats, efficient hand gear shall also be provided. 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 in order to avoid overstressing the wire rope falls or davits.

(l) Lifeboats shall have the falls ready for service, and arrangements shall be made for speedily, but not necessarily simultaneously, detaching the lifeboats from the falls. The point of attachment of the lifeboats to the falls shall be at such height above the gunwale as to ensure stability when lowering the lifeboats.

(m) In ships employed as whale factory ships, ships employed as fish processing or canning factory ships and ships engaged in the carriage of persons employed in the whaling, fish processing or canning industries, in which there are carried lifeboats and liferafts in accordance with sub-paragraph (i)(2) of paragraph (b) of Regulation 35 no approved launching devices need be provided for the liferafts, but there shall be provided such devices sufficient in number, in the opinion of the Administration, to enable the liferafts carried in accordance with sub-paragraph (i)(1) of that paragraph to be put into the water loaded with the number of persons they are permitted to accommodate, in not more than 30 minutes in calm conditions. Approved launching devices so provided shall, so far as practicable, be distributed equally on each side of the ship. Every liferaft carried on ships in which an approved launching device is required to be provided shall be of a type which is capable of being launched by such a device.

## CHAPTER IV - RADIOTELEGRAPHY AND RADIOTELEPHONY

Regulation 2Terms and Definitions

For the purpose of this Chapter the following terms shall have the meanings defined below. All other terms which are used in this Chapter and which are also defined in the Radio Regulations shall have the same meanings as defined in those Regulations:

- (a) "Radio Regulations" means the Radio Regulations annexed to, or regarded as being annexed to, the most recent International Telecommunication Convention which may be in force at any time.
- (b) "Radiotelegraph auto alarm" means an automatic alarm receiving apparatus which responds to the radiotelegraph alarm signal and has been approved.
- (c) "Radio Officer" means a person holding at least a first or second class radiotelegraph operator's certificate, or a radiocommunication operator's general certificate for the maritime mobile service, complying with the provisions of the Radio Regulations, who is employed in the radiotelegraph station of a ship which is provided with such a station in compliance with the provisions of Regulation 3 or Regulation 4 of this Chapter.
- (d) "Radiotelephone operator" means a person holding an appropriate certificate complying with the provisions of the Radio Regulations.
- (e) "Existing installation" means:
  - (i) an installation wholly installed on board a ship before the date on which the present Convention comes into force irrespective of the date on which acceptance by the respective Administration takes effect; and
  - (ii) an installation part of which was installed on board a ship before the date of coming into force of the present Convention and the rest of which consists either of parts installed in replacement of identical parts, or parts which comply with the requirements of this Chapter.

- (f) "New installation" means any installation which is not an existing installation.
- (g) "Radiotelephone station", "Radiotelephone installation" and "Watches - radiotelephone" shall be considered as relating to the Medium Frequency Band, unless expressly provided otherwise.
- (h) "Radiotelephone auto alarm" means an automatic alarm receiving apparatus which responds to the radiotelephone alarm signal and has been approved.

### Regulation 6

#### Watches - Radiotelegraph

- (a) Each ship which in accordance with Regulation 3 or Regulation 4 of this Chapter is fitted with a radiotelegraph station shall, while at sea, carry at least one radio officer and, if not fitted with a radiotelegraph auto alarm shall, subject to the provisions of paragraph (d) of this Regulation, listen continuously on the radiotelegraph distress frequency by means of a radio officer using headphones or a loudspeaker.
- (b) Each passenger ship which in accordance with Regulation 3 of this Chapter is fitted with a radiotelegraph station, if fitted with a radiotelegraph auto alarm, shall, subject to the provisions of paragraph (d) of this Regulation, and while at sea, listen on the radiotelegraph distress frequency by means of a radio officer using headphones or a loudspeaker, as follows:
  - (i) if carrying or certificated to carry 250 passengers or less, at least 8 hours listening a day in the aggregate;
  - (ii) if carrying or certificated to carry more than 250 passengers and engaged on a voyage exceeding 16 hours duration between two consecutive ports, at least 16 hours listening a day in the aggregate. In this case the ship shall carry at least two radio officers;
  - (iii) if carrying or certificated to carry more than 250 passengers and engaged on a voyage of less than 16 hours duration between two consecutive ports, at least 8 hours listening a day in the aggregate.

(c) (i) Each cargo ship which in accordance with Regulation 3 of this Chapter is fitted with a radiotelegraph station, if fitted with a radiotelegraph auto alarm, shall, subject to the provisions of paragraph (d) of this Regulation, and while at sea, listen on the radiotelegraph distress frequency by means of a radio officer using headphones or a loudspeaker, for at least 8 hours a day in the aggregate. However, Administrations may on cargo ships of 1,600 tons gross tonnage and upwards but less than 3,500 tons gross tonnage permit the hours of listening to be limited to not less than 2 hours a day in the aggregate for a period of three years from the date of coming into force of the present Convention.

(ii) Each cargo ship of 300 tons gross tonnage and upwards but less than 1,600 tons gross tonnage which is fitted with a radiotelegraph station as a consequence of Regulation 4 of this Chapter, if fitted with a radiotelegraph auto alarm, shall, subject to the provisions of paragraph (d) of this Regulation, and while at sea, listen on the radiotelegraph distress frequency by means of a radio officer using headphones or a loudspeaker, during such periods as may be determined by the Administration. Administrations shall, however, have regard to the desirability of requiring, whenever practicable, a listening watch of at least 8 hours a day in the aggregate.

(d) (i) During the period when a radio officer is required by this Regulation to listen on the radiotelegraph distress frequency, the radio officer may discontinue such listening during the time when he is handling traffic on other frequencies, or performing other essential radio duties, but only if it is impracticable to listen by split headphones or loudspeaker. The listening watch shall always be maintained by a radio officer using headphones or loudspeaker during the silence periods provided for by the Radio Regulations.

The term "essential radio duties" in this Regulation includes urgent repairs of:

- (1) equipment for radiocommunication used for safety;
- (2) radio navigational equipment by order of the master.



(ii) In addition to the provisions of sub-paragraph (i) of this Regulation, on ships other than multi-radio officer passenger ships, the radio officer may, in exceptional cases, i.e. when it is impractical to listen by split headphones or loudspeaker, discontinue listening by order of the master in order to carry out maintenance required to prevent imminent malfunction of:

- (1) equipment for radiocommunication used for safety;
- (2) radio navigational equipment;
- (3) other electronic navigational equipment including its repair;

provided that:

- (1) the radio officer, at the discretion of the Administration concerned, is appropriately qualified to perform these duties; and
- (2) the ship is fitted with a receiving selector which meets the requirements of the Radio Regulations;
- (3) the listening watch is always maintained by a radio officer using headphones or loudspeaker during the silence periods provided for by the Radio Regulations.

(e) In all ships fitted with a radiotelegraph auto alarm this radiotelegraph auto alarm shall, while the ship is at sea, be in operation whenever there is no listening being kept under paragraphs (b), (c) or (d) of this Regulation and, whenever practicable, during direction-finding operations.

(f) The listening periods provided for by this Regulation, including those which are determined by the Administration, should be maintained preferably during periods prescribed for the radiotelegraph service by the Radio Regulations.

#### Regulation 7

##### Watches - Radiotelephone

(a) Each ship which is fitted with a radiotelephone station in accordance with Regulation 4 of this Chapter shall, for safety purposes, carry at least one radiotelephone operator (who may be the master, an officer or a member of the crew holding a certificate for radiotelephony) and shall, while at sea,

maintain continuous watch on the radiotelephone distress frequency in the place on board from which the ship is usually navigated, by use of a radiotelephone distress frequency watch receiver, using a loudspeaker, a filtered loudspeaker or radiotelephone auto alarm.

(b) Each ship which in accordance with Regulation 3 or Regulation 4 of this Chapter is fitted with a radiotelegraph station shall, while at sea, maintain continuous watch on the radiotelephone distress frequency in a place to be determined by the Administration, by use of a radiotelephone distress frequency watch receiver, using a loudspeaker, a filtered loudspeaker or radiotelephone auto alarm.

#### Regulation 7 bis

##### Watches - VHF Radiotelephone

Each ship provided with a VHF radiotelephone station, in accordance with Regulation 18 of Chapter V, shall maintain a listening watch on the bridge for such periods and on such channels as may be required by the Contracting Government referred to in that Regulation.

#### Regulation 9

##### Radiotelegraph Installations

(a) Except as otherwise expressly provided in this Regulation -

(i) The radiotelegraph station shall include a main installation and reserve installation, electrically separate and electrically independent of each other.

(ii) The main installation shall include a main transmitter, main receiver, radiotelephone distress frequency watch receiver, and main source of energy.

(iii) The reserve installation shall include a reserve transmitter, reserve receiver and reserve source of energy.

(iv) A main and a reserve aerial shall be provided and installed, provided that the Administration may exempt any ship from the provision of a reserve aerial if it is satisfied that the fitting of such an aerial is impracticable or unreasonable, but in such case a suitable spare aerial completely assembled for immediate installation shall be carried. In addition, sufficient aerial wire and insulators shall in all cases be provided to enable a suitable aerial to be erected.

The main aerial, if suspended between supports liable to whipping, shall be suitably protected against breakage.

(b) In installations on cargo ships (except those on cargo ships of 1,600 tons gross tonnage and upwards installed on or after 19 November 1952).

If the main transmitter complies with all the requirements for the reserve transmitter, the latter is not obligatory.

(c) (i) The main and reserve transmitters shall be capable of being quickly connected with and tuned to the main aerial, and the reserve aerial if one is fitted.

(ii) The main and reserve receivers shall be capable of being quickly connected with any aerial with which they are required to be used.

(d) All parts of the reserve installation shall be placed as high in the ship as is practicable, so that the greatest possible degree of safety may be secured.

(e) The main and reserve transmitters shall be capable of transmitting on the radiotelegraph distress frequency using a class of emission assigned by the Radio Regulations for that frequency. In addition, the main transmitter shall be capable of transmitting on at least two working frequencies in the authorized bands between 405 kc/s and 535 kc/s, using classes of emission assigned by the Radio Regulations for these frequencies. The reserve transmitter may consist of a ship's emergency transmitter, as defined in and limited in use by the Radio Regulations.

(f) The main and reserve transmitters shall, if modulated emission is prescribed by the Radio Regulations, have a depth of modulation of not less than 70 per cent and a note frequency between 450 and 1,350 cycles per second.

(g) The main and reserve transmitters shall, when connected to the main aerial, have a minimum normal range as specified below, that is to say, they must be capable of transmitting clearly perceptible signals from ship to ship by day and under normal conditions and circumstances over the specified ranges\*. (Clearly perceptible signals will normally be received if the R.M.S. value of the field strength at the receiver is at least 50 microvolts per metre.)

\* In the absence of a direct measurement of the field strength the following data may be used as a guide for approximately determining the normal range:

<u>Normal range in miles</u>	<u>Metre-amperes<sup>+</sup></u>	<u>Total aerial power (watts)<sup>†</sup></u>
200	128	200
175	102	125
150	76	71
125	58	41
100	45	25
75	34	14

+ This figure represents the product of the maximum height of the aerial above the deepest load water line in metres and the aerial current in amperes (R.M.S. value).

	<u>Minimum normal range in miles</u>	
	<u>Main transmitter</u>	<u>Reserve transmitter</u>
All passenger ships, and cargo ships of 1,600 tons gross tonnage and upwards ... ..	150	100
Cargo ships below 1,600 tons gross tonnage ... ..	100	75

The values given in the second column of the table correspond to an average value of the ratio

$$\frac{\text{effective aerial height}}{\text{maximum aerial height}} = 0.47$$

This ratio varies with local conditions of the aerial and may vary between about 0.3 and 0.7

† The values given in the third column of the table correspond to an average value of the ratio

$$\frac{\text{radiated aerial power}}{\text{total aerial power}} = 0.08$$

This ratio varies considerably according to the values of effective aerial height and aerial resistance.

(h) (i) The main and reserve receivers shall be capable of receiving the radiotelegraph distress frequency and the classes of emission assigned by the Radio Regulations for that frequency.

(ii) In addition, the main receiver shall permit the reception of such of the frequencies and classes of emission used for the transmission of time signals, meteorological messages and such other communications relating to safety of navigation as may be considered necessary by the Administration.

(iii) For a period not exceeding five years from the date of coming into force of the present Convention, the radiotelegraph auto alarm receiver may be used as the reserve receiver if capable of effectively producing signals in headphones or a loudspeaker with which it is connected for this purpose. When so used, it shall be connected to the reserve source of energy.

(iv) The radiotelephone distress frequency watch receiver shall be preset to this frequency. It shall be provided with a filtering unit or a device to silence the loudspeaker if on the bridge in the absence of a radiotelephone alarm signal. The device shall be capable of being easily switched in and out and may be used when, in the opinion of the master, conditions are such that maintenance of the listening watch would interfere with the safe navigation of the ship.

(v) (1) A radiotelephone transmitter, if provided, shall be fitted with an automatic device for generating the radiotelephone alarm signal, so designed as to prevent actuation by mistake, and complying with the requirements of paragraph (e) of Regulation 15 of this Chapter. The device shall be capable of being taken out of operation at any time in order to permit the immediate transmission of a distress message;

(2) arrangements shall be made to check periodically the proper functioning of the automatic device for generating the radiotelephone alarm signal on frequencies other than the radiotelephone distress frequency using a suitable artificial aerial.

(i) The main receiver shall have sufficient sensitivity to produce signals in headphones or by means of a loudspeaker when the receiver input is as low as 50 microvolts. The reserve receiver shall, except in cases where a radiotelegraph auto alarm receiver is used for this purpose, have sufficient sensitivity to produce such signals when the receiver input is as low as 100 microvolts.

(j) There shall be available at all times, while the ship is at sea, a supply of electrical energy sufficient to operate the main installation over the normal range required by paragraph (g) of this Regulation as well as for the purpose of charging any batteries forming part of the radiotelegraph station. The voltage of the supply for the main installation shall, in the case of new ships, be maintained within  $\pm 10$  per cent of the rated voltage. In the case of existing ships, it shall be maintained as near the rated voltage as possible and, if practicable, within  $\pm 10$  per cent.

(k) The reserve installation shall be provided with a source of energy independent of the propelling power of the ship and of the ship's electrical system.

(l) The reserve source of energy shall preferably consist of accumulator batteries, which may be charged from the ship's electrical system, and shall under all circumstances be capable of being put into operation rapidly and of operating the reserve transmitter and receiver for at least six hours continuously under normal working conditions besides any of the additional loads mentioned in paragraphs (m) and (n) of this Regulation\*.

The reserve source of energy is required to be of a capacity sufficient to operate simultaneously the reserve transmitter and the VHF installation, when fitted, for at least six hours unless a switching device is fitted to ensure alternate operation only. VHF usage of the reserve source of energy shall be limited to distress, urgency and safety communications. Alternatively, a separate reserve source of energy may be provided for the VHF installation.

(n) The reserve source of energy shall be used to supply the reserve installation and the automatic alarm signal keying device specified in paragraph (r) of this Regulation if it is electrically operated.

---

\* For the purpose of determining the electrical load to be supplied by the reserve source of energy, the following formula is recommended as a guide:

- $\frac{1}{2}$  of the transmitter current consumption with the key down (mark)
- +  $\frac{1}{2}$  of the transmitter current consumption with the key up (space)
- + current consumption of receiver and additional circuits connected to the reserve source of energy

The reserve source of energy may also be used to supply:

- (i) the radiotelegraph auto alarm;
- (ii) the emergency light specified in paragraph (g) of Regulation 8 of this Chapter;
- (iii) the direction-finder;
- (iv) the VHF installation;
- (v) the device for generating the radiotelephone alarm signal, if provided;
- (vi) any device, prescribed by the Radio Regulations, to permit change-over from transmission to reception and vice versa.

Subject to the provisions of paragraph (n) of this Regulation, the reserve source of energy shall not be used other than for the purposes specified in this paragraph.

(n) Notwithstanding the provisions of paragraph (n) of this Regulation, the Administration may authorize the use in cargo ships of the reserve source of energy for a small number of low-power emergency circuits which are wholly confined to the upper part of the ship, such as emergency lighting on the boat deck, on condition that these can be readily disconnected if necessary, and that the source of energy is of sufficient capacity to carry the additional load or loads.

(o) The reserve source of energy and its switchboard shall be as high as practicable in the ship and readily accessible to the radio officer. The switchboard shall, wherever possible, be situated in a radio room; if it is not, it shall be capable of being illuminated.

(p) While the ship is at sea, accumulator batteries, whether forming part of the main installation or reserve installation, shall be brought up to the normal fully-charged condition daily.

(q) All steps shall be taken to eliminate so far as is possible the causes of, and to suppress, radio interference from electrical and other apparatus on board. If necessary, steps shall be taken to ensure that the aerials attached to broadcast receivers do not cause interference to the efficient or correct working of the radiotelegraph installation. Particular attention shall be paid to this requirement in the design of new ships.

(r) In addition to a means for manually transmitting the radiotelegraph alarm signal, an automatic radiotelegraph alarm signal keying device shall be provided, capable of keying the main and the reserve transmitters so as to transmit the radiotelegraph alarm signal. The device shall be capable of being taken out of operation at any time in order to permit immediate manual operation of the transmitter. If electrically operated, this keying device shall be capable of operation from the reserve source of energy.

(s) At sea, the reserve transmitter, if not used for communications, shall be tested daily using a suitable artificial aerial, and at least once during each voyage using the reserve aerial if installed. The reserve source of energy shall also be tested daily.

(t) All equipments forming part of the radiotelegraph installation shall be reliable, and shall be so constructed that they are readily accessible for maintenance purposes.

(u) Notwithstanding the provision of Regulation 4 of this Chapter, the Administration may, in the case of cargo ships below 1,600 tons gross tonnage, relax the full requirements of Regulation 8 of this Chapter and the present Regulation, provided that the standard of the radiotelegraph station shall in no case fall below the equivalent of that prescribed under Regulation 14 and Regulation 15 of this Chapter for radiotelephone stations, so far as applicable. In particular, in the case of cargo ships of 300 tons gross tonnage and upwards but less than 500 tons gross tonnage, the Administration need not require:

- (i) a reserve receiver;
- (ii) a reserve source of energy in existing installations;
- (iii) protection of the main aerial against breakage by whipping;
- (iv) the means of communication between the radiotelegraph station and the bridge to be independent of the main communication system;
- (v) the range of the transmitter to be greater than 75 miles.



Regulation 11

Direction-Finders

(a) (i) The direction-finding apparatus required by Regulation 12 of Chapter V shall be efficient and capable of receiving signals with the minimum of receiver noise and of taking bearings from which the true bearing and direction may be determined.

(ii) It shall be capable of receiving signals on the radiotelegraph frequencies assigned by the Radio Regulations for the purposes of distress and direction-finding and for maritime radio beacons.

(iii) In the absence of interference the direction-finding apparatus shall have a sensitivity sufficient to permit accurate bearings being taken on a signal having a field strength as low as 50 microvolts per metre.

(iv) As far as is practicable, the direction-finding apparatus shall be so located that as little interference as possible from mechanical or other noise will be caused to the efficient determination of bearings.

(v) As far as is practicable, the direction-finding aerial system shall be erected in such a manner that the efficient determination of bearings will be hindered as little as possible by the close proximity of other aerials, derricks, wire halyards or other large metal objects.

(vi) An efficient two-way means of calling and voice communication shall be provided between the direction-finder and the bridge.

(vii) All direction-finders shall be calibrated to the satisfaction of the Administration on first installation. The calibration shall be verified by check bearings or by a further calibration whenever any changes are made in the position of any aerials or of any structures on deck which might affect appreciably the accuracy of the direction-finder. The calibration particulars shall be checked at yearly intervals, or as near thereto as possible. A record shall be kept of the calibrations and of any checks made of their accuracy.

(b) (i) Radio equipment for homing on the radiotelephone distress frequency shall be capable of taking direction-finding bearings on that frequency without ambiguity of sense within an arc of 30 degrees on either side of the bow.

(ii) When installing and testing the equipment referred to in this paragraph due regard should be given to the relevant recommendation of the International Radio Consultative Committee (CCIR).

(iii) All reasonable steps shall be taken to ensure the homing capability required by this paragraph. In cases where due to technical difficulties the homing capability cannot be achieved, Administrations may grant to individual ships exemptions from the requirements of this paragraph.

### Regulation 13

#### Portable Radio Apparatus for Survival Craft

- (a) The apparatus required by Regulation 13 of Chapter III shall include a transmitter, a receiver, an aerial and a source of energy. It shall be so designed that it can be used in an emergency by an unskilled person.
- (b) The apparatus shall be readily portable, watertight, capable of floating in sea water and capable of being dropped into the sea without damage. New equipment shall be as light-weight and compact as practicable and shall preferably be capable of use in both lifeboats and liferafts.
- (c) The transmitter shall be capable of transmitting on the radiotelegraph distress frequency using a class of emission assigned by the Radio Regulations for that frequency, and, in the bands between 4,000 kc/s and 27,500 kc/s, of transmitting on the radiotelegraph frequency, and of using a class of emission, assigned by the Radio Regulations for survival craft. However, the Administration may permit the transmitter to be capable of transmitting on the radiotelephone distress frequency, and of using a class of emission, assigned by the Radio Regulations for that frequency, as an alternative or in addition to transmission on the radiotelegraph frequency assigned by the Radio Regulations for survival craft in the bands between 4,000 kc/s and 27,500 kc/s.
- (d) The transmitter shall, if modulated emission is prescribed by the Radio Regulations, have a depth of modulation of not less than 70 per cent and in the case of radiotelegraph emission have a note frequency between 450 and 1,350 cycles per second.
- (e) In addition to a key for manual transmissions, the transmitter shall be fitted with an automatic keying device for the transmission of the radiotelegraph alarm and distress signals. If the transmitter is capable of transmitting on the radiotelephone distress frequency, it shall be fitted with an automatic device, complying with the requirements of paragraph (e) of Regulation 15 of this Chapter, for transmitting the radiotelephone alarm signal.

- (f) The receiver shall be capable of receiving the radiotelegraph distress frequency and the classes of emission assigned by the Radio Regulations for that frequency. If the transmitter is capable of transmitting on the radiotelephone distress frequency the receiver shall also be capable of receiving that frequency and a class of emission assigned by the Radio Regulations for that frequency.
- (g) The aerial shall be either self-supporting or capable of being supported by the mast of a lifeboat at the maximum practicable height. In addition it is desirable that an aerial supported by a kite or balloon shall be provided if practicable.
- (h) The transmitter shall supply an adequate radio frequency power\* to the aerial required by paragraph (a) of this Regulation and shall preferably derive its supply from a hand generator. If operated from a battery, the battery shall comply with conditions laid down by the Administration to ensure that it is of a durable type and is of adequate capacity.
- (i) At sea a radio officer or a radiotelephone operator, as appropriate, shall at weekly intervals test the transmitter, using a suitable artificial aerial, and shall bring the battery up to full charge if it is of a type which requires charging.
- (j) For the purpose of this Regulation, new equipment means equipment supplied to a ship after the date of coming into force of the present Convention

---

\* It may be assumed that the purposes of this Regulation will be satisfied by the following performance:

At least 10 watts input to the anode of the final stage or a radio-frequency output of at least 2.0 watts (A2 emission) at 500 kc/s into an artificial aerial having an effective resistance of 15 ohms and  $100 \times 10^{-12}$  farads capacitance in series. The depth of modulation shall be at least 70 per cent.

Regulation 15Radiotelephone Installations

- (a) The radiotelephone installation shall include transmitting and receiving equipment, and appropriate sources of energy (referred to in the following paragraphs as the transmitter, the receiver, the radiotelephone distress frequency watch receiver, and the source of energy respectively).
- (b) The transmitter shall be capable of transmitting on the radiotelephone distress frequency and on at least one other frequency in the bands between 1,605 kc/s and 2,850 kc/s, using the classes of emission assigned by the Radio Regulations for these frequencies. In normal operation a double sideband transmission or a single sideband transmission with full carrier (i.e., A3H) shall have a depth of modulation of at least 70 per cent at peak intensity. Modulation of a single sideband transmission with reduced or suppressed carrier (A3A, A3J) shall be such that the intermodulation products shall not exceed the values given in the Radio Regulations.
- (c) (i) In the case of cargo ships of 500 tons gross tonnage and upwards but less than 1,600 tons gross tonnage the transmitter shall have a minimum normal range of 150 miles, i.e., it shall be capable of transmitting clearly perceptible signals from ship to ship by day and under normal conditions and circumstances over this range\*. (Clearly perceptible signals will normally be received if the R.M.S. value of the field strength produced at the receiver by the unmodulated carrier is at least 25 microvolts per metre):
- (ii) In the case of cargo ships of 300 tons gross tonnage and upwards but less than 500 tons gross tonnage -
- for existing installations the transmitter shall have a minimum normal range of at least 75 miles;
- for new installations the transmitter shall produce a power in the aerial of at least 15 watts (unmodulated carrier).

---

\* In the absence of field strength measurements, it may be assumed that this range will be obtained by a power in the aerial of 15 watts (unmodulated carrier) with an aerial efficiency of 27 per cent.

(d) The transmitter shall be fitted with a device for generating the radiotelephone alarm signal by automatic means so designed as to prevent actuation by mistake. The device shall be capable of being taken out of operation at any time in order to permit the immediate transmission of a distress message. Arrangements shall be made to check periodically the proper functioning of the device on frequencies other than the radiotelephone distress frequency using a suitable artificial aerial.

(e) The device required by paragraph (d) of this Regulation shall comply with the following requirements:

- (i) The tolerance of the frequency of each tone shall be  $\pm 1.5$  per cent;
- (ii) The tolerance on the duration of each tone shall be  $\pm 50$  milliseconds;
- (iii) The interval between successive tones shall not exceed 50 milliseconds;
- (iv) the ratio of the amplitude of the stronger tone to that of the weaker shall be within the range 1 to 1.2.

(f) The receiver required by paragraph (a) of this Regulation shall be capable of receiving the radiotelephone distress frequency and at least one other frequency available for maritime radiotelephone stations in the bands between 1,605 kc/s and 2,850 kc/s, using the classes of emission assigned by the Radio Regulations for these frequencies. In addition the receiver shall permit the reception of such other frequencies, using the classes of emission assigned by the Radio Regulations, as are used for the transmission by radiotelephony of meteorological messages and such other communications relating to the safety of navigation as may be considered necessary by the Administration. The receiver shall have sufficient sensitivity to produce signals by means of a loudspeaker when the receiver input is as low as 50 microvolts.

(g) The radiotelephone distress frequency watch receiver shall be preset to this frequency. It shall be provided with a filtering unit or a device to silence the loudspeaker in the absence of a radiotelephone alarm signal. The device shall be capable of being easily switched in and out and may be used when, in the opinion of the master, conditions are such that maintenance of the listening watch would interfere with the safe navigation of the ship.

(h) To permit rapid change-over from transmission to reception when manual switching is used, the control for the switching device shall, where practicable, be located on the microphone or the telephone handset.

(i) While the ship is at sea, there shall be available at all times a main source of energy sufficient to operate the installation over the normal range required by paragraph (c) of this Regulation. If batteries are provided they shall under all circumstances have sufficient capacity to operate the transmitter and receiver for at least six hours continuously under normal working conditions. \* In installations in cargo ships of 500 tons gross tonnage and upwards but less than 1,600 tons gross tonnage made on or after 19 November 1952, a reserve source of energy shall be provided in the upper part of the ship unless the main source of energy is so situated.

(j) The reserve source of energy, if provided, may be used only to supply:

- (i) the radiotelephone installation;
- (ii) the emergency light required by paragraph (d) of Regulation 14 of this Chapter;
- (iii) the device required by paragraph (d) of this Regulation, for generating the radiotelephone alarm signal; and
- (iv) the new VHF installation.

(k) Notwithstanding the provisions of paragraph (j) of this Regulation, the Administration may authorize the use of the reserve source of energy, if provided, for a direction-finder, if fitted, and for a number of low-power emergency circuits which are wholly confined to the upper part of the ship such as emergency lighting on the boat deck, on condition that the additional loads can be readily disconnected, and that the source of energy is of sufficient capacity to carry them.

(l) While at sea, any battery provided shall be kept charged so as to meet the requirements of paragraph (i) of this Regulation.

---

\* For the purpose of determining the electrical load to be supplied by batteries required to have six hours reserve capacity, the following formula is recommended as a guide:

- $\frac{1}{2}$  of the current consumption necessary for speech transmission
- + current consumption of receiver
- + current consumption of all additional loads to which the batteries may supply energy in time of distress or emergency.

(n) An aerial shall be provided and installed and, if suspended between supports liable to whipping, shall in the case of ships of 500 tons gross tonnage and upwards but less than 1,600 tons gross tonnage be protected against breakage. In addition, there shall be a spare aerial completely assembled for immediate replacement or, where this is not practicable, sufficient aerial wire and insulators to enable a spare aerial to be erected. The necessary tools to erect an aerial shall also be provided.

Regulation 15 bis

VHF Radiotelephone Stations

- (a) When a Very High Frequency radiotelephone station is provided in accordance with Regulation 18 of Chapter V, it shall be in the upper part of the ship and include a VHF radiotelephone installation complying with the provisions of this Regulation and comprising a transmitter and receiver, a source of power capable of actuating them at their rated power levels, and an antenna suitable for efficient radiating and receiving signals at the operating frequencies.
- (b) Such a VHF installation shall conform to the requirements laid down in the Radio Regulations for equipment used in the VHF International Maritime Mobile Radiotelephone Service and shall be capable of operation on those channels specified by the Radio Regulations and as may be required by the Contracting Government referred to in Regulation 18 of Chapter V.
- (c) The Contracting Government shall not require the transmitter R.F. carrier power output to be greater than 10 watts.

The antenna shall, in so far as is practicable, have an unobstructed view in all directions.\*

- (d) Control of the VHF channels required for navigational safety shall be immediately available on the bridge convenient to the conning position and, where necessary, facilities should also be available to permit radiocommunications from the wings of the bridge.

---

\* For guidance purposes, it is assumed that each ship would be fitted with a vertically polarized unity gain antenna at a nominal height of 9.15 metres (30 feet) above water, a transmitter R.F. power output of 10 watts, and a receiver sensitivity of 2 microvolts across the input terminals for 20 db signal-to-noise ratio.

Regulation 15 bis(1)Radiotelephone Auto Alarms

(a) The radiotelephone auto alarm shall comply with the following minimum requirements:

- (i) the frequencies of maximum response of the tuned circuits, and other tone selecting devices, shall be subject to a tolerance of  $\pm 1.5$  per cent in each instance; and the response shall not fall below 50 per cent of the maximum response for frequencies within 3 per cent of the frequency of maximum response;
- (ii) in the absence of noise and interference, the automatic receiving equipment shall be capable of operating from the alarm signal in a period of not less than four and not more than six seconds;
- (iii) the automatic receiving equipment shall respond to the alarm signal, under conditions of intermittent interference caused by atmospherics and powerful signals other than the alarm signal, preferably without any manual adjustment being required during any period of watch maintained by the equipment;
- (iv) the automatic receiving equipment shall not be actuated by atmospherics or by strong signals other than the alarm signal;
- (v) the automatic receiving equipment shall be effective beyond the range at which speech transmission is satisfactory;
- (vi) the automatic receiving equipment shall be capable of withstanding vibration, humidity, changes of temperature and variations in power supply voltage equivalent to the severe conditions experienced on board ships at sea, and shall continue to operate under such conditions;
- (vii) the automatic receiving equipment should, as far as practicable, give warning of faults that would prevent the apparatus from performing its normal functions during watch hours.

(b) Before a new type of radiotelephone auto alarm is approved, the Administration concerned shall be satisfied by practical tests, made under operating conditions equivalent to those obtained in practice, that the apparatus complies with paragraph (a) of this Regulation.



Regulation 16

Radio Logs

(a) The radio log (diary of the radio service) required by the Radio Regulations for a ship which is fitted with a radiotelegraph station in accordance with Regulation 3 or Regulation 4 of this Chapter shall be kept in the radiotelegraph operating room during the voyage. Every radio officer shall enter in the log his name, the times at which he goes on and off watch, and all incidents connected with the radio service which occur during his watch which may appear to be of importance to safety of life at sea. In addition, there shall be entered in the log:

- (i) the entries required by the Radio Regulations;
- (ii) details of the maintenance, including a record of the charging of the batteries, in such form as may be prescribed by the Administration;
- (iii) a daily statement that the requirement of paragraph (p) of Regulation 9 of this Chapter has been fulfilled;
- (iv) details of the tests of the reserve transmitter and reserve source of energy made under paragraph (s) of Regulation 9 of this Chapter;
- (v) in ships fitted with a radiotelegraph auto alarm details of tests made under paragraph (c) of Regulation 10 of this Chapter;
- (vi) details of the maintenance of the batteries, including a record of the charging (if applicable) required by paragraph (j) of Regulation 12 of this Chapter, and details of the tests required by that paragraph in respect of the transmitters fitted in motor lifeboats;
- (vii) details of the maintenance of the batteries, including a record of the charging (if applicable) required by paragraph (i) of Regulation 13 of this Chapter, and details of the tests required by that paragraph in respect of portable radio apparatus for survival craft.
- (viii) the time at which the listening watch was discontinued in accordance with paragraph (d) of Regulation 6 of this Chapter, together with the reason and the time at which the listening watch was resumed.

(b) The radio log (diary of the radio service) required by the Radio Regulations for a ship which is fitted with a radiotelephone station in accordance with Regulation 4 of this Chapter shall be kept at the place where listening watch is maintained. Every qualified operator, and every master, officer or crew member carrying out a listening watch in accordance with Regulation 7 of this Chapter, shall enter in the log, with his name, the details of all incidents connected with the radio service which occur during his watch which may appear to be of importance to safety of life at sea. In addition, there shall be entered in the log:

- (i) the details required by the Radio Regulations;
  - (ii) the time at which listening watch begins when the ship leaves port, and the time at which it ends when the ship reaches port;
  - (iii) the time at which listening watch is for any reason discontinued, together with the reason, and the time at which listening watch is resumed;
  - (iv) details of the maintenance of the batteries (if provided), including a record of the charging required by paragraph (1) of Regulation 15 of this Chapter;
  - (v) details of the maintenance of the batteries, including a record of the charging (if applicable) required by paragraph (i) of Regulation 13 of this Chapter, and details of the tests required by that paragraph in respect of portable radio apparatus for survival craft.
- (c) Radio logs shall be available for inspection by the officers authorized by the Administration to make such inspection.

CHAPTER V - SAFETY OF NAVIGATION

Regulation 8

Routeing

- (a) The practice of following, particularly in converging areas, routes adopted for the purpose of separation of traffic including avoidance of passage through areas designated as areas to be avoided by ships or certain classes of ships, or for the purpose of avoiding unsafe conditions, has contributed to the safety of navigation and is recommended for use by all ships concerned.
- (b) The Organization is recognized as the only international body for establishing and adopting measures on an international level concerning routeing and areas to be avoided by ships or certain classes of ships. It will collate and disseminate to Contracting Governments all relevant information.
- (c) The selection of the routes and the initiation of action with regard to them, and the delineation of what constitutes converging areas, will be primarily the responsibility of the Governments concerned. In the development of routeing schemes which impinge upon international waters, or such other schemes they may wish adopted by the Organization, they will give due consideration to relevant information published by the Organization.
- (d) Contracting Governments will use their influence to secure the appropriate use of adopted routes and will do everything in their power to ensure adherence to the measures adopted by the Organization in connexion with routeing of ships.
- (e) Where the Organization has adopted traffic separation schemes which specify one-way traffic lanes, ships using these lanes shall proceed in the specified direction of traffic flow. Ships crossing the lanes shall do so as far as practicable at right angles.
- (f) Contracting Governments will also induce all ships proceeding on voyages in the vicinity of the Grand Banks of Newfoundland to avoid, as far as practicable, the fishing banks of Newfoundland north of latitude 43°N and to pass outside regions known or believed to be endangered by ice.

Regulation 12Shipborne Navigational Equipment

- (a) All ships of 1,600 tons gross tonnage and upwards shall be fitted with a radar of a type approved by the Administration. Facilities for plotting radar readings shall be provided on the bridge in those ships.
- (b) All ships of 1,600 tons gross tonnage and upwards, when engaged on international voyages, shall be fitted with radio direction-finding apparatus complying with the provisions of Regulation 11 of Chapter IV. The Administration may, in areas where it considers it unreasonable or unnecessary for such apparatus to be carried, exempt any ship under 5,000 tons gross tonnage from this requirement, due regard being had to the fact that radio direction-finding apparatus is of value both as a navigational instrument and as an aid to locating ships, aircraft or survival craft.
- (c) All ships of 1,600 tons gross tonnage and upwards, when engaged on international voyages, shall be fitted with a gyro-compass in addition to the magnetic compass. The Administration, if it considers it unreasonable or unnecessary to require a gyro-compass, may exempt any ship under 5,000 tons gross tonnage from this requirement.
- (d) All new ships of 500 tons gross tonnage and upwards, when engaged on international voyages, shall be fitted with an echo-sounding device.
- (e) Whilst all reasonable steps shall be taken to maintain the apparatus in an efficient condition, malfunction of the radar equipment, the gyro-compass or the echo-sounding device shall not be considered as making the ship unseaworthy or as a reason for delaying the ship in ports where repair facilities are not readily available.
- (f) All ships of 1,600 tons gross tonnage and upwards, the keel of which is laid on or after the date of coming into force of this paragraph, when engaged on international voyages, shall be fitted with radio equipment for homing on the radiotelephone distress frequency complying with the relevant provisions of Regulation 11, paragraph (b) of Chapter IV.

Regulation 17

Pilot ladders and mechanical pilot hoists

Ships engaged on voyages in the course of which pilots are likely to be employed shall comply with the following requirements:

(a) Pilot ladders

(i) The ladder shall be efficient for the purpose of enabling pilots to embark and disembark safely, kept clean and in good order and may be used by officials and other persons while a ship is arriving at or leaving a port.

(ii) The ladder shall be secured in a position so that it is clear from any possible discharges from the ship, that each step rests firmly against the ship's side, that it is clear so far as is practicable of the finer lines of the ship and that the pilot can gain safe and convenient access to the ship after climbing not less than 1.5 metres (5 feet) and not more than 9 metres (30 feet).

A single length of ladder shall be used capable of reaching the water from the point of access to the ship; in providing for this due allowance shall be made for all conditions of loading and trim of the ship and for an adverse list of 15°. Whenever the distance from sea level to the point of access to the ship is more than 9 metres (30 feet), access from the pilot ladder to the ship shall be by means of an accommodation ladder or other equally safe and convenient means.

(iii) The steps of the pilot ladder shall be:

(1) of hardwood, or other material of equivalent properties, made in one piece free of knots, having an efficient non-slip surface; the four lowest steps may be made of rubber of sufficient strength and stiffness or of other suitable material of equivalent characteristics;

(2) not less than 480 millimetres (19 inches) long, 115 millimetres (4½ inches) wide, and 25 millimetres (1 inch) in depth, excluding any non-slip device;

- (3) equally spaced not less than 300 millimetres (12 inches) nor more than 380 millimetres (15 inches) apart and be secured in such a manner that they will remain horizontal.
- (iv) No pilot ladder shall have more than two replacement steps which are secured in position by a method different from that used in the original construction of the ladder and any steps so secured shall be replaced as soon as reasonably practicable by steps secured in position by the method used in the original construction of the ladder. When any replacement step is secured to the side ropes of the ladder by means of grooves in the sides of the step, such grooves shall be in the longer sides of the step.
- (v) The side ropes of the ladder shall consist of two uncovered manilla ropes not less than 60 millimetres ( $2\frac{1}{4}$  inches) in circumference on each side. Each rope shall be continuous with no joins below the top step. Two man-ropes properly secured to the ship and not less than 65 millimetres ( $2\frac{1}{2}$  inches) in circumference and a safety line shall be kept at hand ready for use if required.
- (vi) Battens made of hardwood, or other material of equivalent properties, in one piece and not less than 1.80 metres (5 feet 10 inches) long shall be provided at such intervals as will prevent the pilot ladder from twisting. The lowest batten shall be on the fifth step from the bottom of the ladder and the interval between any batten and the next shall not exceed 9 steps.
- (vii) Means shall be provided to ensure safe and convenient passage on to or into and off the ship between the head of the pilot ladder or of any accommodation ladder or other appliance provided. Where such passage is by means of a gateway in the rails or bulwark, adequate handholes shall be provided. Where such passage is by means of a bulwark ladder, such ladder shall be securely attached to the bulwark rail or platform and two handhold stanchions shall be fitted at the point of boarding or leaving the ship not less than 0.70 metre (2 feet 3 inches) nor more than 0.80 metre (2 feet 7 inches) apart. Each stanchion shall be rigidly secured to the ship's structure at or near its base and also at a higher point, shall be not less than 40 millimetres ( $1\frac{1}{2}$  inches) in diameter and shall extend not less than 1.20 metres (3 feet 11 inches) above the top of the bulwark.

- (viii) Lighting shall be provided at night such that both the pilot ladder overside and also the position where the pilot boards the ship shall be adequately lit. A lifebuoy equipped with a self-igniting light shall be kept at hand ready for use. A heaving line shall be kept at hand ready for use if required.
  - (ix) Means shall be provided to enable the pilot ladder to be used on either side of the ship.
  - (x) The rigging of the ladder and the embarkation and disembarkation of a pilot shall be supervised by a responsible officer of the ship.
  - (xi) Where on any ship constructional features such as rubbing bands would prevent the implementation of any of these provisions, special arrangements shall be made to the satisfaction of the Administration to ensure that persons are able to embark and disembark safely.
- (b) Mechanical pilot hoists
- (i) A mechanical pilot hoist, if provided, and its ancillary equipment shall be of a type approved by the Administration. It shall be of such design and construction as to ensure that the pilot can be embarked and disembarked in a safe manner including a safe access from the hoist to the deck and vice versa.
  - (ii) A pilot ladder complying with the provisions of paragraph (a) of this Regulation shall be kept on deck adjacent to the hoist and available for immediate use.

#### Regulation 18

##### VHF Radiotelephone Stations

When a Contracting Government requires ships navigating in an area under its sovereignty to be provided with a Very High Frequency radiotelephone station to be used in conjunction with a system which it has established in order to promote safety of navigation, such station shall comply with the provisions of Regulation 15 bis of Chapter IV and shall be operated in accordance with Regulation 7 bis of Chapter IV.

Regulation 19Use of the Automatic Pilot

- (a) In areas of high traffic density, in conditions of restricted visibility and in all other hazardous navigational situations where the automatic pilot is used, it shall be possible to establish human control of the ship's steering immediately.
- (b) In circumstances as above, it shall be possible for the officer of the watch to have available without delay the services of a qualified helmsman who shall be ready at all times to take over steering control.
- (c) The change-over from automatic to manual steering and vice versa shall be made by or under the supervision of a responsible officer.

Regulation 20Nautical Publications

All ships shall carry adequate and up-to-date charts, sailing directions, lists of lights, notices to mariners, tide tables and all other nautical publications necessary for the intended voyage.

Regulation 21International Code of Signals

All ships which in accordance with the present Convention are required to carry a radiotelegraph or a radiotelephone installation shall carry the International Code of Signals. This publication shall also be carried by any other ship which in the opinion of the Administration has a need to use it.



APPENDIX

Form of Safety Certificate for Passenger Ships

PASSENGER SHIP SAFETY CERTIFICATE

(Official Seal)

(Country)

for an international voyage.  
& short

Issued under the provisions of the  
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1960

Name of Ship	Distinctive Number or Letters	Port of Registry	Gross tonnage	Particulars of voyages, if any, sanctioned under Regulation 27(o)(vii) of Chapter III	Date on which keel was laid (see NOTE below)

I, The  
the undersigned

(Name) Government certifies  
(Name) certify

I. That the above-mentioned ship has been duly surveyed in accordance with the provisions of the Convention referred to above.

II. That the survey showed that the ship complied with the requirements of the Regulations annexed to the said Convention as regards:

- (1) the structure, main and auxiliary boilers and other pressure vessels and machinery;
- (2) the watertight subdivision arrangements and details;
- (3) the following subdivision loadlines:

Subdivision loadlines assigned and marked on the ship's side at amidships (Regulation 11 of Chapter II)	Freeboard	To apply when the spaces in which passengers are carried include the following alternative spaces
C.1	"	"
C.2	"	"
C.3	"	"

III. That the life-saving appliances provide for a total number of.....persons and no more, viz:-

- .....lifeboats (including.....motor lifeboats) capable of accommodating.....persons, and..... motor lifeboats fitted with radiotelegraph installation and searchlight (included in the total lifeboats shown above)and.....motor lifeboats fitted with searchlight only (also included in the total lifeboats shown above), requiring.....certificated lifeboatmen;
- .....liferrafts, for which approved launching devices are required, capable of accommodating.....persons; and
- .....liferrafts, for which approved launching devices are not required, capable of accommodating.....persons;
- .....buoyant apparatus capable of supporting.....persons;
- .....lifebuoys;
- .....lifejackets.

IV. That the lifeboats and liferafts were equipped in accordance with the provisions of the Regulations.

V. That the ship was provided with a line-throwing appliance and portable radio apparatus for survival craft in accordance with the provisions of the Regulations.

VI. That the ship complied with the requirements of the Regulations as regards radiotelegraph installations, viz.:

	Requirements of Regulations	Actual provision
Hours of listening by operator ... ..	...	...
Number of operators ... ..	...	...
Whether auto alarm fitted ... ..	...	...
Whether main installation fitted ... ..	...	...
Whether reserve installation fitted ... ..	...	...
Whether main and reserve transmitters electrically separated or combined ... ..	...	...
Whether direction-finder and/or radio equipment for homing on the radiotelephone distress frequency fitted ... ..	...	...
Whether radar fitted ... ..	...	...
Number of passengers for which certificated	...	...

VII. That the functioning of the radiotelegraph installations for motor lifeboats and/or the portable radio apparatus for survival craft, if provided, complied with the provisions of the Regulations.



Form of Safety Equipment Certificate for Cargo Ships

## CARGO SHIP SAFETY EQUIPMENT CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the  
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1960

Name of Ship	Distinctive Number or Letters	Port of Registry	Gross Tonnage	Date on which keel was laid (see NOTE below)

The  
I, the undersigned

(Name) Government certifies  
(Name) certify

I. That the above-mentioned ship has been duly inspected in accordance with the provisions of the Convention referred to above.

II. That the inspection showed that the life-saving appliances provided for a total number of.....persons and no more viz.:

.....lifeboats on port side capable of accommodating  
.....persons;  
.....lifeboats on starboard side capable of  
accommodating.....persons;  
.....motor lifeboats (included in the total lifeboats  
shown above), including.....motor lifeboats  
fitted with radiotelegraph installation and  
searchlight, and.....motor lifeboats fitted  
with searchlight only;  
.....liferrafts, for which approved launching devices  
are required, capable of accommodating.....  
persons; and  
.....liferrafts, for which approved launching devices  
are not required, capable of accommodating  
.....persons;  
.....lifebuoys;  
.....lifejackets.

NOTE - It will be sufficient to indicate the year in which the keel was laid except for 1952 and the year of the coming into force of the International Convention for the Safety of Life at Sea, 1960, in which cases the actual date should be given.



Form of Safety Radiotelegraphy Certificate for Cargo Ships

## CARGO SHIP SAFETY RADIOTELEGRAPHY CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the  
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1960

Name of Ship	Distinctive Number or Letters	Port of Registry	Gross Tonnage	Date on which keel was laid (see NOTE below)

The  
I, the undersigned

(Name) Government certifies  
(Name) certify

I. That the above-mentioned ship complies with the provisions of the Regulations annexed to the Convention referred to above as regards radiotelegraphy and radar:

	Requirements of Regulations	Actual provision
Hours of listening by operator ... ..	...	...
Number of operators ... ..	...	...
Whether auto alarm fitted ... ..	...	...
Whether main installation fitted ... ..	...	...
Whether reserve installation fitted ... ..	...	...
Whether main and reserve transmitters electrically separated or combined ... ..	...	...
Whether direction-finder and/or radio equipment for honing on the radiotelephone distress frequency fitted ... ..	...	...
Whether radar fitted ... ..	...	...

II. That the functioning of the radiotelegraphy installation for motor lifeboats and/or the portable radio apparatus for survival craft, if provided, complies with the provisions of the said Regulations.

NOTE - It will be sufficient to indicate the year in which the keel was laid except for 1952 and the year of the coming into force of the International Convention for the Safety of Life at Sea, 1960, in which cases the actual date should be given.



Form of Safety Certificate for Nuclear Passenger Ships

## NUCLEAR PASSENGER SHIP SAFETY CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the  
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1960

Name of Ship	Distinctive Number or Letters	Port of Registry	Gross Tonnage	Particulars of voyages, if any, sanctioned under Regulation 27(o) (vii) of Chapter III	Date on which keel was laid (see NOTE below)

The  
I, the undersigned

(Name) Government certifies  
(Name) certify

I. That the above-mentioned ship has been duly surveyed in accordance with the provisions of the Convention referred to above.

II. That the ship, being a nuclear ship, complied with all requirements of Chapter VIII of the Convention and conformed to the Safety Assessment approved for the ship.

III. That the survey showed that the ship complied with the requirements of the Regulations annexed to the said Convention as regards:

- (1) the structure, main and auxiliary boilers and other pressure vessels and machinery;
- (2) the watertight subdivision arrangements and details;
- (3) the following subdivision loadlines:

Subdivision loadlines assigned and marked on the ship's side at amidships (Regulation 11 of Chapter II)	Freeboard	To apply when the spaces in which passengers are carried include the following alternative spaces
C.1	...	...
C.2	...	...
C.3	...	...



IV. That the life-saving appliances provided for a total number of .....persons and no more, viz.:

- .....lifeboats (including.....motor lifeboats) capable of accommodating.....persons, and.....motor lifeboats fitted with radiotelegraph installation and searchlight (included in the total lifeboats shown above) and .....motor lifeboats fitted with searchlight only (also included in the total lifeboats shown above, requiring.....certificated lifeboatmen;
- .....liferrafts, for which approved launching devices are required, capable of accommodating.....persons; and
- .....liferrafts, for which approved launching devices are not required, capable of accommodating.....persons;
- .....buoyant apparatus capable of supporting.....persons;
- .....lifebuoys;
- .....lifejackets.

V. That the lifeboats and liferafts were equipped in accordance with the provisions of the Regulations.

VI. That the ship was provided with a line-throwing appliance and portable radio apparatus for survival craft, in accordance with the provisions of the Regulations.

VII. That the ship complied with the requirements of the Regulations as regards radiotelegraph installations, viz.:

	Requirements of Regulations	Actual provision
Hours of listening by operator ... ..	...	...
Number of operators ... ..	...	...
Whether auto alarm fitted ... ..	...	...
Whether main installation fitted ... ..	...	...
Whether reserve installation fitted ... ..	...	...
Whether main and reserve transmitters electrically separated or combined ... ..	...	...
Whether direction-finder and/or radio equipment for honing on the radiotelephone distress frequency fitted ... ..	...	...
Whether radar fitted ... ..	...	...
Number of passengers for which certificated	...	...

VIII. That the functioning of the radiotelegraph installations for motor lifeboats and/or the portable radio apparatus for survival craft, if provided, complied with the provisions of the Regulations.



Form of Safety Certificate for Nuclear Cargo Ships

NUCLEAR CARGO SHIP SAFETY CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the  
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1960

Name of Ship	Distinctive Number or Letters	Port of Registry	Gross Tonnage	Date on which keel was laid (see NOTE below)

The  
I, the undersigned

(Name) Government certifies  
(Name) certify

I. That the above-mentioned ship has been duly surveyed in accordance with the provisions of the Convention referred to above.

II. That the ship, being a nuclear ship, complied with all requirements of Chapter VIII of the Convention and conformed to the Safety Assessment approved for the ship.

III. That the survey showed that the ship satisfied the requirements set out in Regulation 10 of Chapter I of the Convention as to hull, machinery and equipment, and complied with the relevant requirements of Chapter II.

IV. That the life-saving appliances provide for a total number of .....persons and no more, viz.:

- .....lifeboats on port side capable of accommodating .....persons;
- .....lifeboats on starboard side capable of accommodating .....persons;
- .....motor lifeboats (included in the total lifeboats shown above) including.....motor lifeboats fitted with radiotelegraph installation and searchlight, and .....motor lifeboats fitted with searchlight only;
- .....liferrafts, for which approved launching devices are required, capable of accommodating.....persons; and
- .....liferrafts for which approved launching devices are not required, capable of accommodating.....persons;

.....lifebuoys;  
 .....lifejackets.

V. That the lifeboats and liferafts were equipped in accordance with the provisions of the Regulations annexed to the Convention.

VI. That the ship was provided with a line-throwing apparatus and portable radio apparatus for survival craft in accordance with the provisions of the Regulations.

VII. That the ship complied with the requirements of the Regulations as regards radiotelegraph installations, viz.:

	Requirements of Regulations	Actual provision
Hours of listening by operator ...	...	...
Number of operators ...	...	...
Whether auto alarm fitted ...	...	...
Whether main installation fitted ...	...	...
Whether reserve installation fitted ...	...	...
Whether main and reserve transmitters electrically separated or combined ...	...	...
Whether direction-finder and/or radio equipment for honing on the radiotelephone distress frequency fitted ...	...	...
Whether radar fitted ...	...	...

VIII. That the functioning of the radiotelegraph installations for motor lifeboats, and/or the portable radio apparatus for survival craft, if provided, complied with the provisions of the Regulations.

IX. That the inspection showed that the ship complied with the requirements of the said Convention as regards fire-extinguishing appliances, radar, echo-sounding device and gyro-compass and was provided with navigation lights and shapes, pilot ladder, and means of making sound signals and distress signals in accordance with the provisions of the Regulations and the International Collision Regulations.

X. That in all other respects the ship complied with the requirements of the Regulations so far as these requirements apply thereto.

