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SCHEDULES.

FIRST SCHEDULE

INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1929.

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ANNEX I

REGULATIONS.

LIFE-SAVING APPLIANCES, &C.

*REGULATION XXIV**Standard Types of Boats.*

The standard types of boats are classified as follow :—

Class I.—Open boats with rigid sides having either (a) internal buoyancy only, or (b) internal and external buoyancy.

Class II.—(a) Open boats with internal and external buoyancy—upper parts of sides collapsible, and (b) decked boats with either fixed or collapsible watertight bulwarks.

No boat may be approved the buoyancy of which depends upon the previous adjustment of one of the principal parts of the , hull, or which has not a cubic capacity of at least 3.5 cubic metres (equivalent to 125 cubic feet).

No boat may be approved the weight of which when fully laden with persons and equipment exceeds 20,300 kilogrammes (equivalent to 20 tons).

*REGULATION XXV**Lifeboats of Class I.*

Lifeboats of Class I must have a mean sheer at least equal to four per cent. of their length.

The air-cases of lifeboats of Class I shall be so placed as to secure stability when fully laden under adverse weather conditions.

In boats certified to carry 100 or more persons the volume of the buoyancy shall be increased to the satisfaction of the Administration.

Lifeboats of Class I must also satisfy the following conditions:—

Lifeboats with Internal Buoyancy only.

- (a) The buoyancy of a wooden boat of this type shall be provided by watertight air-cases, the total volume of which shall be at least equal to one-tenth of the cubic capacity of the boat.

The buoyancy of a metal boat of this type shall not be less than that required above for a wooden boat of the same cubic capacity, the volume of watertight air-cases being increased accordingly.

Lifeboats with Internal and External Buoyancy.

- (b) The internal buoyancy of a wooden boat of this type shall be provided by watertight air-cases, the total volume of which is at least equal to seven and a half per cent. of the cubic capacity of the boat.

The external buoyancy may be of cork or of any other equally efficient material, but such buoyancy shall not be obtained by the use of rushes, cork shavings, loose granulated cork or any other loose granulated substance, or by any means dependent upon inflation by air.

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If the buoyancy is of cork, its volume, for a wooden boat, shall not be less than thirty-three thousandths of the cubic capacity of the boat; if of any material other than cork, its volume and distribution shall be such that the buoyancy and stability of the boat are not less than that of a similar boat provided with buoyancy of cork.

The buoyancy of a metal boat shall be not less than that required above for a wooden boat of the same cubic capacity, the volume of the watertight air-cases and that of the external buoyancy being increased accordingly.

REGULATION XXVI

Boats of Class II.

Boats of Class II must satisfy the following conditions:—

Open Boats with Internal and External Buoyancy—Upper Part of Sides collapsible.

- (a) A boat of this type shall be fitted both with watertight air-cases and with external buoyancy the aggregate volume of which, for each person which the boat is able to accommodate, shall be at least equal to the following amounts :—

	Cubic Decimetres.	Cubic Feet.
Air-cases	43	1.5
External buoyancy (if of cork)	6	0.2

The external buoyancy may be of cork or of any other equally efficient material, but such buoyancy shall not be obtained by the use of rushes, cork shavings, loose granulated cork, or any other loose granulated substance, or by any means dependent upon inflation by air.

If of any material other than cork, its volume and distribution shall be such that the buoyancy and stability of the boat are not less than that of a similar boat provided with buoyancy of cork

A metal boat of this type shall be provided with internal and' external buoyancy to ensure that the buoyancy of the boat shall be at least equal to that of a wooden boat.

The minimum freeboard of boats of this type shall be fixed in relation to their length; and it shall be measured vertically to the top of the solid hull at the side amidships, from the water-level, when the boat is loaded.

The freeboard in fresh water shall not be less than the following amounts:—

Length of Lifeboat.		Minimum Freeboard.	
Metres.	Equivalent in Feet to—	Millimetres.	Equivalent in Inches to—
7.90	26	200	8
8.50	28	225	9
9.15	30	250	10

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The freeboard of boats of intermediate lengths is to be found by interpolation.

The collapsible sides must be watertight.

Decked Boats with either Fixed or Collapsible Watertight Bulwarks.

- (b) (i) *Decked Boats having a Well Deck.*—The area of the well deck of a boat of this type shall be at least 30 per cent. of the total deck area. The height of the well deck above the water-line at all points shall be at least equal to one-half per cent. of the length of the boat, this height being increased to one-and-a-half per cent. of the length of the boat at the ends of the well.

The freeboard of a boat of this type shall be such as to provide for a reserve buoyancy of at least 35 per cent.

- (ii) *Decked Boats having a Flush Deck.*—The minimum freeboard of boats of this type is independent of their lengths and depends only upon their depths. The depth of the boat is to be measured vertically from the underside of the garboard strake to the top of the deck at the side amidships and the freeboard is to be measured from the top of the deck at the side amidships to the water-level when the boat is loaded.

The freeboard in fresh water shall not be less than the following amounts, which are applicable without correction to boats having a mean sheer equal to three per cent. of their length:—

Depth of Lifeboat.		Minimum Freeboard.	
Millimetres.	Equivalent in Inches to—	Millimetres.	Equivalent in Inches to—
310	12	70	2 ³ / ₄
460	18	95	3 ³ / ₄
610	24	130	5 ¹ / ₈
760	30	165	6 ¹ / ₂

For intermediate depths the freeboard is obtained by interpolation.

If the sheer is less than the standard sheer defined above, the minimum freeboard is obtained by adding to the figures in the table one-seventh of the difference between the standard sheer and the actual mean sheer measured at the stem and stern post; no deduction is to be made from the freeboard on account of the sheer being greater than the standard sheer or on account of the camber of the deck.

- (iii) All decked lifeboats shall be fitted with efficient means for clearing the deck of water.

REGULATION XXVII

Motor Boats.

A motor boat carried as part of the life-saving appliances of a vessel, whether required by Regulation XXXVI (2) or not, shall comply with the following conditions :—

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- (a) It shall comply with the requirements for a lifeboat of Class I, and proper appliances shall be provided for putting it into the water speedily.
- (b) It shall be adequately provided with fuel, and kept so as to be at all times ready for use.
- (c) The motor and its accessories shall be suitably enclosed to ensure operation under adverse weather conditions, and provision shall be made for going astern.
- (d) The speed shall be at least six knots when fully loaded in smooth water.

The volume of the internal buoyancy and, where fitted, the external buoyancy shall be increased in sufficient proportion to compensate for the difference between the weight of the motor, the searchlight, and the wireless telegraph installation and their accessories, and the weight of the additional persons which the boat could accommodate if the motor, the searchlight and the wireless telegraph installation and their accessories were removed.

REGULATION XXVIII

Life Rafts.

No type of life raft may be approved unless it satisfies the following conditions:—

- (a) It shall be of approved material and construction;
- (b) It shall be effective and stable when floating either way up;
- (c) It shall be fitted with fixed or collapsible bulwarks of wood, canvas or other suitable material on both sides;
- (d) It shall have a line securely becketed round the outside;
- (e) It shall be of such strength that it can be launched or thrown from the vessel's deck without being damaged, and if to be thrown it shall be of such size and weight that it can be easily handled;
- (f) It shall have not less than 85 cubic decimetres (equivalent to three cubic feet) of air-cases or equivalent buoyancy for each person to be carried thereon;
- (g) It shall have a deck area of not less than 3,720 square centimetres (equivalent to four square feet) for each person to be carried thereon, and it shall effectively support the occupants out of the water;
- (h) The air-cases or equivalent buoyancy shall be placed as near as possible to the sides of the life raft, and such buoyancy shall not be by any means dependent on inflation by air.

REGULATION XXIX

Buoyant Apparatus.

Buoyant apparatus, whether buoyant deck seats, buoyant deck chairs or other buoyant apparatus, shall be deemed sufficient, so far as buoyancy is concerned, for a person or number of persons to be ascertained by dividing the number of kilogrammes of iron which it is capable of supporting in fresh water by 14.5 (equivalent to the number of pounds divided by 32), and if the apparatus depends for its buoyancy on air it shall not require to be inflated before use in an emergency.

The number of persons for whom the apparatus is deemed suitable shall be determined by the least of the numbers ascertained either as above or by the number of 30.5 centimetres (equivalent to one foot) in the perimeter.

Such approved buoyant apparatus shall comply with the following conditions :—

1. It shall be constructed with proper workmanship and materials.
2. It shall be effective and stable when floating either way up.

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3. It shall be of such size, strength and weight that it can be handled without mechanical appliances and, if necessary, thrown without damage from the vessel's deck on which it is stowed.
4. The air-cases or equivalent buoyancy shall be placed as near as possible to the sides of the apparatus.
5. It shall have a line securely becketed round the outside of the apparatus.

REGULATION XXX

Cubic Capacity of Lifeboats of Class 1.

- 1 The cubic capacity of a lifeboat of Class I shall be determined by Stirling's (Simpson's) Rule or by any other method giving the same degree of accuracy. The capacity of a square-sterned boat shall be calculated as if the boat had a pointed stern.
- 2 For example, the capacity in cubic metres (or cubic feet) of a boat, calculated by the aid of Stirling's Rule, may be considered as given by the following formula :—

$$\text{Capacity} = \frac{l}{12} (4A + 2B + 4C)$$

l being the length of the boat in metres (or feet) from the inside of the planking or plating at the stem to the corresponding point at the stern post; in the case of a boat with a square stern, the length is measured to the inside of the transom.

A, B, C denote respectively the areas of the cross-sections at the quarter length forward, amidships, and the quarter length aft, which correspond to the three points obtained by dividing l into four equal parts (the areas corresponding to the two ends of the boat are considered negligible).

The areas A, B, C shall be deemed to be given in square metres (or square feet) by the successive application of the following formula to each of the three cross-sections:—

$$\text{Area} = \frac{h}{12} (a + 4b + 2c + 4d + e)$$

h being the depth measured in metres (or in feet) inside the planking or plating from the keel to the level of the gunwale, or, in certain cases, to a lower level, as determined hereafter.

a, b, c, d, e, denote the horizontal breadths of the boat measured in metres (or in feet) at the upper and lower points of the depth and at the three points obtained by dividing h into four equal parts (a and e being the breadths at the extreme points, and c at the middle point, of h).

- 3 If the sheer of the gunwale, measured at the two points situated at a quarter of the length of the boat from the ends, exceeds 1 per cent. of the length of the boat, the depth employed in calculating the area of the cross-sections A or C shall be deemed to be the depth amidships plus 1 per cent. of the length of the boat.
- 4 If the depth of the boat amidships exceeds 45 per cent. of the breadth, the depth employed in calculating the area of the midship cross-section B shall be deemed to be equal to 45 per cent. of the breadth, and the depth employed in calculating the

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areas of the quarter length sections A and C is obtained by increasing this last figure by an amount equal to 1 per cent. of the length of the boat, provided that in no case shall the depths employed in the calculation exceed the actual depths at these points.

5 If the depth of the boat is greater than 122 centimetres (equivalent to 4 feet) the number of persons given by the application of this rule shall be reduced in proportion to the ratio of 122 centimetres to the actual depth, until the boat has been satisfactorily tested afloat with that number of persons on board, all wearing life-jackets.

6 Each Administration shall impose, by suitable formulae, a limit for the number of persons allowed in boats with very fine ends and in boats very full in form.

7 Each Administration reserves the right to assign to a boat a capacity equal to the product of the length, the breadth and the depth multiplied by 0.6 if it is evident that this formula does not give a greater capacity than that obtained by the above method. The dimensions shall then be measured in the following manner:—

Length.—From the intersection of the outside of the planking with the stem to the corresponding point at the stern post or, in the case of a square sterned boat, to the after side of the transom.

Breadth.—From the outside of the planking at the point where the breadth of the boat is greatest.

Depth.—Amidships inside the planking from the keel to the level of the gunwale, but the depth used in calculating the cubic capacity may not in any case exceed 45 per cent. of the breadth.

In all cases the shipowner has the right to require that the cubic capacity of the boat shall be determined by exact measurement.

8 The cubic capacity of a motorboat is obtained from the gross capacity by deducting a volume equal to that occupied by the motor and its accessories, and, when carried, the wireless telegraphy installation and the searchlight with their accessories.

REGULATION XXXI

Deck Area of Boats of Class II.

1 The area of the deck of a decked boat shall be determined by the method indicated below or by any other method giving the same degree of accuracy. The same rule is to be applied in determining the area within the fixed bulwarks of a boat of Class II (a).

2 For example, the surface in square metres (or square feet) of a boat may be deemed to be given by the following formula :—

$$\text{Area} = \frac{l}{12} (2a + 1.5b + 4c + 1.5d + 2e)$$

l being the length in metres (or in feet) from the intersection of the outside of the planking with the stem to the corresponding point at the stern post.

a, b, c, d, e denote the horizontal breadths in metres (or in feet) outside the planking at the points obtained by dividing l into four equal parts and sub-dividing the foremost and aftermost parts into two equal parts (a and e being the breadths at the extreme sub-divisions, c at the middle point of the length, and b and d at the intermediate points).

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REGULATION XXXII

Marking of Boats, Life Rafts and Buoyant Apparatus.

The dimensions of the boat and the number of persons which it is authorised to carry, shall be marked on it in clear permanent characters. These marks shall be specifically approved by the officers appointed to inspect the ship.

Life rafts and buoyant apparatus shall be marked with the number of persons in the same manner.

REGULATION XXXIII

Carrying Capacity of Boats.

- 1 The number of persons which a boat of one of the standard types can accommodate is equal to the greatest whole number obtained by dividing the capacity in cubic metres (or cubic feet), or the surface in square metres (or square feet), of the boat by the standard unit of capacity, or unit of surface (according to circumstances), denned below for each type.
- 2 The standard units of capacity and surface for determining the number of persons are as follows:—

Unit of Capacity.	Cubic Metres.	Equivalent in Cubic Feet.
Open boats, Class I (a)	0.283	10
Open boats, Class I (b)	0.255	9
Unit of Surface.	Square Metres.	Equivalent in Square Feet.
Class II	0.325	3 ½

- 3 The Administration may accept, in place of 0.325 or 3 ½, as the case may be, a smaller divisor, if it is satisfied after trial that the number of persons for whom there is seating accommodation in the decked boat in question is greater than the number obtained by applying the above divisor, provided always that the divisor adopted in place of 0.325 or 3 ½, as the case may be, may never be less than 0.280 or 3, as the case may

The Administration which accepts a lower divisor in this way shall communicate to the other Administrations particulars of the trial and drawings of the decked boat in question.

REGULATION XXXIV

Capacity Limits.

No boat shall be marked for a greater number of persons than that obtained in the manner specified in these Regulations. This number shall be reduced—

- (1) when it is greater than the number of persons for which there is proper seating accommodation; the latter number shall be determined in such a way that the persons when seated do not interfere in any way with the use of the oars;

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- (2) when, in the case of boats other than those of Class I, the freeboard when the boat is fully loaded is less than the freeboard laid down for each type respectively; the number shall be reduced until the freeboard when the boat is fully loaded is at least equal to the standard freeboard laid down above.

In boats of Class II (b) (i), the raised part of the deck at the sides may be regarded as affording seating accommodation.

REGULATION XXXV

Equivalent for and Weight of the Persons.

In the tests for determining the number of persons which a boat or life raft can accommodate, each person shall be assumed to be an adult person wearing a life-jacket.

In verifications of freeboard the decked boats shall be loaded with a weight of at least 75 kilogrammes (165 lbs.) for each adult person that the decked boat is authorised to carry.

In all cases two children under 12 years Of age shall be reckoned as one person.

REGULATION XXXVI

Equipment of Boats and Life Rafts.

- 1 The normal equipment of every boat shall consist of :—
- (a) A single banked complement of oars, two spare oars and a steering oar; one set and a half of thole pins or crutches; a boat hook.
 - (b) Two plugs for each plug hole (plugs are not required when proper automatic valves are fitted); a bailer and a galvanised iron bucket.
 - (c) A rudder and a tiller or yoke and yoke lines.
 - (d) Two hatchets.
 - (e) A lamp filled with oil and trimmed.
 - (f) A mast or masts with one good sail at least, and proper gear for each.
 - (g) An efficient compass.
 - (h) A life-line becketed round the outside.
 - (i) A sea-anchor.
 - (j) A painter.
 - (k) A vessel containing four and a half litres (equivalent to one gallon) of vegetable or animal oil. The vessel shall be so constructed that the oil can be easily distributed on the water, and so arranged that it can be attached to the sea-anchor.
 - (l) An airtight receptacle containing one kilogramme (equivalent to two pounds) of provisions for each person.
 - (m) A watertight receptacle provided with a dipper with lanyard containing one litre (equivalent to one quart) of fresh water for each person.
 - (n) At least one dozen self-igniting " red lights " and a box of matches in watertight containers.
 - (o) Half a kilogramme (equivalent to one pound) of condensed milk for each person.
 - (p) A suitable locker for the stowage of the small items of the equipment.
 - (q) Any boat which is certified to carry 100 or more persons shall be fitted with a motor and shall comply with the requirements of Regulation XXVII.

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A motor lifeboat need not carry a mast or sails or more than half the complement of oars, but it shall carry two boathooks.

Decked lifeboats shall have no plug-hole, but shall be provided with at least two bilge-pumps.

In the case of a ship which carries passengers in the North Atlantic north of 35° North Latitude, only a proportion of the boats, to be fixed by the Administration, need be equipped with masts and sails, and only one-half the quantity of condensed milk need be carried.

- 2 Where the number of lifeboats carried on a ship is more than 13, one shall be a motor boat, and where the number is more than 19, two shall be motor boats. These motor lifeboats shall be fitted with a wireless telegraph installation and a searchlight.

The wireless telegraph installation shall comply with conditions as to range and efficiency to be decided by each Administration.

The searchlight shall include a lamp of at least 80 watts, an efficient reflector and a source of power which will give effective illumination of a light coloured object over a width of about 18 metres (60 feet) at a distance of 180 metres (200 yards) for a total period of six hours, and it shall be capable of working for three hours continuously.

Where the power for the wireless equipment and the searchlight are derived from the same source, this shall be sufficient to provide for the adequate working of both appliances.

- 3 The normal equipment of every approved life raft shall consist of—
- (a) Four oars.
 - (b) Five rowlocks.
 - (c) A self-igniting lifebuoy light.
 - (d) A sea-anchor.
 - (e) A painter.
 - (f) A vessel containing four and a half litres (equivalent to one gallon) of vegetable or animal oil. The vessel shall be so constructed that the oil can be easily distributed on the water, and so arranged that it can be attached to the sea-anchor.
 - (g) An airtight receptacle containing one kilogramme (equivalent to two pounds) of provisions for each person.
 - (h) A watertight receptacle provided with a dipper with lanyard containing one litre (equivalent to one quart) of fresh water for each person.
 - (i) At least one dozen self-igniting red lights and a box of matches in watertight containers.

- 4 In the case of a ship which is engaged in short international voyages, the Administration may exempt the boats from carrying the equipment specified under sub-paragraphs (f), (1) and (o) of paragraph 1 and from the requirements of paragraph 2, and may also exempt the life rafts from carrying the equipment specified in paragraph 3 (g).

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REGULATION XXXVII

Stowage and Handling of Boats and Life Rafts.

- 1 Subject to the conditions of Regulation XXXVIII, the lifeboats may be stowed one above the other, or they may, subject to such conditions as the Administration may impose, be fitted one within another, but where boats so fitted require lifting before being launched they shall only be permitted if mechanical power appliances for lifting are provided.
- (2) The lifeboats and life rafts additional to boats stowed under boats attached to davits may be stowed across a deck, bridge or poop and so secured that they will have the best chance of floating free of the ship if there is no time to launch them.
- (3) As large a number as possible of the additional boats referred to in paragraph 2 shall be capable of being launched on either side of the ship by means of approved appliances for transferring them from one side of the deck to the other.
- (4) Boats may only be stowed on more than one deck on condition that proper measures are taken to prevent boats on a lower deck being fouled by those stowed on a deck above.
- (5) Boats shall not be placed in the bows of the ship or in any positions in which they would be brought into dangerous proximity to the propellers at the time of launching.
- (6) Davits shall be of approved form and so disposed on one or more decks that the boats placed under them can be safely lowered without interference from the operation of any other davits.
- (7) The davits, blocks, falls and all other gear shall be of such strength that the boats can be safely lowered with the full complement of persons and equipment, with the ship listed to 15 degrees either way. The falls shall be long enough to reach the water with the vessel at her Ugh test seagoing draught and with a list of 15 degrees.
- (8) The davits shall be fitted with gear of sufficient power to ensure that the boats, fully equipped and manned, but not otherwise loaded with passengers, can be turned out against the maximum list at which the lowering of the boats is possible.
- (9) The boats attached to the davits shall have the falls ready for service, and means shall be provided for speedily, but not necessarily simultaneously, detaching the boats from the falls.
- (10) Where more than one boat is served by the same set of davits, if the falls are of rope, separate falls shall be provided to serve each boat, but where wire falls are used with mechanical appliances for recovering them, separate falls need not be provided. The appliances used must be such as to ensure lowering the boats in turn and rapidly.
- Where mechanical appliances are fitted for the recovery of the falls efficient hand gear shall also be provided.
- 11 On short international voyages where the height of the boat deck above the water line when the vessel is at her lightest sea-going draught does not exceed 4-5 metres (15 feet), the requirements as to strength of davits and turning-out gear in subparagraphs 7, 8 and 10 shall not apply.

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REGULATION XXXVIII

Number and Capacity of Boats, Life Rafts, die, and Davits.

- (1) A ship shall be provided with sets of davits in accordance with its length as provided in Column A of the Table in Regulation XXXIX, provided that a-number of sets of davits greater than the number of boats necessary for the accommodation of all the persons on board shall not be required.

Each set of davits shall have a boat of Class I attached to it. If the lifeboats attached to davits do not provide sufficient accommodation for all the persons on board, additional lifeboats of one of the standard types shall be provided. One additional lifeboat shall, in the first place, be stowed under each of the boats attached to davits. After these have been fitted other boats shall be carried inboard, but an Administration may, if it is of opinion that life rafts will be more readily available and otherwise more satisfactory than these lifeboats in a case of emergency, allow life rafts to be carried provided that the total capacity of the boats on the ship will be at least up to the minimum capacity required by Column C of the Table in Regulation XXXIX

When in the opinion of the Administration it is neither practicable nor reasonable to place on a ship the number of sets of davits required by Column A of the Table in Regulation XXXIX, the Administration may authorise, under exceptional conditions, a smaller number of sets of davits, provided always that this number shall never be less than the minimum number fixed by Column B of the Table and that the total capacity of the boats on the ship will be at least up to the minimum capacity required by Column C.

- (2) A ship engaged on short international voyages shall be provided with sets of davits in accordance with its length as provided in Column A of the Table in Regulation XXXIX. Each set of davits shall have a boat of Class I attached to it. If the lifeboats attached to davits do not provide the minimum cubic capacity specified in Column D of the Table in Regulation XXXIX or provide accommodation for all persons on board, additional lifeboats of one of the standard types, approved life rafts or other approved buoyant apparatus shall be provided, and the accommodation thus provided shall be sufficient for all on board.

When in the opinion of the Administration it is neither practicable nor reasonable to place on a ship engaged in short international voyages, the number of sets of davits required by Column A of the Table in Regulation XXXIX, the Administration may authorise, under exceptional conditions, a smaller number of sets of davits, provided always that this number shall never be less than the minimum number fixed by Column B of the Table, and that the total capacity of the boats on the ship will be at least up to the minimum capacity required by Column D.

REGULATION XXXIX

Table relating to davits and lifeboat capacity.

The following table fixes, according to the length of the ship—

- (A) *The minimum number of sets of davits to be provided to each of which must be attached a boat of Class I in accordance with Regulation XXXVIII above.*
- (B) *The smaller number of sets of davits which may be authorised exceptionally under Regulation XXXVIII.*

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(C) *The minimum life-boat capacity required, including the life-boats attached to davits and the additional boats, in accordance with Regulation XXXVIII.*

(D) *The minimum life-boat capacity required for a ship engaged in short international voyages.*

Registered Length of the Ship.		(A.) Minimum Number of Sets of Davits.	(B.) Smaller Number of Sets of Davits authorised exceptionally.	(C.) Minimum Capacity of Lifeboats.		(D.) Minimum Capacity of Lifeboats.	
Metres.	Feet.			Cubic Metres.	Cubic Feet.	Cubic Metres.	Cubic Feet.
31 and under 37	100 and under 120	2	2	28	980	11	400
37 and under 43	120 and under 140	2	2	35	1,220	17	600
43 and under 49	140 and under 160	2	2	44	1,550	24	850
49 and under 53	160 and under 175	3	3	63	1,880	33	1,150
53 and under 58	175 and under 190	3	3	68	2,390	37	1,300
58 and under 63	190 and under 205	4	4	78	2,740	41	1,450
63 and under 67	205 and under 220	4	4	94	3,330	45	1,600
67 and under 70	220 and under 230	6	4	110	3,900	48	1,700
70 and under 75	230 and under 245	5	4	129	4,560	52	1,850
75 and under 78	245 and under 255	6	5	144	5,100	60	2,100
78 and under 82	255 and under 270	6	5	160	5,640	68	2,400
82 and under 87	270 and under 285	7	5	175	6,190	76	2,700
87 and under 91	285 and under 300	7	5	196	6,930	85	3,000

Note on (A) and (B).—When the length of the ship exceeds 314 metres (equivalent to 1,030 feet) the Administration shall determine the minimum number of sets of davits for that ship; full particulars of its decision shall be communicated to the other Administrations.

Note on (C) and (D).—For the purposes of this table the capacity of a boat of Class II is obtained by multiplying the number of persons for which the boat is certified by 0.283 to obtain the capacity in cubic metres and by 10 to obtain the capacity in cubic feet.

Note on (D).—When the length of a ship is under 31 metres (equivalent to 100 feet) or over 168 metres (equivalent to 550 feet) the cubic capacity of the lifeboats shall be prescribed by the Administration.

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Registered Length of the Ship.		(A.) Minimum Number of Sets of Davits.	(B.) Smaller Number of Sets of Davits authorised exceptionally.	(C.) Minimum Capacity of Lifeboats.		(D.) Minimum Capacity of Lifeboats.	
Metres.	Feet.			Cubic Metres.	Cubic Feet.	Cubic Metres.	Cubic Feet.
91 and under 96	300 and under 315	8	6	214	7,550	94	3,300
96 and under 101	315 and under 330	8	6	235	8,290	105	3,700
101 and under 107	330 and under 350	9	7	255	9,000	116	4,100
107 and under 113	350 and under 370	9	7	273	9,630	126	4,400
113 and under 119	370 and under 390	10	7	301	10,650	133	4,700
119 and under 125	390 and under 410	10	7	331	11,700	144	5,100
125 and under 133	410 and under 435	12	9	370	13,060	156	5,500
133 and under 140	435 and under 460	12	9	408	14,430	170	6,000
140 and under 149	460 and under 490	14	10	451	15,920	185	6,550
149 and under 159	490 and under 520	14	10	490	17,310	201	7,100
159 and under 168	520 and under 550	16	12	530	18,720	217	7,650
168 and under 177	550 and under 580	16	12	576	20,350		
177 and under 186	580 and under 610	18	13	620	21,900		
186 and under 195	610 and under 640	18	13	671	23,700		

Note on (A) and (B).—When the length of the ship exceeds 314 metres (equivalent to 1,030 feet) the Administration shall determine the minimum number of sets of davits for that ship; full particulars of its decision shall be communicated to the other Administrations.

Note on (C) and (D).—For the purposes of this table the capacity of a boat of Class II is obtained by multiplying the number of persons for which the boat is certified by 0.283 to obtain the capacity in cubic metres and by 10 to obtain the capacity in cubic feet.

Note on (D).—When the length of a ship is under 31 metres (equivalent to 100 feet) or over 168 metres (equivalent to 550 feet) the cubic capacity of the lifeboats shall be prescribed by the Administration.

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Registered Length of the Ship.		(A.) Minimum Number of Sets of Davits.	(B.) Smaller Number of Sets of Davits authorised exceptionally.	(C.) Minimum Capacity of Lifeboats.		(D.) Minimum Capacity of Lifeboats.	
Metres.	Feet.			Cubic Metres.	Cubic Feet.	Cubic Metres.	Cubic Feet.
195 and under 204	640 and under 670	20	14	717	25,350		
204 and under 213	670 and under 700	20	14	766	27,050		
213 and under 223	700 and under 730	22	15	808	28,560		
223 and under 232	730 and under 760	22	15	854	30,180		
232 and under 241	760 and under 790	24	17	908	32,100		
241 and under 250	790 and under 820	24	17	972	34,350		
250 and under 261	820 and under 855	26	18	1,031	36,450		
261 and under 271	855 and under 890	26	18	1,097	38,750		
271 and under 282	890 and under 925	28	19	1,160	41,000		
282 and under 293	925 and under 960	28	19	1,242	43,880		
293 and under 303	960 and under 996	30	20	1,312	46,350		
303 and under 314	995 and under 1,030	30	20	1,380	48,750		

Note on (A) and (B).—When the length of the ship exceeds 314 metres (equivalent to 1,030 feet) the Administration shall determine the minimum number of sets of davits for that ship; full particulars of its decision shall be communicated to the other Administrations.

Note on (C) and (D).—For the purposes of this table the capacity of a boat of Class II is obtained by multiplying the number of persons for which the boat is certified by 0-283 to obtain the capacity in cubic metres and by 10 to obtain the capacity in cubic feet.

Note on (D).—When the length of a ship is under 31 metres (equivalent to 100 feet) or over 168 metres (equivalent to 550 feet) the cubic capacity of the lifeboats shall be prescribed by the Administration.

REGULATION XL

Life-Jackets and Life-Buoys.

1 A life-jacket shall satisfy the following requirements:—

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- (a) It shall be constructed with proper workmanship and materials;
- (b) It shall be capable of supporting in fresh water for 24 hours 7.5 kilogrammes of iron (equivalent to 16 ½ pounds);
- (c) It shall be reversible.

Life-jackets the buoyancy of which depends on air compartments are prohibited.

2 A lifebuoy shall satisfy the following requirements :—

- (a) It shall be of solid cork or any other equivalent material;
- (b) It shall be capable of supporting in fresh water for 24 hours at least 14-6 kilogrammes (equivalent to 32 pounds) of iron.

Life-buoys 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.

3 The minimum number of life-buoys with which ships are to be provided is fixed by the following table :—

Length of the Ship. Metres.	Equivalent in Feet.	Minimum Number of Buoys.
Under 61	Under 200	8
61 and under 122	200 and under 400	12
122 and under 183	400 and under 600	18
183 and under 244	600 and under 800	24
244 and over	800 and over	30

4 All the buoys shall be fitted with beackets securely seized. At least one buoy on each side shall be fitted with a life-line of at least 27-6 metres (15 fathoms) in length. Not less than one-half of the total number of life-buoys, and in no case less than six, shall be provided with efficient self-igniting fights which cannot be extinguished in water, and these shall be kept near the buoys to which they belong, with the necessary means of attachment.

5 All the life-buoys and life-jackets shall be so placed as to be readily accessible to the persons on board; their position shall be plainly indicated so as to be known to the persons concerned.

The life-buoys shall always be capable of being rapidly cast loose and shall not be permanently secured in any way.

REGULATION XLI

Certificated Lifeboatmen.

In order to obtain the special lifeboatman's certificate provided for in Article 22 of the present Convention, the applicant must prove that he has been trained in all the operations connected with launching lifeboats and the use of oars; that he is acquainted with the practical handling of the boats themselves; and, further, that he is capable of understanding and answering the orders relative to lifeboat service.

There shall be for each boat or life-raft a number of lifeboat-men at least equal to that specified in the following table :—

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	The Minimum Number of Certificated Life-boatmen shall be :
If the Prescribed Complement is :	
Less than 41 persons	2
From 41 to 61 persons	3
From 62 to 85 persons	4
Above 85 persons	5

REGULATION XLII

Manning of Boats.

A deck officer or certificated lifeboatman shall be placed in charge of each boat or life-raft and a second in command shall also be nominated. The person in charge shall have a list of its crew, and shall see that the men placed under his orders are acquainted with their several duties.

A man capable of working the motor shall be assigned to each motor boat.

A man capable of working the wireless and searchlight installations shall be assigned to boats carrying this equipment.

The duty of seeing that the boats, life-rafts and buoyant apparatus and other lifesaving apparatus are at all times ready for use shall be assigned to one or more officers.

REGULATION XLIII

Fire Detection and Extinction.

- 1 An efficient patrol system shall be maintained, so that any outbreak of fire may be promptly detected. In addition, a fire alarm or fire detecting system shall be provided, which will automatically indicate or register at one or more points or stations where it can be most quickly observed by officers and crew, the presence or indication of fire in any part of the ship not accessible to the patrol system.
- 2 Every ship shall be provided with powerful pumps, operated by steam or other means. On ships of less than 4,000 tons gross there shall be two, and on larger ships three of these pumps. Each of the pumps shall be capable of delivering a sufficient quantity of water in two powerful jets simultaneously in any given part of the ship, and shall be available for immediate use before the ship leaves port.
- 3 The service pipes shall permit of two powerful jets of water being simultaneously directed on any given part of a deck occupied by passengers and crew, when the watertight and fire-resisting doors are closed. The service pipes and hoses shall be of ample size and made of suitable material. The branches of the pipes shall be so placed on each deck that the fire hose can be easily coupled to them.
- 4 Provision shall be made whereby at least two powerful jets of water can be rapidly and simultaneously directed into any space containing cargo. In addition, arrangements shall be made whereby smothering gas sufficient to give a minimum volume of free gas equal to 30 per cent. of the gross volume of the largest hold in the ship can be promptly conveyed by a permanent piping system into each compartment in which cargo is carried. Steam in adequately equivalent proportion may be accepted in place of smothering gas on steam-driven ships. Provision for

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the supply of smothering gas or steam need not be required in ships of less than 1,000 tons gross.

- 5 A sufficient number of portable fluid fire extinguishers shall be provided, at least two being carried in each machinery space.
- 6 Two equipments, consisting of a smoke helmet or breathing apparatus and a safety lamp, shall be carried on board, and kept in two widely separated places.
- 7 In steamships in which the main boilers are oil fired, there shall be provided in addition to means whereby two powerful jets of water may be rapidly and simultaneously directed into any part of the machinery spaces—
- (a) Suitable conductors for spraying water on oil without undue disturbance of the surface.
 - (b) In each firing space, a receptacle containing 283 cubic decimetres (10 cubic feet) of sand, sawdust impregnated with soda, or other approved dry materials, and scoops for distributing the same.
 - (c) In each boiler room, and in each of the machinery spaces in which a part of the oil fuel installation is situated, two approved portable extinguishers of a type discharging froth or other approved medium suitable for quenching oil fires.
 - (d) Means whereby froth may be rapidly discharged and distributed over the whole of the lower part of the boiler room or of any one boiler room, if there are more than one, or of any machinery space in which oil fuel units or settling tanks are situated. The quantity of froth which can be discharged shall be ample to cover to a depth of 15.24 centimetres (6 inches) the whole area of the plating formed in any one compartment by the inner bottom plating, or by the shell plating of the vessel, if there is no double-bottom tank. If the engine and boiler rooms are not entirely separate, and fuel can drain from the boiler room bilges into the engine room, the combined engine and boiler rooms shall be considered as one compartment. The apparatus shall be operated and controlled from outside the compartment in which the fire may occur.
 - (e) In addition to the foregoing, one extinguisher of the froth type of at least 136 litres (30 gallons) capacity in steamships having one boiler room and two such extinguishers in steamships with more than one boiler room. These extinguishers shall be provided with hoses on reels suitable for reaching any part of the boiler rooms and spaces containing oil-fuel pumping units. Equally efficient apparatus may be accepted in place of the 136 litres (30-gallons) extinguishers.
 - (f) All containers and valves by which they are operated shall be easily accessible and so placed that they will not readily be cut off from use by an outbreak of fire.
- (8) In vessels propelled by internal combustion engines there shall be provided in each of the machinery spaces, in addition to means whereby two powerful jets of water may be rapidly and simultaneously directed into any part of the machinery spaces, together with suitable spraying conductors, froth extinguishers as follows :—
- (a) At least one approved 45 litres (10-gallons) extinguisher with an addition of one approved 9 litres (2-gallons) extinguisher for each 1,000 B.H.P. of the engines, but the total number of 9 litres (2-gallons) extinguishers so supplied shall be not less than two and need not exceed six.

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- (b) When a donkey boiler is situated in the machinery space there shall be provided, in place of the 45 litres (10-gallons) extinguisher mentioned above, one of 136 litres (30 gallons) capacity, fitted with suitable hose attachments or other approved methods for distributing the froth.
- (9) In steamships using oil fuel, if the engine and boiler rooms are not entirely separated by a steel bulkhead, and if fuel oil can drain from the boiler-room bilges into the engine room, one of the fire pumps shall be situated in the tunnel or other space outside the machinery compartment. When more than two pumps are required they shall not all be fitted in the same space.
- (10) Where any special type of appliance, extinguishing medium or arrangement is specified, any other type of appliance, &c, may be allowed, provided that it is not less effective than the specified one. For example—a Carbon Dioxide system may be accepted in place of a froth installation (paragraph (7), sub-paragraphs (d) and (e)), provided that the quantity of carbon dioxide carried is sufficient to give a gas saturation of about 25 per cent. for the gross volume of the stokehold to about the top of the boilers.
- (11) All the fire-extinguishing appliances shall be thoroughly examined at least once each year by a surveyor appointed by the Administration.

REGULATION XLIV

Muster List.

The muster list shall assign duties to the different members of the crew in connexion with—

- (a) The closing of the watertight doors, valves, &c.
- (b) The equipment of the boats, life rafts and buoyant apparatus generally.
- (c) The launching of the boats attached to davits.
- (d) The general preparation of the other boats, the life rafts and buoyant apparatus.
- (e) The muster of the passengers.
- (f) The extinction of fire.

The muster list shall assign to the members of the stewards' department their several duties in relation to the passengers at a time of emergency. These duties shall include :—

- (a) Warning the passengers.
- (b) Seeing that they are dressed and have put on their life-jackets in a proper manner.
- (c) Assembling the passengers at muster stations.
- (d) Keeping order in the passages and on the stairways, and, generally, controlling the movements of the passengers.

The muster list shall specify definite signals for calling all the crew to their boat and fire stations, and shall give full particulars of these signals.

REGULATION XLV

Musters and Drills.

Musters of the crew for boat drill shall take place weekly when practicable, and in vessels in which the voyage exceeds one week, before leaving port. The dates upon which musters are held shall be recorded in the Official Log Book and, if in any week a muster is not held, an entry shall be made stating why a muster was not practicable.

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In ships in which the voyage exceeds one week practice musters of passengers should be held at an early period of each voyage.

Different groups of boats shall be used in turn at successive boat drills. The drills and inspections shall be so arranged that the crew thoroughly understand and are practised in the duties they have to perform, and that all lifesaving appliances with the gear appertaining to them are always ready for immediate use.

The emergency signal for summoning passengers to muster stations shall be a succession of more than six short blasts followed by one long blast on the whistle or syren. This shall be supplemented on all ships except those engaged in short international voyages by other electrically operated signals throughout the ship controlled from the bridge. The meaning of all signals affecting passengers shall be clearly stated in different languages on cards posted in their cabins and in other passenger quarters.