EXPLANATORY NOTE

(This Note is not part of the Rules, but is intended to indicate their general purport.)

Section 24 (3) of the Merchant Shipping (Safety Convention) Act, 1949, provides that any particular precaution prescribed by rules made by the Minister of Transport in relation to the loading of grain as a necessary or reasonable precaution to prevent grain from shifting shall be so treated for the purposes of subsections (1) and (2) of that section. The Schedule to these Rules prescribes the particular precautions that are to be so treated in the case of ships which are loaded with grain within ports in the United Kingdom or enter ports in the United Kingdom so laden.

1952 No. 1949

The Merchant Shipping (Life-Saving Appliances) Rules, 1952

Made - - - - 11*th November*, 1952
Laid before Parliament 13*th November*, 1952
Coming into Operation 19*th November*, 1952

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The Minister of Transport in exercise of the powers conferred upon him by Section 427 of the Merchant Shipping Act, 1894(**a**), as substituted by Section 2 of the Merchant Shipping (Safety Convention) Act, 1949(**b**), and of all other powers him enabling in that behalf, hereby makes the following Rules:—

Interpretation and Repeal

1.—(1) These Rules shall come into operation on the 19th November, 1952, and may be cited as the Merchant Shipping (Life-Saving Appliances) Rules, 1952.

(2) In these Rules, unless the context otherwise requires, the following expressions have the meanings hereby respectively assigned to them, that is to say:—

"Buoyant apparatus" means flotation equipment (other than lifebuoys and lifejackets) designed to support persons who are in the water.

"Certified" means certified by a certificate issued under Section 274 of the Principal Act.

"Class A motor lifeboat" means a lifeboat complying with the requirements of paragraph (1) of Rule 22 of these Rules.

"Class B motor lifeboat" means a lifeboat complying with the requirements of paragraph (2) of Rule 22 of these Rules.

"Fishing boat" has the same meaning as in Section 370 of the Merchant Shipping Act, 1894.

"Length" in relation to a registered ship means registered length.

"Long international voyage" means an international voyage which is not a short international voyage within the meaning of the Merchant Shipping (Safety Convention) Act, 1949.

"Mechanically propelled lifeboat" means a lifeboat (other than a motor lifeboat) complying with the requirements of Rule 24 of these Rules.

(a) 57 & 58 Vict. c. 60. (b) 12, 13 & 14 Geo. 6. c. 43.

" The Minister " means the Minister of Transport.

" Passenger certificate " means a passenger steamer's certificate issued by the Minister pursuant to Section 274 of the Merchant Shipping Act, 1894.

" Passenger steamer " means a steamer carrying more than 12 passengers.

" Person " means a person over the age of one year.

" Steamer " includes a ship propelled by electricity or other mechanical power.

" Tanker " means a cargo ship constructed or adapted for the carriage in bulk of liquid cargoes of an inflammable nature.

(3) These Rules apply to—

(*a*) British ships, except ships registered in Canada, the Commonwealth of Australia, New Zealand, the Union of South Africa, India, Pakistan, Ceylon, the Republic of Ireland, or in any territory administered by the Government of any of the aforesaid countries;

(*b*) other ships while they are within any port in the United Kingdom.

Provided that these Rules shall not apply to—

(i) a ship by reason of her being within a port in the United Kingdom if she would not have been in any such port but for stress of weather or any other circumstance that neither the master nor the owner nor the charterer (if any) of the ship could have prevented or forestalled;

(ii) pleasure yachts which are not passenger steamers and do not exceed 15 tons burden.

(4) The Interpretation Act, 1889(**a**), shall apply to the interpretation of these Rules as it applies to the interpretation of an Act of Parliament.

(5) The Merchant Shipping (Life-Saving Appliances) Rules, 1948(**b**), the Merchant Shipping (Life-Saving Appliances) (No. 2) Rules, 1948(**c**), and the Merchant Shipping (Life-Saving Appliances) (Amendment) Rules, 1951(**d**), are hereby revoked.

Classification of Ships

2. For the purposes of these Rules the ships to which these Rules apply shall be arranged in the following classes:—

Passenger Ships

Class I. Passenger steamers engaged on voyages any of which are long international voyages.

Class II. Passenger steamers engaged on voyages (not being long international voyages) any of which are short international voyages.

Class II(A). Passenger steamers in respect of which there is in force a passenger steamer's certificate entitled " Passenger Certificate, Class II(A) ".

Class III. Passenger steamers in respect of which there is in force a passenger steamer's certificate entitled " Passenger Certificate, Class III ".

Class IV. Passenger steamers in respect of which there is in force a passenger steamer's certificate entitled " Passenger Certificate, Class IV ".

Class V. Passenger steamers in respect of which there is in force a passenger steamer's certificate entitled " Passenger Certificate, Class V ".

(a) 52 & 53 Vict. c. 63.
(b) S.I. 1948/1007; Rev. XIV, p. 302; 1948 I, p. 1910.
(c) S.I. 1948/1008; Rev. XIV, p. 332; 1948 I, p. 1939.
(d) S.I. 1951/1718; 1951 I, p. 1306.

Class VI. Passenger steamers in respect of which there is in force a passenger steamer's certificate entitled "Passenger Certificate, Class VI".

Class VI(A). Passenger steamers in respect of which there is in force a passenger steamer's certificate entitled "Passenger Certificate, Class VI(A)".

Non-Passenger Ships

Class VII. Steamers (other than ships of Classes I, VII(A), IX, X and XII) engaged on voyages any of which are long international voyages.

Class VII(A). Steamers engaged only in the whaling industry.

Class VIII. Steamers (other than ships of Classes II, IX, X and XII) engaged on voyages (not being long international voyages) any of which are short international voyages.

Class VIII(A). Steamers (other than ships of Classes II(A) to VI(A) inclusive, IX, IX(A), X and XII) engaged only on voyages which are not international voyages.

Class IX. Tugs, tenders, launches, lighters, dredgers, barges and hoppers (other than ships of Classes I to VI(A) inclusive, and XI), which are employed within Home-trade limits and proceed to sea.

Class IX(A). Tugs, tenders, launches, lighters, dredgers, barges and hoppers (other than ships of Classes III to VI(A) inclusive, and Class XI), which do not proceed to sea.

Class X. Fishing boats other than ships of Classes I to VI(A) inclusive.

Class XI. Sailing ships (other than fishing boats and ships of Class XII) which proceed to sea.

Class XII. Pleasure yachts (other than ships of Classes I to VI(A) inclusive) exceeding 15 tons burden.

Provision of Life-Saving Appliances

3. All lifeboats and buoyant apparatus carried in compliance with these Rules shall comply with the following conditions:—

(*a*) They must be capable of being put into the water safely and rapidly even under unfavourable conditions of list and trim.

(*b*) They shall be so constructed that it is possible to effect embarkation into the lifeboats rapidly and in good order.

(*c*) The arrangement of each lifeboat and article of buoyant apparatus must be such that it will not interfere with the operation of other lifeboats and buoyant apparatus.

Ships of Class I

4.—(1) This Rule applies to ships of Class I.

(2) Every ship to which this Rule applies shall, subject to the provisions of Rule 46 of these Rules, be fitted, in accordance with its length, with the number of sets of davits specified in column A of the table set out in the First Schedule to these Rules.

Provided that no ship shall be required to be fitted with a number of sets of davits greater than the number of lifeboats required to accommodate the total number of persons which the ship is certified to carry.

(3) A lifeboat shall be attached to every such set of davits.

(4) Every ship to which this Rule applies shall carry two boats attached to davits—one on each side of the ship—for use in an emergency. These boats shall not be more than 26 feet in length. They may be counted as lifeboats for the purposes of paragraph (5) of this Rule if they comply with the requirements of these Rules applying to lifeboats, except that in ships in which the requirements of paragraph (8) of Rule 34 of these Rules 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 Rule.

(5) Where the lifeboats carried in compliance with the foregoing provisions of this Rule will not accommodate the total number of persons which the ship is certified to carry, additional sets of davits with lifeboats attached shall be fitted as far as is practicable in the circumstances to make up the deficiency in such accommodation. If it is impracticable to fit such additional sets of davits, additional lifeboats, sufficient to make up the said deficiency shall be carried under each or any of the lifeboats attached to davits, but shall not be carried under the two emergency boats carried in compliance with paragraph (4) of this Rule.

(6) The lifeboats carried in compliance with this Rule shall be not less than 24 feet in length.

(7) Where the number of lifeboats carried in compliance with this Rule is 20 or more, two of such lifeboats shall be Class A motor lifeboats.

(8) Where the number of lifeboats carried in compliance with this Rule is more than 13 but less than 20, one of such lifeboats shall be a Class A motor lifeboat and a second of such lifeboats shall be either a Class A motor lifeboat or a Class B motor lifeboat or a mechanically propelled lifeboat.

(9) Where the number of lifeboats carried in compliance with this Rule is 13 or less, one of such lifeboats shall be a Class A motor lifeboat or a Class B motor lifeboat or a mechanically propelled lifeboat.

(10) Every Class A motor lifeboat carried in compliance with this Rule shall be fitted with radiotelegraph equipment, a searchlight and other electrical equipment in each case complying with the requirements of Rule 32 of these Rules.

(11) Every ship to which this Rule applies which does not carry two Class A motor lifeboats fitted with radiotelegraph equipment, a searchlight and other electrical equipment complying with the requirements of Rule 32 of these Rules shall carry portable radiotelegraph equipment which shall comply with the requirements of Rule 33 of these Rules.

(12) Every ship to which this Rule applies shall carry buoyant apparatus sufficient to support 25 per cent. of the total number of persons which the ship is certified to carry.

(13) Every ship to which this Rule applies shall carry at least the number of lifebuoys determined in accordance with the following table:—

Length of Ship in Feet	*Minimum number of lifebuoys*
Under 200	8
200 and under 400	12
400 and under 600	18
600 and under 800	24
800 and over	30

(14) Every ship to which this Rule applies shall carry one lifejacket for each person the ship is certified to carry.

(15) Every ship to which this Rule applies shall carry a line-throwing appliance.

Ships of Class II

5.—(1) This Rule applies to ships of Class II.

(2) Every ship to which this Rule applies shall, subject to the provisions of Rule 46 of these Rules, be fitted, in accordance with its length, with the number of sets of davits specified in Column A of the table set out in the First Schedule to these Rules. Provided that no ship shall be required to be fitted with a number of sets of davits greater than the number of lifeboats required to accommodate the total number of persons which the ship is certified to carry.

(3) A lifeboat of not less than 24 feet in length shall be attached to each set of davits and the lifeboats so attached shall together provide at least the capacity specified in Corumn C of the table set out in the First Schedule to these Rules.

(4) Every ship to which this Rule applies shall carry two boats attached to davits—one on each side of the ship—for use in an emergency. These boats shall not be more than 26 feet in length. They may be counted as lifeboats for the purposes of paragraph (3) of this Rule if they comply with the requirements of these Rules applying to lifeboats, except that in ships in which the requirements of paragraph (8) of Rule 34 of these Rules 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 Rule.

(5) If in the opinion of the Minister the volume of traffic so requires, the Minister may permit any ship to which this Rule applies, being a ship which is subdivided in accordance with the requirements of Part III of the Second Schedule to the Merchant Shipping (Construction) Rules, 1952(a), to carry persons in excess of the lifeboat capacity provided on board that ship in compliance with this Rule.

Provided, however, that if such a ship is permitted by the Minister, in pursuance of sub-section (5) of Section 12 of the Merchant Shipping (Safety Convention) Act, 1949, to proceed to sea from a port in the United Kingdom on an international voyage exceeding 600 nautical miles between the last port of call in the United Kingdom and the final port of destination such ship shall carry lifeboats affording accommodation for 75 per cent. of the persons on board.

(6) Subject to the provisions of paragraph (5) of this Rule, where the lifeboats carried in compliance with paragraph (3) of this Rule will not accommodate the total number of persons which the ship is certified to carry, either additional lifeboats shall be carried under davits or buoyant apparatus shall be carried so that the total number of lifeboats together with such buoyant apparatus shall be sufficient for the total number of persons which the ship is certified to carry.

(7) Where the number of lifeboats carried in compliance with this Rule is 20 or more, two of such lifeboats shall be Class A motor lifeboats.

(8) Where the number of lifeboats carried in compliance with this Rule is more than 13 but less than 20, one of such lifeboats shall be a Class A motor lifeboat and a second shall be either a Class A motor lifeboat or a Class B motor lifeboat or a mechanically propelled lifeboat.

(a) S.I. 1952/1948, p. 1743 above.

(9) Where the number of lifeboats carried in compliance with this Rule is 13 or less, one of such lifeboats shall be a Class A motor lifeboat or a Class B motor lifeboat or a mechanically propelled lifeboat.

(10) Every Class A motor lifeboat carried in compliance with this Rule shall be fitted with a radiotelegraph equipment, a searchlight and other electrical equipment, in each case complying with the requirements of Rule 32 of these Rules.

(11) Every ship to which this Rule applies which does not carry two Class A motor lifeboats fitted with radiotelegraph equipment, a searchlight and other electrical equipment complying with the requirements of Rule 32 of these Rules shall carry portable radiotelegraph equipment which shall comply with the requirements of Rule 33 of these Rules. Provided that in the case of any ship engaged on voyages of such duration that, in the opinion of the Minister, portable radiotelegraph equipment is unnecessary, he may allow this apparatus to be dispensed with.

(12) Every ship to which this Rule applies shall carry in addition to any buoyant apparatus carried in compliance with paragraph (6) of this Rule buoyant apparatus sufficient to support 10 per cent. of the total number of persons which the ship is certified to carry.

(13) Every ship to which this Rule applies shall carry at least the number of lifebuoys determined in accordance with the following table:—

Length of Ship in Feet.	*Minimum number of lifebuoys.*
Under 200	8
200 and under 400	12
400 and under 600	18
600 and under 800	24
800 and over	30

(14) Every ship to which this Rule applies shall carry one lifejacket for each person the ship is certified to carry.

(15) Every ship to which this Rule applies shall carry a line-throwing appliance.

Ships of Class II(A)

6. Rule 5 of these Rules shall apply to ships of Class II(A) as it applies to ships of Class II.

Ships of Class III

7.—(1) This Rule applies to ships of Class III.

(2) Every ship to which this Rule applies, shall, subject to the provisions of Rule 46 of these Rules, be fitted with the number of sets of davits specified in the table set out in the Second Schedule to these Rules.

Provided that no ship shall be required to be fitted with a number of sets of davits greater than the number of lifeboats required to accommodate the total number of persons which the ship is certified to carry.

(3) A lifeboat shall be attached to every such set of davits.

(4) Such additional lifeboats, or such buoyant apparatus, shall be provided as shall be sufficient, together with the lifeboats required by paragraph (3) of this Rule, for 70 per cent. of the total number of persons which the ship is certified to carry.

(5) The lifeboats carried in compliance with this Rule shall, where reasonable and practicable, be not less than 20 feet in length.

(6) Every ship to which this Rule applies shall carry at least eight lifebuoys.

(7) Every ship to which this Rule applies shall carry one lifejacket for each person the ship is certified to carry.

(8) Every ship to which this Rule applies shall carry a line-throwing appliance.

Ships of Class IV

8.—(1) This Rule applies to ships of Class IV.

(2) Every ship to which this Rule applies shall, subject to the provisions of Rule 46 of these Rules, be fitted with the number of sets of davits specified in the table set out in the Second Schedule to these Rules.

Provided that no ship shall be required to be fitted with a number of sets of davits greater than the number of lifeboats required to accommodate the total number of persons which the ship is certified to carry.

(3) A lifeboat shall be attached to each set of davits.

(4) Such additional lifeboats, or such buoyant apparatus, shall be provided as shall be sufficient, together with the lifeboats required by paragraph (3) of this Rule, for 60 per cent. of the total number of persons which the ship is certified to carry.

(5) If a ship to which this Rule applies is under 200 feet in length it shall carry at least four lifebuoys and if such a ship is 200 feet or over in length it shall carry at least eight lifebuoys.

(6) Every ship to which this Rule applies shall carry one lifejacket for each person the ship is certified to carry.

(7) Every ship to which this Rule applies shall carry a line-throwing appliance.

Ships of Class V

9.—(1) This Rule applies to ships of Class V.

(2) Every ship to which this Rule applies shall carry such lifeboats or buoyant apparatus as shall be sufficient, together with any boats required to be carried in compliance with paragraph (3) of this Rule, for 40 per cent. of the total number of persons which the ship is certified to carry.

(3) Every ship to which this Rule applies being a ship of 70 feet or over in length and under 150 feet in length, shall carry at least one boat, and if such a ship is 150 feet or over in length, at least two boats. The boats shall be attached to davits.

(4) If a ship to which this Rule applies is under 150 feet in length it shall carry at least four lifebuoys and if such a ship is 150 feet or over in length it shall carry at least six lifebuoys.

(5) Every ship to which this Rule applies shall carry one lifejacket for each person the ship is certified to carry, unless the boats, buoyant apparatus and lifebuoys carried in the ship are sufficient for the total number of persons which the ship is certified to carry.

(6) For the purposes of this Rule a lifebuoy shall be deemed sufficient to support two persons.

Ships of Class VI

10.—(1) This Rule applies to ships of Class VI.

(2) Rule 9 of these Rules shall apply to ships of Class VI, being ships of 70 feet in length or over, as it applies to ships of Class V.

(3) Every ship to which this Rule applies of less than 70 feet in length and plying not more than three nautical miles from its starting point in any direction shall be provided with buoyant apparatus sufficient to support at least 40 per cent. of the total number of persons which the ship is certified to carry, together with lifebuoys of a number not less than that specified in paragraph (5) of this Rule, so however that the buoyant apparatus, together with the lifebuoys, shall in all cases be sufficient to support at least 70 per cent. of the total number of persons which the ship is certified to carry.

(4) Every ship to which this Rule applies of less than 70 feet in length and plying more than three nautical miles from its starting point shall be provided with buoyant apparatus sufficient to support at least 60 per cent. of the total number of persons which the ship is certified to carry together with lifebuoys, of a number not less than that specified in paragraph (5) of this Rule, so however that the buoyant apparatus, together with the lifebuoys, shall in all cases be sufficient to support the total number of persons which the ship is certified to carry.

(5) Every ship to which this Rule applies shall carry at least the number of lifebuoys determined by the following table:—

Length of Ship	*Minimum number of lifebuoys*
Ships not over 30 feet in length	2
Ships over 30 feet and not over 35 feet	4
Ships over 35 feet and not over 40 feet	6
Ships over 40 feet and not over 50 feet	8
Ships over 50 feet and not over 70 feet	10

(6) For the purposes of this Rule a lifebuoy shall be deemed sufficient to support two persons.

(7) In the case of ships to which this Rule applies not exceeding 30 feet in length the Minister may allow lifebuoys to be carried in lieu of part or all of the buoyant apparatus required to be carried in pursuance of paragraphs (3) and (4) of this Rule.

(8) Every ship to which this Rule applies shall carry at least two buoyant smoke signals capable of giving off orange-coloured smoke.

Ships of Class VI(A)

11.—(1) This Rule applies to ships of Class VI(A).

(2) Rule 8 of these Rules shall apply to ships of Class VI(A) being ships of 70 feet in length or over, as it applies to ships of Class IV.

(3) Every ship to which this Rule applies of less than 70 feet in length shall be provided with buoyant apparatus sufficient to support at least 60 per cent. of the total number of persons which the ship is certified to carry during the period between 1st April and 31st October inclusive, together with lifebuoys not less in number than is specified in paragraph (5) of Rule 10 of these Rules, so however that the buoyant apparatus together

with the lifebuoys, shall at all times be sufficient to support the total number of persons which the ship is certified to carry during the aforesaid period.

(4) For the purposes of this Rule a lifebuoy shall be deemed sufficient to support two persons.

(5) In the case of ships not exceeding 30 feet in length to which this Rule applies the Minister of Transport may allow lifebuoys to be carried in lieu of part or all of the buoyant apparatus required to be carried in pursuance of paragraph (3) of this Rule.

(6) Every ship to which this Rule applies shall carry at least two buoyant smoke signals capable of giving off orange-coloured smoke.

Ships of Class VII

12.—(1) This Rule applies to ships of Class VII.

(2) Every ship to which this Rule applies shall carry on each side of the ship lifeboats not less than 24 feet in length of such aggregate capacity as will accommodate all persons on board. In the case of tankers of 3,000 tons gross tonnage or upwards the number of such lifeboats on board shall not be less than four, two of which shall be carried aft and two amidships.

(3) Such lifeboats shall be attached to davits.

(4) In every ship to which this Rule applies of 1,600 tons gross tonnage or over, one of the lifeboats carried in compliance with paragraph (2) of this Rule shall be a Class A motor lifeboat or a Class B motor lifeboat or a mechanically propelled lifeboat.

(5) Every ship to which this Rule applies shall carry portable radiotelegraph equipment which shall comply with the requirements of Rule 33 of these Rules.

(6) Every ship to which this Rule applies shall carry at least eight lifebuoys, together with one lifejacket for each person on board.

(7) Every ship to which this Rule applies shall carry a line-throwing appliance.

Ships of Class VII(A)

13.—(1) Subject to the provisions of paragraph (2) of this Rule, Rule 12 of these Rules shall apply to ships of Class VII(A) as it applies to ships of Class VII.

(2) Every ship employed as a whale factory ship and any ship engaged in the carriage of persons employed in the whaling industry shall carry lifeboats attached to davits on each side of the ship of such aggregate capacity as will accommodate every member of the crew engaged to work the ship. In addition, every such ship shall carry lifeboats of an aggregate capacity sufficient to accommodate the total number of additional persons which the ship carries. These additional lifeboats shall, where practicable, be attached to davits. If not attached to davits, they shall be stowed under lifeboats attached to davits.

Ships of Class VIII

14.—(1) Rule 12 of these Rules shall apply to ships of Class VIII, of 500 tons gross tonnage or over, as it applies to ships of Class VII. Provided that, in the case of any ship engaged on voyages of such duration that, in the opinion of the Minister, portable radiotelegraph equipment is unnecessary, he may allow such equipment to be dispensed with.

(2) Rule 15 of these Rules shall apply to ships of Class VIII, of under 500 tons gross tonnage, as it applies to ships of Class VIII(A).

Ships of Class VIII(A)

15.—(1) This Rule applies to ships of Class VIII(A).

(2) Every ship to which this Rule applies of 100 feet or over in length shall carry on each side of the ship one or more lifeboats of sufficient aggregate capacity to accommodate all persons on board. Such lifeboats shall be attached to davits.

(3) Every ship to which this Rule applies of under 100 feet in length shall carry one or more lifeboats so stowed that they can be readily placed in the water on either side of the ship, and of sufficient aggregate capacity to accommodate all persons on board.

(4) Every ship to which this Rule applies of 100 feet or over in length shall carry at least eight lifebuoys. If under 100 feet in length the ship shall carry at least one lifebuoy for each two members of the crew, provided that in no case shall the number of such lifebuoys in any such ship be less than two.

(5) Every ship to which this Rule applies shall carry one lifejacket for each person on board.

(6) Every ship to which this Rule applies of 50 feet or over in length shall carry a line-throwing appliance.

Ships of Class IX

16.—(1) Rule 14 of these Rules shall apply to ships of Class IX, being ships of 500 tons gross tonnage or over, engaged on an international voyage, as it applies to ships of Class VIII.

(2) Rule 15 of these Rules shall apply to every other ship to which this Rule applies as it applies to ships of Class VIII(A).

Ships of Class IX(A)

17.—(1) This Rule applies to ships of Class IX(A).

(2) Every ship to which this Rule applies shall carry two lifebuoys, and a lifeboat or other boat in either case sufficient to accommodate all persons on board.

(3) Every ship to which this Rule applies shall carry one lifejacket for each person on board.

Ships of Class X

18.—(1) This Rule applies to ships of Class X.

(2) Every ship to which this Rule applies of 145 feet in length or over shall carry at least two lifeboats, one on each side of the ship, each lifeboat being attached to davits. The lifeboats on each side of the ship shall be of sufficient capacity to accommodate all persons on board. At least four lifebuoys shall be carried.

(3) Every ship to which this Rule applies of under 145 feet in length but not under 100 feet in length shall carry a lifeboat of sufficient capacity to accommodate all persons on board, so stowed that it can readily be placed in the water on either side of the ship. Every such ship shall also carry buoyant apparatus sufficient to support all persons on board. At least four lifebuoys shall be carried.

(4) Every ship to which this Rule applies of under 100 feet in length but not under 70 feet in length shall carry a lifeboat of sufficient capacity to

accommodate all persons on board, so stowed that it can readily be placed in the water on either side of the ship. At least two lifebuoys shall be carried.

(5) (*a*) Every ship to which this Rule applies of under 70 feet in length but not under 40 feet in length which proceeds on a voyage north of latitude 61° N. or south of latitude 48° 30′ N. or west of longitude 12° W. shall carry a boat so stowed that it can readily be placed in the water. Every such ship shall also carry buoyant apparatus sufficient to support all persons on board. Two lifebuoys shall be carried.

(*b*) Every ship to which this Rule applies of under 70 feet in length but not under 40 feet in length which proceeds only on voyages which do not extend north of latitude 61° N. or south of latitude 48° 30′ N. or west of longitude 12° W. shall carry buoyant apparatus sufficient to support all persons on board. Two lifebuoys shall be carried.

(6) Every ship to which this Rule applies of under 40 feet in length shall carry two lifebuoys.

(7) Every ship to which this Rule applies shall carry one lifejacket for each person on board.

(8) Every ship to which this Rule applies of 50 feet or over in length shall carry a line-throwing appliance.

Ships of Class XI

19.—(1) This Rule applies to ships of Class XI.

(2) Every ship to which this Rule applies shall carry one or more lifeboats or boats of sufficient aggregate capacity to accommodate all persons on board.

(3) The lifeboats shall be attached to davits.

(4) Every ship to which this Rule applies shall carry at least four lifebuoys.

(5) Every ship to which this Rule applies shall carry one lifejacket for each person on board.

(6) Every ship to which this Rule applies of 50 feet or over in length shall carry a line-throwing appliance.

Ships of Class XII

20.—(1) This Rule applies to ships of Class XII.

(2) Every ship to which this Rule applies of 70 feet in length and over shall carry a boat or boats of sufficient capacity to accommodate all persons on board. Such boat or boats shall be so stowed as to be capable of being readily placed in the water on either side of the ship, and unless they are lifeboats complying with the specification set forth in Rule 21 of these Rules and the Third Schedule to these Rules, the ship shall carry buoyant apparatus sufficient to support all persons on board.

(3) Every ship to which this Rule applies of under 70 feet in length shall carry buoyant apparatus sufficient to support all persons on board. Provided that lifebuoys may be substituted for buoyant apparatus on the basis of one lifebuoy for each two persons on board.

(4) Every ship to which this Rule applies shall carry at least two lifebuoys.

(5) Every ship to which this Rule applies shall carry one lifejacket for each person on board.

Requirements for Lifeboats, Buoyant Apparatus and other Life-Saving Appliances

General requirements for Lifeboats

21.—(1) All lifeboats carried in compliance with these Rules shall be open boats constructed with rigid sides and shall be fitted with internal buoyancy appliances. All lifeboats shall comply with the provisions of the Third Schedule to these Rules, 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.

(2) All lifeboats shall be properly constructed for the purpose for which they are intended and shall be of sufficient strength to permit their being safely lowered into the water when loaded with a full complement of persons and equipment.

(3) In all lifeboats all thwart and side seats shall be fitted as low in the boat as practicable, and bottom boards shall be fitted so that the thwarts shall not be more than 2 feet 9 inches above them.

(4) No lifeboat carried in compliance with these Rules shall be less than 16 feet in length.

(5) The weight of a lifeboat when fully laden with persons (calculated at 165 lbs. per person) and equipment shall not exceed 20 tons.

General requirements for Motor Lifeboats

22.—(1) Subject to paragraph (3) of this Rule, every Class A motor lifeboat carried in compliance with these Rules shall comply with the following requirements:—

(*a*) It shall be fitted with a compression ignition engine which shall comply with the provisions of Part I of the Fourth Schedule to these Rules.

(*b*) It shall be provided with fuel sufficient for 24 hours continuous operation.

(*c*) It shall be capable of going astern.

(*d*) The speed ahead shall be at least six knots in smooth water when loaded with its full complement of persons and equipment.

(2) Every Class B motor lifeboat carried in compliance with these Rules shall comply with the following requirements:—

(*a*) It shall be fitted with an internal combustion engine which shall comply with the provisions of Part II of the Fourth Schedule to these Rules.

(*b*) It shall be adequately provided with fuel.

(*c*) It shall be capable of going astern.

(*d*) The speed ahead shall be at least four knots in smooth water when loaded with its full complement of persons and equipment.

(3) A Class A motor lifeboat may be carried in place of a Class B motor lifeboat or a mechanically propelled lifeboat, and in that event, its fuel supply shall be required to comply only with the requirement of paragraph 2 (*b*) of this Rule.

Internal buoyancy appliances

23.—(1) The volume of the internal buoyancy appliances of a motor lifeboat shall be at least equal to that of the buoyancy appliances which would be required under these Rules if the lifeboat were not a motor lifeboat and shall be increased above that volume to the extent that such increase is necessary to compensate for the difference between (*a*) the weight of the

motor and its accessories, and if fitted, the searchlight and the radiotelegraph equipment and their accessories, and (*b*) the weight of the additional persons which the lifeboat could accommodate if the motor and its accessories, and if fitted, the searchlight and the radiotelegraph equipment and their accessories were removed.

The volume of the internal buoyancy appliances of a mechanically propelled lifeboat (other than a motor lifeboat) shall similarly be increased to compensate for the weight of the propelling gear.

(2) In the case of lifeboats which accommodate 100 or more persons the volume of the buoyancy appliances shall be increased beyond the volume required by paragraph (1) of this Rule to such extent as will ensure the seaworthiness of the lifeboat.

General requirements for a Mechanically Propelled Lifeboat

24. Every mechanically propelled lifeboat carried in compliance with these Rules shall comply with the provisions of the Fifth Schedule to these Rules.

Carrying capacity of Lifeboats

25.—(1) Subject to the provisions of paragraph 2 of this Rule, the number of persons which a lifeboat shall be deemed fit to carry shall be equal to the greatest whole number obtained by dividing by ten the capacity of the boat in cubic feet, determined in accordance with the provisions of the Third Schedule to these Rules.

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

Buoyant Apparatus

26.—(1) Buoyant apparatus shall comply with the provisions of the Ninth Schedule to these Rules. All buoyant apparatus carried in compliance with these Rules shall be of such construction that it retains its shape and properties when exposed to the weather on board ship and when in the water. It shall be constructed so as not to require adjustment prior to use.

(2) Buoyant apparatus shall be deemed fit to carry a number of persons—

(*a*) ascertained by dividing by 32 the number of pounds of iron which the apparatus is capable of supporting from its grab lines in fresh water, or

(*b*) equal to the extent of the perimeter of the apparatus in feet

whichever number shall be the less.

Marking of Lifeboats and Buoyant Apparatus

27.—(1) The dimensions of a lifeboat and the number of persons which it is fit to carry shall be clearly marked on it in permanent characters. The name of the ship to which the lifeboat belongs shall be painted on the bows.

(2) The numbers of persons which buoyant apparatus is fit to support shall be clearly marked on the apparatus in permanent characters.

Equipment of Lifeboats

28.—(1) Subject to the provisions of this Rule, the equipment of every lifeboat carried in a ship of Classes I, II, II(A), III, IV, VI(A), VII, VII(A), VIII, VIII(A), IX, X and XI shall be as follows:—

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

(*b*) two plugs for each plug hole (except when proper automatic valves are fitted) attached to the lifeboat by lanyards or chains; a baler, and two buckets;

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

(*d*) a life line becketed round the outside of the lifeboat;

(*e*) a locker suitable for stowage of small items of equipment;

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

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

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

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

(*j*) a compass in binnacle complying with the provisions of Part I of the Sixth Schedule to these Rules;

(*k*) a sea anchor complying with the provisions of Part II of the Sixth Schedule to these Rules;

(*l*) two painters of sufficient length and size. One shall be secured to the forward end of the lifeboat with strop and toggle so that it can be released, and the other shall be firmly secured to the stem of the lifeboat and be ready for use;

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

(*n*) two parachute signals complying with the provisions of Part V of the Sixth Schedule to these Rules, and six hand flares capable of giving a bright red light;

(*o*) two buoyant smoke signals capable of giving off orange-coloured smoke;

(*p*) means to enable persons to cling to the lifeboat, if upturned, in the form of bilge keels or keel rails, together with grab lines secured from gunwale to gunwale under the keel;

(*q*) a first aid outfit complying with the provisions of Part III of the Sixth Schedule to these Rules;

(*r*) an electric torch suitable for morse-signalling, together with two spare batteries and two spare bulbs;

(*s*) a daylight-signalling mirror;

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

(*u*) two light buoyant heaving lines; and

(*v*) a manual pump complying with the provisions of Part IV of the Sixth Schedule to these Rules.

(2) In ships of Class X, the lifeboats shall not be required to carry the equipment specified in sub-paragraph (*s*) of paragraph (1) of this Rule.

(3) In ships of Classes II, II(A), VIII and VIII(A), ships of Class X which do not proceed north of latitude 61° N. or south of latitude 48° 30′ N. or west of longitude 12° W., and ships of Class XI which do not proceed

outside Home-trade limits, the lifeboats shall not be required to carry the equipment specified in sub-paragraphs (*i*) and (*s*) of paragraph (1) of this Rule.

(4) In ships of Classes III, IV and VI(A), the lifeboats shall not be required to carry the equipment specified in sub-paragraphs (*i*), (*j*), (*m*), (*n*), (*o*) and (*s*) of paragraph (1) of this Rule.

(5) In ships of Class IX, the lifeboats or boats shall not be required to carry the equipment specified in sub-paragraphs (*i*), (*j*), (*m*), (*o*) and (*s*) of paragraph (1) of this Rule.

(6) The equipment of every lifeboat or boat carried in ships of Classes V and IX(A) shall be as follows:—

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

(*b*) two plugs for each plug hole ;

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

(*d*) a life line becketed round the outside of the lifeboat or boat ;

(*e*) a painter of sufficient length and size ;

(*f*) a baler.

(7) The equipment of every lifeboat or boat carried in ships of Class VI shall be as follows:—

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

(*b*) two plugs for each plug hole ;

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

(*d*) a life line becketed round the outside of the lifeboat or boat ;

(*e*) a painter of sufficient length and size ;

(*f*) a baler ;

(*g*) a hatchet ;

(*h*) a sea anchor complying with the provisions of Part II of the Sixth Schedule to these Rules.

(8) The equipment of every lifeboat or boat carried in ships of Class XII shall be as follows:—

(*a*) four oars, with crutches ; a boat hook ;

(*b*) two plugs for each plug hole ;

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

(*d*) a life line becketed round the outside of the lifeboat or boat ;

(*e*) a painter ;

(*f*) a bucket and a baler ;

(*g*) a sea anchor complying with the provisions of Part II of the Sixth Schedule to these Rules ;

(*h*) six hand flares capable of giving a bright red light ;

(*i*) an electric torch suitable for morse-signalling, together with two spare batteries and two spare bulbs.

(9) No motor lifeboat or mechanically propelled lifeboat shall be required to carry a mast or sails or more than half the complement of oars. Every such lifeboat shall carry two boat hooks.

(10) Every motor lifeboat shall carry two portable fire extinguishers capable of discharging froth, or other substance suitable for quenching oil fires, a receptacle containing a sufficient quantity of sand and a scoop for distributing the sand.

Lifeboats fit to carry more than 60 persons

29. No lifeboat shall be deemed fit to carry more than 60 persons unless:—

(*a*) it is a motor lifeboat or a mechanically propelled lifeboat; and

(*b*) it is fitted with means to enable persons in the water to climb into the lifeboat.

Security of Lifeboat Equipment

30. All items of lifeboat equipment not kept in the lifeboat locker, with the exception of the boat hook which shall be kept free for fending off purposes, shall be lightly lashed within the lifeboat. The lashing shall be carried out in such a manner as to ensure the security of the equipment and so as not to interfere with the lifting hooks or to prevent ready loading of, or to impede ready entry into, the lifeboat.

Rations

31.—(1) Every lifeboat or other boat carried in compliance with these Rules, except by a ship of Classes V, VI, VI(A), IX(A) or XII, shall be provided with at least the rations specified in the following scale for each person it is fit to carry:—

(*a*) 3 quarts of fresh water, the quantity to be increased as far as is practicable;

(*b*) 16 ozs. of biscuits;

(*c*) 16 ozs. of barley sugar;

(*d*) 16 ozs. of sweetened condensed milk of first quality.

Provided however that the rations specified in sub-paragraphs (*b*), (*c*) and (*d*) of this paragraph shall not be required to be carried in a ship of Classes II, II(A), III, IV, VIII, VIII(A) or IX, in a ship of Class X which does not proceed north of latitude 61° N. or south of latitude 48° 30′ N. or west of longitude 12° W., or in a ship of Class XI which does not proceed outside Home-trade limits.

(2) The water shall be kept in the lifeboat in suitable containers and there shall be provided at least one dipper, which shall be attached to the container by a lanyard, and three rust-proof drinking vessels (one graduated in ½, 1 and 2 ozs.). The water shall be frequently changed so as to ensure that it is always clean and fit for drinking.

(3) All the foods specified shall be packed in suitable watertight containers, labelled to indicate the contents and shall be stowed in watertight tanks.

Radiotelegraph and other Electrical Equipment in Motor Lifeboats

32.—(1) The radiotelegraph equipment to be carried in a Class A motor lifeboat in compliance with paragraph (10) of Rule 4 or paragraph (10) of Rule 5 of these Rules in addition to complying with such of the requirements of the Merchant Shipping (Radio) Rules, 1952(**a**), as apply thereto shall comply with the following requirements:—

(*a*) The radiotelegraph equipment shall be installed in a cabin large enough to accommodate both the apparatus and the person using it.

(*b*) The arrangements shall be such that the efficient operation of the transmitter and receiver shall not be interfered with by the motor lifeboat engine, whether a battery is on charge or not.

(*c*) The radiotelegraph battery shall not be used to supply power to any engine-starting motor or ignition system.

(2) The motor lifeboat engine shall be fitted with a dynamo capable of recharging all batteries in the lifeboat.

(3) The motor lifeboat shall be provided with a searchlight which 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 having a width of about 60 feet at a distance of 200 yards for a total period of six hours. The searchlight shall be capable of working for at least three hours continuously.

Portable Radiotelegraph Equipment

33. The portable radiotelegraph equipment required to be carried by paragraph (11) of Rule 4, paragraph (11) of Rule 5, paragraph (5) of Rule 12 or paragraph (1) of Rule 14 of these Rules shall comply with such of the requirements of the Merchant Shipping (Radio) Rules, 1952, as apply thereto, and shall be kept in the chart room of the ship or other suitable place, ready to be moved into a lifeboat in case of emergency.

Stowage and Handling of Lifeboats and Buoyant Apparatus

34.—(1) All lifeboats attached to davits and all lifeboats stowed under lifeboats attached to davits shall be stowed in such a way that:—

(*a*) they can be launched in the shortest possible time;

(*b*) they will not impede in any way the rapid handling of any other lifeboats or of any buoyant apparatus, or the marshalling of the persons on board at the launching stations, or their embarkation; and

(*c*) even under conditions of list and trim unfavourable for the handling of the lifeboats, as large a number of persons as possible can be embarked in them.

(2) In passenger steamers not more than one lifeboat shall be served by a single set of davits, provided that in any ship in which this arrangement is impracticable, the lifeboats may, subject to the provisions of paragraph (1) of this Rule, be stowed one above the other, or, if the Minister permits in the case of any ship and subject to such conditions as he may impose, they may be fitted one within another.

(3) If in a passenger steamer a lifeboat is stowed underneath another lifeboat there shall be provided removable supports or other appliances to secure that the weight of the upper lifeboat is not unduly supported by the lifeboat underneath it.

(a) S.I. 1952/1956, p. 1932 below.

(4) Lifeboats may only be stowed on more than one deck on condition that proper measures are taken to prevent lifeboats on a lower deck being fouled by those stowed on a deck above.

(5) Lifeboats shall be stowed in such positions as to ensure safe launching. They shall not be placed in the bows of a ship.

(6) (*a*) Davits shall comply with the provisions of the Eighth Schedule to these Rules and shall be suitably placed.

(*b*) In ships over 150 feet in length of Classes I, II, II(A), III, VII, VII(A), VIII, VIII(A), IX and X the davits shall be of the following types:—

(i) Luffing or gravity type for operating lifeboats weighing not more than four tons in their turning out condition.

(ii) Gravity type for operating lifeboats weighing more than four tons in their turning out condition.

(*c*) In all ships of 150 feet in length and under, if radial type davits are provided they shall be fitted with means to prevent them from being jerked from their sockets.

(7) In ships of Classes I, II, II(A), III, VII, VII(A), VIII, VIII(A), IX, X and XI, the davits, falls, blocks and all other gear shall be of such strength that the lifeboats can be safely lowered when fully loaded with persons and equipment, with the ship listed to 15 degrees either way.

(8) In ships in which the boat deck is more than 15 feet above the load line indicating the deepest submersion of the ship permitted by the Merchant Shipping (Safety and Load Line Conventions) Act, 1932(**a**), arrangements shall be made to facilitate launching the lifeboats against an adverse list.

(9) (*a*) In ships of Classes I, II, VII, VII(A) and VIII, the lifeboats shall be served by wire rope falls and by winches, provided that the Minister may allow other types of falls to be fitted to any emergency boat carried in compliance with paragraph (4) of Rule 4 or paragraph (4) of Rule 5 of these Rules, and in ships where, having regard to the height of the boat deck above the lightest sea-going draught or to other circumstances, he is satisfied that such other falls are adequate.

(*b*) In ships of Classes II(A), III, VIII(A) and IX, wire rope falls, together with winches, shall be fitted for operating lifeboats weighing more than four tons in fully loaded condition.

(10) Two life lines shall be fitted to the davit spans of all lifeboats and the falls and life lines shall be long enough to reach the water with the ship at her 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 disengaging gear complying with the provisions of the Seventh Schedule to these Rules is fitted.

(11) Lifeboats attached to davits shall have the falls ready for service, and means shall be provided for speedily detaching the boats from the falls. The points of attachment of the lifeboats to the falls shall be so situated as to ensure that the lifeboats can be easily swung clear of the davits.

(12) Where more than one lifeboat is served by the same set of davits, separate falls shall be provided to serve each lifeboat, unless the falls are of wire rope. The appliances used shall be such as to ensure lowering the boats rapidly and in turn. Where power appliances are fitted for the recovery of the falls, efficient hand gear shall also be provided.

(a) 22 & 23 Geo. 5. c. 9.

Lifejackets

35.—(1) Every lifejacket carried in compliance with these Rules shall be capable of being fitted on the body and shall be constructed in accordance with the provisions of the Eleventh Schedule to these Rules.

(2) Every lifejacket shall be reversible, so that if it is worn back-to-front or inside out, it will satisfy the requirements of sub-paragraphs (*a*), (*b*) and (*c*) of paragraph (3) of this Rule.

(3) The distribution of buoyancy in a lifejacket shall be such as to ensure that when worn by a person in the water it will comply with the following conditions:—

(*a*) when the wearer is inert the position of the body shall be as near the vertical as possible;

(*b*) when the wearer is inert his head shall be kept clear of the water; and

(*c*) the head shall be so supported that if the wearer becomes unconscious it cannot fall forward and the face become submerged.

(4) Every lifejacket shall be suitable for both children or adults.

(5) The buoyancy of lifejackets shall not depend on air compartments.

Lifebuoys

36.—(1) Every lifebuoy carried in compliance with these Rules shall be constructed of cork, evenly formed and securely plugged, or other equally efficient buoyant material, and shall be capable of floating in fresh water for at least 24 hours with 32 lb. of iron suspended from it.

(2) Lifebuoys shall be constructed in accordance with the provisions of the Tenth Schedule to these Rules.

(3) Lifebuoys shall not be filled with rushes, cork shavings, granulated cork or any other loose granulated material, and their buoyancy shall not depend upon air compartments requiring inflation.

Lifebuoy Lights and Lines

37.—(1) Subject to the provisions of paragraphs (2), (3) and (4) of this Rule, at least half the lifebuoys, and in no event less than two, carried in a ship to which these Rules apply shall be provided with self-igniting lights which cannot be extinguished in water. In ships of Classes I, II or II(A) the number of lights so provided shall not be less than six. In tankers the lights shall be electrically operated.

(2) In ships of Classes IV, V and VI(A) (except ships which are engaged in daylight voyages only) two lifebuoys (one on each side of the ship) shall be provided with self-igniting lights.

(3) In ships of Class XII one lifebuoy shall be provided with a self-igniting light.

(4) In ships of Classes III or VI lifebuoys need not be provided with self-igniting lights.

(5) In every ship to which these Rules apply one lifebuoy on each side of the ship shall be fitted with a line at least 15 fathoms in length.

Stowage of Lifebuoys and Lifejackets

38.—(1) Lifebuoys and lifejackets shall be so stowed so as to be readily accessible to all persons on board. The position of lifejackets shall be clearly and permanently indicated.

(2) Lifebuoys shall always be capable of being rapidly cast loose.

Line-Throwing Appliances

39.—(1) (*a*) In ships of Classes I, II, II(A), III, IV, VII and VII(A) and ships of Classes VIII, VIII(A), IX, X and XI of 75 feet or over in length, a line-throwing appliance shall be provided consisting of an apparatus conforming with the provisions of paragraphs (2), (3) and (4) of this Rule, and capable of throwing a line ½ inch in circumference a minimum distance of 250 yards in calm weather.

(*b*) In ships of Classes VIII, VIII(A), IX, X and XI under 75 feet in length, but not under 50 feet in length, a line-throwing appliance shall be provided consisting of an apparatus conforming with the provisions of paragraphs (2), (3) and (4) of this Rule, and be capable of throwing a line ½ inch in circumference a minimum distance of 200 yards in calm weather.

(2) The apparatus shall include 4 rockets and 4 lines, each line being ½ inch in circumference and of suitable length, and having a breaking strain of not less than 250 lb.

(3) All line-throwing appliances shall be capable of throwing the line in such a manner that the lateral deflection of the line on either side of the direction of firing does not exceed 10 per cent. of the length of flight of the rocket.

(4) The lines and the rockets, with means of igniting them, shall be kept in a watertight case.

MISCELLANEOUS PROVISIONS

Embarkation in the Lifeboats

40.—(1) In every ship of Classes I, II, II(A), III, VII, VII(A), VIII, VIII(A), IX and XI one ladder shall be carried at each set of davits. The ladders shall be of sufficient length to reach the water line with the ship at her lightest sea-going draught and listed to 15 degrees either way.

(2) In every ship arrangements shall be made for warning the passengers and crew when the ship is about to be abandoned.

(3) Every ship of Classes I, II, II(A), III, VII, VII(A), VIII, VIII(A) and IX shall be provided with means situated outside the engine room whereby any discharge of water into the lifeboats can be prevented.

Electrically Operated Signals

41.—Every ship of Class I shall be provided throughout the ship with electrically operated signals controlled from the bridge for summoning passengers to muster stations.

42.—(1) In every ship of Classes I, II and II(A) an electric lighting system shall be provided throughout the ship and in particular upon the decks on which the lifeboats are stowed. Provision shall also be made in every such ship for the electric lighting of the launching gear and of the lifeboats in process of and immediately after being launched. The lighting shall be operated from the ship's main generating plant and so arranged that power may be supplied from the emergency source of power referred to in Rule 36 of the Merchant Shipping (Construction) Rules, 1952.

(2) In every ship of Classes I, II and II(A) the exit from every main compartment occupied by passengers or crew shall be continuously lighted by an emergency electric lamp, operated from the ship's main generating

plant and so arranged that power may be supplied from the emergency source of power referred to in Rule 36 of the Merchant Shipping (Construction) Rules, 1952.

(3) In every ship of Classes VII, VII(A), VIII, VIII(A), IX, IX(A), X and XI means shall be provided for the electric lighting of the launching gear and lifeboats during the process of launching.

Certificated Lifeboatmen

43.—(1) The crew of every ship of Classes I, II, II(A) and III shall include, for each lifeboat carried in compliance with these Rules, a number of certificated lifeboatmen not less than that specified in the following table:—

Prescribed complement of lifeboat	*Minimum Number of Certificated Lifeboatmen*
Less than 41 persons	2
From 41 to 61 persons	3
From 62 to 85 persons	4
More than 85 persons	5

(2) An applicant for a lifeboatman's certificate shall be at least 18 years of age and shall submit himself for examintion at such time and place as may be directed by the Minister who, on being satisfied that he has had sufficient service at sea and 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, may issue a certificate to him.

(3) For the purpose of this Rule

"Certificated lifeboatman" means any member of the crew who holds a certificate issued by or under the authority of the Minister in accordance with the conditions laid down in paragraph (2) of this Rule;

"Prescribed complement" means the number of persons which a boat is fit to carry under these Rules.

Manning of Lifeboats

44.—(1) In every ship of Classes I, II, II(A) and III a deck officer or certificated lifeboatman shall be placed in charge of each lifeboat and a second in command shall also be nominated. The person in charge shall have a list of the lifeboat's crew, and shall see that the men placed under his orders are acquainted with their several duties.

(2) In every ship of Classes I, II and II(A) a man capable of working the radiotelegraph and searchlight equipment shall be assigned to each lifeboat carrying such equipment.

(3) In every ship of Classes I, II, II(A), VII, VII(A) and VIII a man capable of working the motor shall be assigned to each motor lifeboat.

Ships' Distress Rocket Signals

45.—(1) Every ship of Classes I, II, II(A), III, VII, VII(A) and VIII and every ship of 50 feet in length and over of Classes VIII(A), IX, X and XI shall be provided with not less than 12 parachute distress rocket signals which shall comply with the provisions of the Twelfth Schedule to these Rules.

(2) Every ship of Class IV, every ship of 70 feet and upwards in length of Class VI(A), and every ship of less than 50 feet in length of Classes VIII(A), IX, X, XI and every ship of Class XII shall be provided with not less than

12 pyrotechnic distress signals which shall be either parachute signals of a type which complies with the provisions of the Twelfth Schedule to these Rules or red hand flares capable of emitting five red stars into the air to a height of not less than 150 feet.

(3) All pyrotechnic distress signals shall be packed in a watertight container and shall be clearly and indelibly labelled to indicate their purpose.

Equivalents and Exemptions

46.—(1) Where these Rules require that a particular fitting, appliance or apparatus, or type thereof, shall be fitted or carried in a ship, or that any particular provision shall be made, the Minister may allow any other fitting, appliance or apparatus or type thereof, to be fitted or carried, or any other provision to be made in that ship if he is satisfied by trial thereof that such other fitting, appliance or apparatus, or type thereof, or provision, is at least as effective as that required by these Rules.

(2) If it appears to the Minister, on the application of the owner of any ship, that it is not practicable or reasonable to fit in that ship the number of sets of davits required by these Rules, he may allow one or more sets of davits to be dispensed with in that ship subject to such conditions, if any, as he thinks fit.

Provided that, in the case of a ship of Classes I, II and II(A) the number of sets of davits fitted shall in no case be less than the minimum number determined by Column B of the table in the First Schedule to these Rules.

(3) If a ship of Class I is permitted by the terms of her passenger certificate to carry, between specified ports or places abroad, a number of passengers in addition to the number allowed when the ship is proceeding to sea from the United Kingdom, the Minister may, subject to such conditions as he thinks fit, allow as regards the part of the voyage between such specified ports or places, modifications of the provisions of paragraphs (5) and (12) of Rule 4 of these Rules (which relate respectively to lifeboats and buoyant apparatus).

Provided that in no case shall the aggregate capacity of lifeboats, or the provision of buoyant apparatus on that part of the voyage be less than would be required under paragraphs (6) and (12) of Rule 5 of these Rules if the ship were a ship of Class II.

(4) The Minister may exempt any ship not normally engaged on international voyages but which, in exceptional circumstances, is required to undertake a single international voyage from any of the requirements of these Rules, provided that it complies with safety requirements which in his opinion are adequate for the voyage which is to be undertaken by the ship.

(5) If it is impracticable for a ship to carry a lifeboat of the minimum length prescribed by these Rules, the Minister may allow a smaller boat to be carried by that ship.

(6) The Minister may, on such conditions as he thinks fit, exempt any ship constructed before the coming into operation of these Rules, from any of the requirements of these Rules if he is satisfied that compliance with that requirement is either impracticable or unreasonable in the case of that ship.

Given under the Official Seal of the Minister of Transport this eleventh day of November, 1952.

(L.S.) *Gilmour Jenkins,*
Secretary of the Ministry of Transport.

FIRST SCHEDULE

TABLE

Rules 4 and 5

Length of Ship — Feet	(A) Minimum number of sets of davits	(B) Smaller number of sets of davits authorised exceptionally	(C) Minimum capacity of lifeboats in cubic feet
Under 120	2	2	400
120 and under 140	2	2	650
140 „ „ 160	2	2	900
160 „ „ 175	3	3	1,150
175 „ „ 190	3	3	1,350
190 „ „ 205	4	4	1,550
205 „ „ 220	4	4	1,750
220 „ „ 230	5	4	1,850
230 „ „ 245	5	4	2,150
245 „ „ 255	6	5	2,400
255 „ „ 270	6	5	2,700
270 „ „ 285	7	5	3,000
285 „ „ 300	7	5	3,300
300 „ „ 315	8	6	3,600
315 „ „ 330	8	6	3,900
330 „ „ 350	9	7	4,300
350 „ „ 370	9	7	4,750
370 „ „ 390	10	7	5,150
390 „ „ 410	10	7	5,550
410 „ „ 435	12	9	6,050
435 „ „ 460	12	9	6,550
460 „ „ 490	14	10	7,150
490 „ „ 520	14	10	7,800
520 „ „ 550	16	12	8,400
550 „ „ 580	16	12	—
580 „ „ 610	18	13	—
610 „ „ 640	18	13	—
640 „ „ 670	20	14	—
670 „ „ 700	20	14	—
700 „ „ 730	22	15	—
730 „ „ 760	22	15	—
760 „ „ 790	24	17	—
790 „ „ 820	24	17	—
820 „ „ 855	26	18	—
855 „ „ 890	26	18	—
890 „ „ 925	28	19	—
925 „ „ 960	28	19	—
960 „ „ 995	30	20	—
995 „ „ 1,030	30	20	—

SECOND SCHEDULE

Rules 7 and 8.

Table showing the minimum number of sets of davits to be provided in a ship of Class III or Class IV:

Length of ship in feet	*Minimum number of sets of davits*
Under 200	2
200 and under 240	3
240 „ „ 280	4
280 „ „ 320	5
320 and over	6

THIRD SCHEDULE

Construction and Capacity of Lifeboats

Rules 21, 23 and 25

(1) Every boat shall have a mean sheer at least equal to four per cent. of its length.

(2) The air cases of every boat shall be so placed as to secure stability when fully laden under adverse weather conditions.

(3) Internal buoyancy appliances shall be constructed of copper or yellow metal of not less than 18 ozs. to the superficial foot.

(4) The buoyancy of a wooden boat 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.

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

(6) Subject to the provisions of paragraph (9) of this Schedule, the cubic capacity of a lifeboat for the purposes of these Rules shall be measured in cubic feet and shall be determined by Stirling's (Simpson's) Rule, that is to say, by the following formula:—

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

L denotes the length of the boat in 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 shall be considered negligible).

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

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

where h denotes the depth measured 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 feet inside the planking or plating 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). The capacity of a square sterned boat shall be calculated as if the boat had a pointed stern.

(7) 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-section A or C shall be deemed to be the depth amidships plus 1 per cent. of the length of the boat.

(8) If the depth of the boat amidships exceeds 45 per cent. of the breadth the depth employed in calculating the area of the amidship cross-section B shall be deemed to be equal to 45 per cent. of the breadth and the depth employed in calculating the areas of the quarter length sections A and C is obtained by increasing this last figure by an amount equal to 1 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.

(9) Unless the owner of the boat requires the cubic capacity to be determined by exact measurement the cubic capacity may be assumed to be the product of the length, the breadth and the depth multiplied by 0.6 if this formula does not give a greater capacity than that obtained by the formula set out in paragraph (6) of this Schedule. The dimensions shall 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.

(10) The cubic capacity of a motor boat shall be obtained from the gross capacity by deducting a volume equal to that occupied by the motor and its accessories, and, when carried, the radiotelegraph equipment and searchlight with their accessories.

FOURTH SCHEDULE

MACHINERY OF MOTOR LIFEBOATS

PART I

Class A motor lifeboats

Rule 22 (1)

(1) The engine shall be capable of being started readily in cold weather and of running reliably in such weather.

(2) The engine shall operate properly under conditions of at least 10° list and 10° trim. Circulating water pumps shall be self-priming.

(3) The engine and its accessories, including the fuel tank, pipes and fittings, shall be adequately protected to ensure reliable operation under conditions likely to arise at sea during heavy weather.

(4) In a wooden lifeboat a metal tray shall be fitted under the engine.

(5) The fuel tank shall be substantially constructed. No part of the fuel tank or its fittings shall depend on soft solder for tightness. If made of steel the fuel tank shall be galvanised externally. The fuel tank and its connections shall be capable of withstanding hydraulic pressure corresponding to a head of at least 15 feet. The fuel tank shall be securely fixed in position and be fitted with suitable filling and relief arrangements. A metal tray shall be fitted under the fuel tank.

(6) The engine shall be covered in and the casing shall be of steel or shall be fireproofed.

(7) The engine and fuel tank spaces shall be efficiently ventilated.

(8) The shafting and other moving parts shall be fenced where necessary to protect the persons in the boat from injury.

PART II

Class B motor lifeboats

Rule 22 (2)

(1) The engine shall be capable of being started readily in cold weather and of running reliably in such weather.

(2) The engine shall operate properly under conditions of at least 10° list and 10° trim. Circulating water pumps shall be self-priming.

(3) The engine and its accessories, including the fuel tank, pipes and fittings, shall be protected to ensure reliable operation under conditions likely to arise at sea during heavy weather.

(4) In a wooden lifeboat a metal tray shall be fitted under the engine.

(5) The magneto, carburettor and air inlet of any electric ignition engine installed in the lifeboat shall be placed as high as possible. If an electric ignition engine is not fitted in a watertight casing, provision shall be made to protect the magneto, sparking plugs and other electric ignition fittings from the sea.

(6) The fuel tank shall be substantially constructed of suitable material. No part of the fuel tank or its fittings shall depend on soft solder for tightness. If made of steel the fuel tank shall be galvanised externally. The fuel tank and its connections shall be tested by hydraulic pressure corresponding to a head of at least 15 feet. The fuel tank shall be securely fixed in position and be furnished with suitable filling and relief arrangements. A metal tray shall be fitted under the fuel tank.

(7) The engine shall be covered in and the casing shall be of steel or be fireproofed.

(8) The engine and fuel tank spaces shall be efficiently ventilated.

(9) The shafting and other moving parts shall be fenced where necessary to protect the persons in the boat from injury.

FIFTH SCHEDULE

MECHANICALLY PROPELLED LIFEBOATS OTHER THAN MOTOR LIFEBOATS

Rule 24

(1) The propelling gear shall be so arranged that it can be rapidly and easily made ready for service and will not interfere with the rapid embarkation of persons in the lifeboat.

(2) If the propelling gear is manually operated it shall be capable of being operated by persons untrained in its use and shall be capable of being operated when the lifeboat is flooded.

(3) The propelling gear shall not require adjustment to enable it to be worked by persons of different stature. It shall be effective in propelling the lifeboat partially or fully loaded.

(4) The propelling gear shall be substantially constructed and fitted to the lifeboat in an efficient manner.

(5) The propelling gear shall be of sufficient power to enable the lifeboat to be propelled at a speed ahead of 3.5 knots in smooth water over a distance of ¼ mile.

(6) The propelling gear shall be capable of propelling the lifeboat ahead and astern.

SIXTH SCHEDULE

LIFEBOAT EQUIPMENT

PART I

Lifeboat compasses

Rule 28 (1) (*j*)

(1) The compass shall be of the liquid type. The liquid used shall be a mixture of industrial methylated spirit and water, specific gravity 0.93 at 60°F. It shall be clear, free from sediment, cloudiness and dirt defects. The compass shall function efficiently over a temperature range −10°F. to +120°F.

(2) The magnet shall have ample directive force. In the United Kingdom a period of 18 to 22 seconds after a deflection of 40° at a temperature of about 60°F. will be deemed to comply with this requirement. For the purposes of this paragraph a "period" is the time taken by a complete oscillation of the card after a deflection of 40°, a swing past the position of rest, and back again to the completion of its swing on the side to which it was originally deflected.

(3) Over a range of −10°F. to +120°F. the card system when immersed in the compass liquid shall rest on the pivot with a weight between 4 and 10 grammes.

(4) The card shall be not less than 4 inches in diameter and shall have a clearance from the bowl of at least ¼ inch. It shall be marked to half points, the eight principal points being distinctively marked. The card shall be luminised.

(5) The centre shall be of sapphire or equally hard jewel, and shall be removable from the float.

(6) The pivot shall be of iridium or equally suitable hard material.

(7) The arrangements made to allow for the expansion and contraction of the liquid shall enable the compass to withstand a temperature range of −10°F. to +120°F. without leakage, formation of bubbles or other defects.

(8) The bowl shall be adequately weighted and properly poised in the gimbals which shall give a fore and aft and thwartship action. The gimballing shall be in the same horizontal plane as the point of suspension of the card and the outer gimbal pins shall be placed fore and aft. The bowl shall be placed in a binnacle or box of non-magnetic material and the lubber line or point shall be luminised. The card system shall remain free when the bowl is tilted by 10°.

(9) The direction of the lubber line or point from the centre of the card shall lie in the same vertical plane as the outer gimbal axis or other fore and aft datum line. The cumulative effect of card, pivot, directional and other similar errors, and of inaccurate positioning of the lubber's point, shall be such that in the undisturbed earth's field the direction as read on the card against the lubber's point shall not differ by more than 3° from the magnetic direction of the outer gimbal axis or other fore and aft datum line for any direction of the latter.

(10) The minimum thickness of the metal used in the construction of the compass shall be as follows:—

Compass bowl	21 S.W.G.
Binnacle	24 S.W.G.
Lamp	24 S.W.G.

The compass bowl shall be efficiently stiffened to take gimbal pins. The binnacle shell shall be swaged or spun into the base ring and soldered all round.

The gimbal ring shall be of naval brass or other rigid non-magnetic metal $\frac{3}{8}$ inch by $\frac{1}{8}$ inch. Gimbal pins shall be of naval brass or other hard non-magnetic material of $\frac{1}{4}$ inch diameter; both they and the bearings in which they engage shall be perfectly smooth.

(11) The paint inside the bowl shall show no sign of blistering.

(12) The materials and workmanship shall be good throughout and the compass shall be such as will remain efficient under sea-going conditions.

(13) The bowl of the compass shall be engraved or stamped with the maker's name or other identification mark.

PART II

Lifeboat sea anchors

Rule 28 (1) (*k*), (7) and (8)

(1) Every lifeboat sea anchor shall comply with the following requirements:—

(*a*) It shall be constructed of No. 1 best flax canvas, or other suitable material.

(*b*) The canvas part shall be strongly sewn together and be roped at the seams with $1\frac{1}{4}$" bolt rope; the ropes then being formed into a bridle with a thimble seized in the connecting end, and the ropes extended and seized into a parcelled loop to form the attachment for the tripping line.

(*c*) A hawser shall be attached to the sea anchor by means of a shackle of suitable size to take the thimble.

(*d*) The length of the hawser shall be three times the lifeboat's length.

(*e*) A tripping line two fathoms longer than the hawser shall be provided.

(2) A circular sea anchor shall be fitted at the mouth with a galvanised iron hoop. Any other type of sea anchor shall be fitted with galvanised iron spreaders across the mouth and with an ash spreader at the upper edge.

(3) The size of lifeboat sea anchors shall be as follows:—

(*a*) For lifeboats not over 22 feet in length—

Circular sea anchors—Mouth 24" diameter.
Non-circular folding sea anchors—Mouth $21\frac{1}{2}$" each side.
Length of canvas bag—3' 6".
Hawser—$2\frac{1}{2}$" in circumference.
Tripping line—$1\frac{1}{2}$" in circumference.

(*b*) For lifeboats over 22 feet in length, but not over 30 feet in length—

Circular sea anchors—Mouth 27" diameter.
Non-circular folding sea anchors—Mouth 24" each side.
Length of canvas bag—4'.
Hawser—3" in circumference.
Tripping line—2" in circumference.

(*c*) For lifeboats over 30 feet in length—

Non-circular folding sea anchors—Mouth 30" upper edge, 27" lower edge, 27" each side. Area of mouth 770 sq. inches.
Length of canvas bag—4' 6".
Hawser—3" in circumference.
Tripping line—2" in circumference.

PART III

Lifeboat first aid outfits

Rule 28 (1) (*q*)

(1) The contents of every lifeboat first aid outfit shall comply with the Standards of the British Pharmacopœia, where such standards are applicable, and shall include the following:—

(*a*) Collapse Revivers (6 capsules)	1 Tin
(*b*) Codeine Compound tablets (Tab. Codeine Co.N.W.F.)	25 Tablets
(*c*) Six Tubunic Ampoules of "Omnopon" each containing ½ gr. "Omnopon" equivalent to ¼ gr. anhydrous morphine	1 Tin
(*d*) First Field Dressings or Standard Dressings No. 14	2
(*e*) Shell Dressings or Standard Dressings No. 15	2
(*f*) Elastic Adhesive Dressings, 2″ × 3″, packets of three	2 Packets
(*g*) Bandage, Triangular, illustrated, 38″ sides × 54″ base, compressed	5
(*h*) Gauze, white, absorbent, compressed, 36″ × 2½ yards	3
(*i*) Roller Bandage, 2½″ × 4 yards compressed	4
(*j*) Bandage, Calico, unbleached, 6″	1 × 6 yards
(*k*) Cotton Wool, compressed, 4 oz. packet ...	1
(*l*) Safety Pins of rustless stainless metal ...	6
(*m*) Paraffin Jelly, 1 oz. tubes	1 Tube
(*n*) Scissors, 4″, 1 sharp, 1 blunt point, or blunt pointed, of rustless stainless metal	1
(*o*) Energy Tablets, 10 mg.	60 Tablets
(*p*) Silica Gel.	1 Capsule
(*q*) Ampoule-Syringes containing Total Opium Alkaloids	1 Box
(*r*) Instructions printed on linen.	

(2) The container for the first aid outfit shall comply with the following requirements:—

(*a*) It shall be made of a metal of a strength which will withstand hard wear under conditions met with at sea.

(*b*) A handle shall be fitted to the lid.

(*c*) It shall be hermetically sealed and damp-proof. It shall also be sealed with a piece of wire soldered to the lid and the body of the container to indicate that the contents are intact.

(*d*) It shall be packed in a room from which atmospheric moisture has been removed as far as possible.

(*e*) It shall be well tinned and lacquered.

(*f*) An itemised list of the contents shall be given on the outside of the container.

PART IV

Lifeboat manual pumps

Rule 28 (1) (*v*)

Lifeboat manual pumps shall comply with the following requirements:—

(1) The capacity when operated at not more than 60 double strokes per minute, at 4 feet suction head, shall be not less than (*a*) 5 gallons per minute in lifeboats of under 24 feet in length and (*b*) 7 gallons per minute in lifeboats of 24 feet in length and over.

(2) In its normal dry state (excluding internal grease or other assistance) the pump shall be readily self priming when operated on a suction head of not less than four feet.

(3) All parts of the pump shall be of non-corrodible material unaffected by sea water.

(4) The interior of the pump, including valves, shall be readily accessible for emergency cleaning, and the cover for access shall be capable of being easily removed without the use of a spanner or other special tool.

(5) The pump branches shall be suitable for use with 1¼ inches bore rubber hose connections. The metal part of the operating handle shall be suitably sheathed by material other than wood so as to protect the hands of the operator when the pump is used in extreme cold. The spindle gland shall be of the spring loaded seal ring type.

PART V

Lifeboat Parachute Distress Rocket Signals

Rule 28 (1) (*n*)

(1) A lifeboat parachute distress rocket signal shall consist of a single bright red star which is projected to the required height by means of a rocket, and which burns while falling, its rate of fall being controlled by means of a small parachute to 15 feet per second. It is to be fitted with a self-contained means of ignition, so designed as to operate from the hand-held position without external aid, and such as to enable the rocket to be discharged from a lifeboat without harm to the occupants.

(2) When the rocket is fired approximately vertically, the star and parachute shall be ejected at or before the top of the trajectory, at a minimum height of 600 feet. The rocket shall also be capable of functioning when fired at an angle of 45 degrees to the horizontal.

(3) The star shall burn with a minimum luminosity of 10,000 candle power for not less than 30 seconds. It shall burn out at a height of not less than 150 feet from the sea level.

(4) The parachute shall be of such a size as to provide the required control of the rate of fall of the burning star. It must be attached to the star by means of a flexible fireproof harness.

(5) The rocket shall be waterproofed and capable of satisfactory functioning after immersion in water for one minute.

(6) All components, compositions and ingredients, shall be of such a character and of such a quality as to enable the rocket to maintain its serviceability under good average storage conditions for a period of at least two years.

(7) The rockets shall be packed in a container hermetically sealed.

(8) The date on which rockets are filled shall be stamped indelibly on the rockets and on the containers.

SEVENTH SCHEDULE

LIFEBOAT DISENGAGING GEARS

Rule 34 (10)

(1) Lifeboat disengaging gears shall be so arranged as to ensure simultaneous release of both ends of the lifeboat.

(2) The means of effecting release shall be placed aft.

(3) The gear shall be of a type which will permit the release of the lifeboat only when it is waterborne.

(4) The gear shall be of a type which will permit release should there be a towing strain on the link or falls.

(5) The hooks shall be suitable for instant unhooking by hand.

(6) The point of attachment of the hook to the eye, ring or link of the block shall not be lower than when ordinary fixed hooks are fitted.

(7) The gear and mechanism for effecting release shall be so constructed and arranged as to ensure the safety of the lifeboat independently of any safety pins.

(8) The means for effecting release shall be by hauling on or letting go a line, or by using a lever. If release is effected by a pull upon a line, the line shall be properly cased in. Rods or other connections between hooks shall also be cased in whenever this is necessary for the safety or the efficient action of the gear or for the protection of persons from injury.

The fairleads shall be properly arranged to prevent the lines from jamming or nipping, and shall be strongly attached to permanent parts of the lifeboat. The lines shall be fitted with chains where necessary for efficiency.

(9) Such parts of the gear as would otherwise be likely to be set fast by rust or corrosion shall be made of non-corrodible metal.

(10) No part of the gear taking the weight of the lifeboat shall be made of cast metal.

(11) The scantlings and proportions of all parts which support the weight of the lifeboat shall be designed to provide breaking strength proportionate to a load of at least 2½ times the weight of the heaviest loaded lifeboat in which the gear is intended to be fitted.

EIGHTH SCHEDULE

DAVITS AND LIFEBOAT LAUNCHING GEAR

Rule 34 (6) (*a*)

PART I

Construction

(1) *Definition of working load.* For the purposes of this Schedule the expression "working load" means the sum of the weight of the lifeboat, the equipment, the blocks and falls and the maximum number of persons with which the lifeboat is required to be lowered into the water, the weight of each person being taken to be 165 lb. Provided however that if two lifeboats are served by the same pair of davits, the working load in relation to those davits shall be the maximum load that may be imposed on them at any time.

(2) *Luffing davits.* The operating gear of luffing type davits shall be of sufficient power to ensure that the lifeboats fully equipped and manned with the launching crew, but not loaded with other persons, can be turned out against a list of at least 15 degrees.

(3) *Gravity davits.* (*a*) In the case of gravity type davits comprising arms mounted on rollers which engage with and travel down fixed inclined trackways, the trackways shall be inclined at an angle of not less than 30 degrees to the horizontal when the vessel is upright.

(*b*) Gravity davits of other types shall be so designed that there is a positive turning out moment during the whole of the davit travel from the inboard to the outboard position when the vessel is listed up to 25 degrees either way.

(*c*) Where gravity type davits are fitted with electric motors for recovering the lifeboats, automatic cut-outs shall be fitted and arranged to operate before the davits come against the runway stops in order to avoid overstressing the wire rope falls or davits.

(4) *Stresses.* The designed stress on the davit arms, when operating under maximum load and conditions of list, shall afford an adequate factor of safety, having regard to the quality of the material used, the method of construction, and the live nature of the load to which the davits are subjected.

(5) *Static load test.* In the case of all davits made of cast steel, or of wrought steel or other material fabricated by a welding process, the davits with their arms at full outreach shall be capable of withstanding a static load test of not less than 2.2 times the working load.

(6) *Attachments at the davit head.* The attachments at the davit head from which the blocks are suspended shall be capable of withstanding a proof load test of not less than 2½ times the working load.

(7) *Blocks.* (*a*) Lifeboat blocks shall be of ample strength having regard to the working load upon the davits.

(*b*) In the case of metal blocks the material used shall be of ductile quality and adequate strength. No part of gear intended to bear the weight of a lifeboat shall be constructed of cast metal unless the Minister shall so allow in the case of any ship. Metal blocks shall be capable of withstanding a proof load test of not less than 2½ times the working load on the davits. There shall be ample clearance between the cheeks of blocks in which cordage rope is used. The width between the cheeks shall be half an inch greater than the diameter of new cordage ropes when those ropes are 3¾ inches in circumference, and less in proportion to the circumference of the ropes when they are smaller.

(8) *Wire ropes.* (*a*) The breaking tensile load of wire ropes used for lowering boats shall be not less than six times the working load.

(*b*) Wire ropes shall be securely attached to the drum of the winch, and the end attachments of the wires and other parts from which the lifeboat is to be suspended shall be capable of withstanding a proof load of not less than 2½ times the working load.

(*c*) Where wire splices are used they shall be capable of withstanding a proof test of not less than 2½ times the working load unless sample splices of each size of wire when tested to destruction, give a factor of safety at the splice of not less than 5.

(9) *Winches.* (*a*) Winch drums shall be arranged to keep the two falls separate and to enable them to be payed out at the same rate. The leads of the wire ropes shall be such that they will wind evenly on the drums. Lead blocks shall be arranged at least 7 feet from the winch drums.

(*b*) The brakes of lifeboat winches shall be of robust construction and afford complete control and limitation of speed in the operation of lowering. The hand brake shall be so arranged that it is normally in the "ON" position and returns to the "ON" position when the control handle is not being operated. The weight on the brake lever shall be sufficient to operate the brake effectively without additional pressure. The brake gear shall include means for automatically controlling the speed of lowering to ensure that the boat is lowered expeditiously without exceeding a rate of lowering consistent with safety. For this purpose, the automatic brake shall be set to give a speed of lowering of the lifeboat of between 60 and 120 feet per minute. Ratchet gear shall be incorporated in the hand brake mechanism of lifeboat winches. Where practicable the brake gear shall be so situated as to enable the man operating the winch to have the lifeboat under observation during the whole process of its being launched into the water.

(*c*) When more than one lifeboat is served by the same wire falls the winches shall be fitted with quick return hand gear to enable the falls to be rapidly recovered, the lower blocks, when fitted, shall be non-toppling, and, where necessary, provision shall be made to prevent the falls from cabling.

(10) *Cordage rope falls.* (*a*) Cordage ropes used for falls shall be durable, unkinkable, firm laid and pliable. They shall be able to pass freely under any conditions through a hole $\frac{1}{8}$ inch larger than the nominal diameter of the rope.

(*b*) The breaking loads of cordage ropes shall be not less than:—

Size of Rope	Breaking Load
3¾ inches	6 tons
3½ ,, ...	5·25 ,,
3¼ ,, ...	4·5 ,,
3 ,, ...	3·85 ,,
2¾ ,, ...	3·25 ,,
2½ ,, ...	2·7 ,,
2½ ,, (" Ordinary quality ") ...	2·2 ,,

(*c*) Cordage ropes of less than 2½ inches shall not be used for lifeboat falls. Winding reels or flaking boxes for the falls shall be provided.

(*d*) Where cordage rope falls are used to serve two lifeboats stowed one above another under one pair of davits, a separate set of blocks and falls shall be provided for each lifeboat. The falls for the first lifeboat to be launched shall be attached to the davits and to the lifeboat ready for service. The falls for the second lifeboat to be launched shall be kept in position attached to the davits, but not necessarily attached to the lifeboat, provided that the lower blocks are taken to suitable ring bolts on deck or to strops on the davit or are otherwise arranged in such a manner that the falls will not interfere with the launching of the first lifeboat and will be immediately available for attachment to the second lifeboat.

(11) *Wood blocks for cordage rope falls.* Wood blocks for lifeboats of standard proportions shall be as follows:—

Length of boat not over	Davits in ships of Classes I, II, II(A), III, VII, VII(A), VIII, VIII(A), IX, X and XI			Davits in ships of Classes IV, V, VI, VI(A) and IX(A)		
	Block	Purchase of falls*	Size of cordage rope	Block	Purchase of falls*	Size of cordage rope
Feet	Ins.		Ins.	Ins.		Ins.
30	13	T & T	3¾	12	T & T	3½
29	13	,,	3¾	12	,,	3¼
28	13	,,	3¾	12	,,	3¼
27	12	,,	3½	11	,,	3
26	12	,,	3½	11	T & D	3
25	12	,,	3¼	11	,,	3
24	11	,,	3	10	,,	2¾
23	11	T & D	3	10	,,	2½
22	10	,,	2¾	9	D & D	2½
21	10	,,	2½	9	,,	2½†
20	9	D & D	2½	8	,,	2½†
19	9	,,	2½	8	D & S	2½†
18	9	,,	2½†	8	,,	2½†
17	8	,,	2½†	8	,,	2½†
16	8	,,	2½†	8	,,	2½†

*T=Triple D=Double S=Single. † Ordinary quality breaking load 2·2 tons.

(12) *Bollards.* Suitable bollards or other equally effective appliances for lowering lifeboats shall be provided in all cases where cordage rope falls are used. For lifeboats not exceeding 20 feet in length, horn cleats attached to the davits may be fitted in lieu of bollards. For lifeboats over 20 feet but not exceeding 25 feet in length, a double bollard may be fixed to each davit. For lifeboats over 25 feet in length, bollards of the cruciform type shall be attached to the deck, and in the case of lifeboats not over 27 feet in length the horizontal arms shall be not less than 5 inches in diameter, and sufficiently long to take at least four turns of the largest rope with which they will be used. In the case of lifeboats over 27 feet in length the arms shall be 6 inches in diameter, and not less than 6 inches in length from the side of the column. Ample lips or flanges shall be provided at the ends of the arms to prevent the fall from jumping off. Fairleads shall be fitted and be arranged so as to ensure that the lifeboat is not lifted during the process of swinging out.

PART II

Lowering tests

Rule 34 (6) (*a*)

In ships of Classes I, II, II(A), III, VII, VII(A), VIII, VIII(A), IX, X and XI each pair of davits, and, where fitted, the lifeboat winches including their hand and automatic brakes, shall be capable of withstanding the following test:— if not more than one lifeboat is suspended from the davits when in the outboard position the lifeboat at each set of davits shall be lowered from the embarkation deck to the water loaded with the usual equipment and a distributed weight equal to the full number of persons for which it measures plus 10 per cent. of the total load, including blocks and falls; if two lifeboats are suspended from the davits when in the outboard position, the heavier lifeboat loaded as indicated above shall be lowered from the embarkation deck to the water while the other lifeboat, with its blocks and falls and loaded with the usual equipment, plus 10 per cent. of the weight of the lifeboat, equipment, blocks and falls is suspended from the davits. Winch brakes exposed to the weather shall be capable of withstanding the foregoing test with the braking surface wetted.

NINTH SCHEDULE

BUOYANT APPARATUS

Rule 26

(1) Buoyant apparatus shall be capable of withstanding a drop test, the height of which shall be equivalent to that of the deck on which it is stowed above the ship's light water line, but in no case less than the following:—

Apparatus carried in ships of Class I	60 ft.
Apparatus carried in ships of Classes II and II(A) ...	35 ft.
Apparatus carried in ships of Class III	20 ft.

(2) The framework of buoyant apparatus shall be of hardwood, but the wood casing or sparring may be of softwood. The method of securing the corners shall be such as to avoid fastenings into end grain timber. The interior of the apparatus shall be well ventilated. There shall be no projections from the apparatus which would prevent it from sliding easily over a ship's rail during launching.

(3) Grab lines shall be fitted all round the apparatus in such a manner as to provide a number of equal loops corresponding to the number of persons for whom the apparatus is certified. Each loop shall have a cork or light wood float and the depth of the loop when wet shall not be less than 6 inches and not more than 8 inches.

On apparatus exceeding 12 inches in overall depth two rows of grab lines shall be fitted, one having its points of attachment a little below the top of the air cases and the other a little above the bottom of the air cases and as close to the sides of the air cases as is practicable. On apparatus of 12 inches or less in overall depth one row of grab lines may be attached along the line of the middle of the depth.

The grab lines shall be of rope of not less than 1¾ inches in circumference. They may be attached to the apparatus by being passed through holes in the framing and being interlaced to prevent movement, or they may be attached to the apparatus by means of wrought iron or steel fastenings. Whichever method is adopted the attachment shall be strong enough to permit the apparatus being lifted by the grab lines.

(4) Buoyant apparatus shall not exceed 400 lb. in weight unless suitable means are provided to enable it to be launched without lifting by hand. If the weight of the apparatus exceeds 300 lb. suitable handles or rungs shall be fitted for this purpose.

(5) Buoyant apparatus shall be effective and stable when floating either way up. It shall be capable of supporting a weight of iron, suspended in fresh water from the grab lines, of 15 lb. per foot of length along any edge (subject to a minimum of 64 lb.) without immersing any part of the upper surface of the apparatus.

(6) The air cases or equivalent buoyancy shall be placed as near as possible to the sides of the apparatus, and such buoyancy shall not be dependent upon inflation. If the buoyancy is provided by metal air cases, such air cases shall be of copper, yellow metal or other durable material and not more than 4 feet in length. If the air cases are more than 2 feet 6 inches in length or breadth they shall be efficiently stiffened by divisions or stays. The air cases shall not be pierced for the attachment of wood divisions or stays. They shall be protected from damage by properly fitted wood casing or sparring and be secured against movement within the casing. No iron work shall be placed in contact with metal air cases.

(7) Buoyant apparatus shall be fitted with a painter.

(8) Buoyant apparatus carried in ships of Class I shall not be less than 3 feet 6 inches in breadth.

TENTH SCHEDULE

LIFEBUOYS

Rule 36 (2)

(1) The inside diameter of lifebuoys shall be eighteen inches and the outside diameter thirty inches. The major axis of the section shall be 6 inches. The minor axis of the section shall be 4 inches.

(2) The buoyant material shall be covered with good quality material, the sewing of which shall be carried out with thread of not less strength than No. 25A cord.

(3) The completed lifebuoy shall be well coated with paint.

(4) The grab lines shall be of good quality unkinkable line, well secured to the cover by sewing or seizing, and, in addition, by bands of a double thickness of the covering material three inches wide around the section of the lifebuoy at four equidistant points, providing four loops of line each not less than two feet four inches long.

(5) The weight of a lifebuoy shall not exceed thirteen and a half pounds.

ELEVENTH SCHEDULE

LIFEJACKETS

Rule 35 (1)

(1) The buoyancy shall be provided by cork, kapok, or other equally efficient buoyant material.

(2) A cork lifejacket shall be capable of supporting sixteen and a half pounds of iron in fresh water for twenty-four hours. The cork shall not weigh more than twelve pounds per cubic foot, and shall be of good quality, cleaned, and in pieces the size of which shall not be less than ten cubic inches.

(3) A kapok lifejacket shall be capable of supporting at least twenty pounds of iron in fresh water after floating in fresh water for twenty-four hours with sixteen and a half pounds of iron attached. The kapok shall be of the best flotation quality, well teased, evenly packed and free from seeds and other foreign matters. At least twenty-four ounces of such kapok shall be in each lifejacket.

(4) The covering of lifejackets shall comply with the following requirements:—

(*a*) *Kapok lifejackets.* The weight of the covering per lineal yard shall be not less than five ounces for a width of twenty-seven inches and in proportion for other widths. The threads per inch shall be warp 38 two-fold threads, weft 54 single threads. The sewing shall be carried out with thread not less strong than No. 25 thread.

(*b*) *Cork lifejackets.* (i) If the covering is of cotton material the weight of the covering per lineal yard shall be not less than seven and a half ounces for a width of twenty-seven inches, and in proportion for other widths. The threads per inch shall be warp 42 two-fold threads, weft 29 two-fold threads.

(ii) If the covering is of linen material, the weight per lineal yard shall be not less than six ounces for a width of twenty-seven inches and in proportion for other widths. The threads per inch shall be 28 in both the warp and weft.

(5) The tapes of all lifejackets shall be of linen web, one and a quarter inches wide capable of bearing a strain of 200 pounds. The tapes shall be securely attached to the lifejacket cover. The method of fixing and tying of the tapes shall be such as to be easily understood and capable of being readily carried out.

(6) All lifejackets shall be marked indelibly on one side with a name indicating the design of the lifejacket in letters not less than one inch in size, and on the other side with the maker's name or other identification mark in smaller letters.

TWELFTH SCHEDULE

SHIPS' DISTRESS ROCKET SIGNALS

Rule 45 (1) and (2)

(1) A distress rocket signal shall consist of a single bright red star which is projected to the required height by means of a rocket, and which burns while falling, its rate of fall being controlled by means of a parachute to 15 feet per second.

(2) When the rocket is fired approximately vertically, the star and parachute shall be ejected at or before the top of the trajectory, at a minimum height of 750 feet. The rocket shall also be capable of functioning when fired at an angle of forty-five degrees to the horizontal.

(3) The star shall burn with a minimum luminosity of 25,000 candle power for not less than forty seconds. It shall burn-out at a height of not less than 150 feet from the sea level.

(4) The parachute shall be of such size as to provide the required control of the rate of fall of the burning star. It shall be attached to the star by means of a flexible fireproof harness.

(5) The rocket may be ignited by any suitable method. If external ignition by means of a safety fuse is employed, the outer end of the safety fuse shall be covered with a metal ferrule primed with match composition and a separate striker shall be suitably attached to each rocket.

(6) The match composition, the striker composition, the ferrule and the whole of the external surface of the rocket shall be water-proofed.

(7) The rocket shall be capable of functioning properly after immersion in water for one minute and removal of the adhering water by shaking.

(8) All components, compositions and ingredients shall be of such a character and of such a quality as to enable the rocket to maintain its serviceability under good average storage conditions for a period of at least two years.

(9) The rocket shall be packed in a metal container hermetically sealed.

(10) The date on which rockets are filled shall be stamped indelibly on the rockets and on the containers.

EXPLANATORY NOTE

(This Note is not part of the Rules, but is intended to indicate their general purport.)

These Rules arrange ships into classes and provide for the life-saving appliances to be carried by ships of each class. The Rules include such requirements as appear to the Minister of Transport to implement the provisions of the International Convention for the Safety of Life at Sea, 1948, relating to life-saving appliances.

1952 No. 1951

The Merchant Shipping (Musters) Rules, 1952

Made - - - -	11*th November*, 1952
Laid before Parliament	13*th November*, 1952
Coming into Operation	19*th November*, 1952

The Minister of Transport in exercise of his powers under Section 427 of the Merchant Shipping Act, 1894(**a**), as substituted by Section 2 of the Merchant Shipping (Safety Convention) Act, 1949(**b**), and of all other powers him enabling in that behalf, hereby makes the following Rules:—

Interpretation and Repeal

1.—(1) These Rules shall come into operation on the 19th day of November, 1952, and may be cited as the Merchant Shipping (Musters) Rules, 1952.

(2) In these Rules, unless the context otherwise requires, the expression "muster" includes a boat-drill and a fire-drill.

(3) These Rules apply to—

(*a*) British ships, except ships registered in Canada, the Commonwealth of Australia, New Zealand, the Union of South Africa, India, Pakistan, Ceylon, the Republic of Ireland, or in any territory administered by the Government of any of the aforesaid countries;

(*b*) other ships while they are within any port in the United Kingdom.

Provided that these Rules shall not apply to a ship by reason of her being within a port in the United Kingdom if she would not have been in any such

(a) 57 & 58 Vict. c. 60. (b) 12, 13 & 14 Geo. 6. c. 43.