MERCHANT SHIPPING ACT, 1951 (ACT NO. 57 OF 1951)

THE DRAFT CONSTRUCTION AMENDMENT REGULATIONS, 2023

The Minister of Transport hereby in terms of section 356 of the Merchant Shipping Act, 1951 (Act No. 57 of 1951), publishes for comments the draft Construction Amendment Regulations, 2023 as indicated in the Schedule.

Interested persons are invited to submit written comments on this draft Regulations 2023, within 30 days from the date of publication of this notice in the Government Gazette.
All comments should be posted or emailed to the Director-General Department of Transport for the attention of Mr TM Matlala at:

Department of Transport
Private Bag x 193
Pretoria
0001

E-mail: matlalatm@dot.gov.za
Tel: 012 309 3799

SCHEDULE

Contents

GENERAL EXPLANATORY NOTE:

[ ] Words in bold type in square brackets indicate omissions from existing regulations.

_____ Words underlined with a solid line indicate insertions in existing regulations.

Amendment of Part I of the Regulations

1. Part I of the Regulations is hereby amended by the substitution in the Arrangement of Regulations (table of contents) of the following:

"**[PART I**

(Passenger Ships)

CHAPTER I-GENERAL]

GENERAL

2. **[Interpretation.]** Definitions

2A. General Exemption.

PART I

(Passenger Ships)

CHAPTER I – GENERAL

CHAPTER II - WATERTIGHT SUBDIVISION

[CHAPTER II (A) - REQUIREMENTS FOR SHIPS NOT REQUIRED TO COMPLY WITH CHAPTER II

26. Openings in the sides of the ship.]

CHAPTER III - BILGE PUMPING ARRANGEMENTS

27. Application of Chapter III.

28. General.

29. Number and type of bilge pumps: **[ships of] Classes I and II** ships.

30. Number and type of bilge pumps: **[Ships of Class II (A)]** Class IIA ships.

31. Number and type of bilge pumps **[, etc.: Ships of]**; Classes V and VI ships.

32. **[Requirements for bilge pumps and bilge suctions]** Bilge pump requirements and arrangements.

[33. Arrangement of bilge pipes.

34. Diameter of bilge suction pipes.

35. Precaution against flooding through bilge pipes.

36. Bilge valves, cocks, etc.]

37. Bilge mud boxes and strum boxes.

38. Sounding pipes.

CHAPTER IV - ELECTRICAL EQUIPMENT AND INSTALLATIONS

39. Application of Chapter IV.

40. General.

41. Main generating sets: **[Ships of Classes I, II and IIA]** Class I, II and IIA ships.

42. Emergency source of electric power: **[Ships of Classes]** Class I, II and IIA ships.

43. Emergency switchboards.

44. Distribution systems.

45. General electrical precautions.

46. Spare parts and tools.

CHAPTER V - FIRE PROTECTION: [SHIPS OF CLASSES]CLASS I, II AND IIA SHIPS

47. Application of Chapter V.
48. Methods of fire protection.
49. Methods I, II and III.
50. Main vertical zones.
[51. "A" and "B" Class divisions.
52. Openings in "A" Class divisions.
53. Openings in "B" Class divisions: Methods I and III.
54. Bulkheads within main vertical zones: Methods I and III.
55. Restriction of combustible material, etc.: Methods I and III.]
56. Automatic fire alarm and fire detection systems: Methods I and III.
57. Automatic sprinkler, fire alarm and fire detection system: Method II.
58. Protect on of stairways.
59. Separation of accommodation spaces from other enclosed spaces.
60. Protection of lifts and vertical trunks for light and air.
61. Protection of control stations.
62. Protection of store rooms **[, etc.]**.
63. Ventilation systems.
64. Miscellaneous items of fire protection.

CHAPTER V(A) - FIRE PROTECTION: [SHIPS OF CLASSES]CLASS I, II AND [IIA]II (A) SHIPS

65. Application of Chapter V (A).
66. General.

CHAPTER V(B): FIRE PROTECTION: [SHIPS OF CLASSES]CLASS V AND VI SHIPS

67. Application of Chapter V (B).
68. Structure of the ship.
69. Divisions.

CHAPTER VI-BOILERS AND MACHINERY

70. Application of Chapter VI

71. General: Boilers, machinery, other pressure vessels, associated piping systems and fittings.

72. Boilers and other pressure vessels.

73. Machinery and machinery control.

73A Refrigeration systems.

74. **[Power for]** Means of going astern.

75. Shafts, gearing and coupling for transmission.

76. Boiler feed systems.

77. Steam pipe systems.

78. Air pressure systems.

79. Cooling water systems.

80. **[Oil]**Lubricating oil systems **[for lubricating, cooling and control]**.

81. Oil fuel installations (boilers and machinery).

82. Oil fuel and gas installations (cooking ranges and other heating appliances).

83. Ventilation and ventilation systems in machinery spaces.

84. Communication between bridge and engine room.

85. Steering gear.

86. Spare gear.

86A. Location of emergency installations in passenger ships.

86B. Protection from noise.

86C. Engineer's alarm.

86D. Special consideration: Periodically unattended machinery space.

CHAPTER VII - MISCELLANEOUS

87. Application of Chapter VII.

88. Anchors and chain cables.

89. Hawsers and warps.

90. Means of escape.

Amendment of Part I of the Regulations

1. Part I of the Regulations is hereby amended by the substitution for the heading of Part I of the Regulations of the following:

"[PART I

(Passenger Ships.)

CHAPTER I-GENERAL]

GENERAL".

Amendment of regulation 2 of the Regulations

2. Regulation 2 of the Regulations is hereby amended by the—

(a) substitution for the introductory paragraph of the following paragraph:

"In **[this part]**these Regulations, the expression "the Act" means the Merchant Shipping Act, 1951 (Act No. 57 of 1951), and unless the context otherwise indicates, any expression used in **[this part o]**these Regulations, to which a meaning has been assigned in the Act, bears the meaning so assigned, and—";

(b) substitution for the definition of **"A" Class division"** of the following definition:

""**"A" Class division"** means **[a bulkhead or part of a deck, in either case complying with such of the requirements of regulation 51 as are expressed to apply to "A" Class divisions]**a division that has undergone the Authority-required test of a prototype bulkhead or deck in accordance with the Fire Test Procedures Code to ensure that it meets the above requirements for integrity and temperature rise and is formed by bulkheads and decks which—

(a) are constructed of steel or other equivalent material;
(b) are suitably stiffened;
(c) are insulated with approved non-combustible materials such that the average temperature of the unexposed side will not rise more than 140^0 C. above the original temperature, nor will the temperature, at any one point, including any joint, rise more than 180^0 C. above the original temperature, within the time listed below:
(i) class "A-60" 60 min;
(ii) class "A-30" 30 min;
(iii) class "A-15" 15 min; and

(iv) class "A-0" 0 min; and

(d) are constructed as to be capable of preventing the passage of smoke and flame to the end of the one-hour standard fire test;";

(c) substitution for the definition of "accommodation space" of the following definition:

"**["accommodation space" includes—**

(a) passenger spaces,

(b) crew spaces,

(c) offices,

(d) pantries, and

(e) space similar to any of the foregoing, not being service spaces or open spaces on deck,]

"accommodation spaces" are those spaces used for public spaces, corridors, lavatories, cabins, offices, hospitals, cinemas, game and hobby rooms, barber shops, pantries containing no cooking appliances and similar spaces;";

(d) insertion after the definition of "accommodation space" of the following definition:

""**approved"** means approved by the Authority;";

(e) substitution for the definition of "Authority" of the following definition:

""**Authority"** means the **[Minister in respect of a ship of Class I or II and the Secretary in respect of a ship of Class IIA, V or VI]**South African Maritime Safety Authority established by section 2 of the South African Maritime Safety Authority Act, 1998 (Act No. 5 of 1998);";

(f) insertion after the definition of "auxiliary stairway" of the following definition:

"**"Auxiliary steering gear"** means the equipment other than any part of the main steering gear necessary to steer the ship in the event of failure of the main steering gear but not including the tiller, quadrant or components serving the same purpose;";

(g) substitution for the definition of "'B" Class division" of the following definition:

"**['] "B" Class division**" means a **[bulkhead complying with such of the requirements of regulation 51 as are expressed to apply to "B" Class divisions]**division that has undergone Authority-required test of a prototype division in accordance with the Fire Test Procedures Code to ensure that it meets the above requirements for integrity and temperature rise and is formed by bulkheads, decks, ceilings or linings which—

(a) are constructed of approved non-combustible materials and all materials used in the construction and erection of "B" class divisions are non-combustible, with the exception that combustible veneers may be permitted provided they meet other appropriate requirements of these Regulations;

(b) are constructed as to be capable of preventing the passage of flame to the end of the first half hour of the standard fire test; and

(c) have an insulation value such that the average temperature of the unexposed side will not rise more than 140^0 C. above the original temperature, nor will the temperature at any one point, including any joint, rise more than 225^0 C. above the original temperature, within the time listed below:

(i) class "B-15" 15 min; and

(ii) class "B-0" 0 min;";

(h) substitution for the definition of "cargo space" of the following definition:

""**cargo space**" means **[spaces appropriated]** a space used for cargo, cargo oil tanks, tanks for other **[than mail and bullion,]** liquid cargo and **[trunks]** any trunk leading to such **[spaces]**a space;";

(i) deletion of the definition of "constructed before or after any date";

(j) insertion after the definition of "constructed before or after any date" of the following definition:

""**continuous rating**" means the brake horse power and speed stated by the manufacturer of the engine to be the highest at which the engine will give satisfactory service when operated continuously for not less than 24 hours;";

(k) substitution for the definition of "control station" of the following definition:

""**control station**" **[includes—**

(a) radiotelegraph room;

(b) other enclosed space which houses—

(i) a compass, direction-finder, radar equipment, a steering wheel, or other similar equipment used in navigation;

(ii) a central indicator connected with a system for the detection of fire or smoke; or

(iii) an emergency generator] means any space in which the ship's radio or main navigating equipment or the emergency source of power is located or where the fire recording or fire control equipment is centralised;";

(l) substitution for the definition of "criterion numeral" of the following definition:

""**criterion numeral**" in relation to any ship means the criterion numeral of the ship determined in accordance with **[such of the provisions of Annex 2]** the

applicable requirements of Chapter II-1 regulation 5, 6, 7 or 8 of the Safety Convention as **[apply]**it applies to that ship**[.]**;";

(m) insertion after the definition of "criterion numeral" of the following definition:

""**dead ship condition**" means the condition under which the main propulsion plant, boilers and auxiliaries are not in operation due to the absence of power;";

(n) insertion after the definition of "draught" of the following definitions:

""**emergency condition**" means a condition under which any services needed for normal operational and habitable conditions are not in working order due to failure of the main source of electrical power;";

""**emergency source of electrical power**" means a source of electrical power, intended to supply the emergency switchboard in the event of a failure of the supply from the main source of electrical power;"; and

""**emergency switchboard**" means a switchboard which in the event of failure of the main electrical power supply system is directly supplied by the emergency source of electrical power or the transitional source of emergency power and is intended to distribute electrical energy to the emergency services;";

(o) substitution for the definition of "factor of subdivision" of the following definition:

""**factor of subdivision**" in relation to any ship or portion thereof means the factor of subdivision **[determined in accordance with such of the provisions of Annex 2 as apply]**applicable to that ship or portion as the case may be;";

(p) insertion after the definition of "floodable length" of the following definitions:

""**FSS Code"** means the International Fire Safety Systems Code issued under the Safety Convention for fire safety systems that are designed to reduce the risk of fire, and aid in emergency response aboard ships;";

""**FTP Code"** means the International Fire Test Procedures Code, 2010 for application of fire test procedures, as adopted by the Maritime Safety Committee under the Safety Convention;";

""**gross tonnage"** in the case of a ship having dual tonnage, means the larger of the two gross tonnage figures;"; and

""**IGC Code"** means the International Gas Carrier Code for the construction and equipment of ships carrying liquified gases in bulk;";

(q) substitution for the definition of "incombustible material" of the following definition:

""**incombustible material"** means material which **[when heated to a temperature of 1382° F. (750° C.)]** neither burns nor gives off inflammable vapours in sufficient quantity **[to ignite at a pilot-flame nor raises the temperature of the test furnace 90° F. (50°C.) or more above 382° F. (750° C.) when tested in accordance with British Standard Specification 476: Part 1: 1953]**for self-ignition when heated to approximately 750° C, this being determined in accordance with the Fire Test Procedures Code and the expression "combustible material" shall be construed accordingly**[.]**;";

(r) insertion after the definition of "independent power pump" of the following definition:

""**international voyage"** means a voyage from a country to which the present Convention applies to a port outside such country, or conversely;";

(s) substitution for the definition of "length" of the following definition:

""**length" [in relation to a ship, means the length of a ship measured between perpendiculars taken at the extremities of the deepest subdivision load water line]**means 96% of the total length on a waterline at 85% of the least moulded depth measured from the top of the keel, or the length from the fore-side of the stem to the axis of the rudder stock on that waterline, if that be greater: Provided in a ship designed with a rake of keel the waterline on which this is measured shall be parallel to the designed waterline;";

(t) insertion after the definition of "length" of the following definition:

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

(u) substitution for the definitions of "machinery space" of the following definition:

""**machinery space" [in every Chapter, other than Chapters V, V (A) and V (B), means any space extending from the moulded baseline of the ship to the margin line and between the extreme transverse watertight bulkheads bounding the spaces containing the main and auxiliary propelling machinery, boilers serving the need; of propulsion, when installed, and the permanent coal bunkers, if any;**

"machinery space" in Chapters V, V (A) and V (B), means any space used for propelling, auxiliary or refrigerating machinery, boilers, pumps, engineers' workshops, generators, ventilation or air conditioning machinery, oil filling stations and similar spaces and trunkways to such spaces]means any machinery space of category A and any other space containing propelling machinery, a boiler, oil fuel unit, steam and internal combustion engine, generator and major electrical machinery, oil filling station,

refrigerating, stabilising, ventilation and air conditioning machinery, and a similar space, and any trunk to such a space;";

(v) insertion after the definition of "machinery space" of the following definition:

""**machinery space of category A"** means a space and trunk to such a space which contains:

(a) internal combustion machinery used for main propulsion;

(b) internal combustion machinery used for purposes other than main propulsion where such machinery has in the aggregate a total power output of not less than 375 kW; or

(c) any oil-fired boiler or oil fuel unit;";

(w) insertion after the definition of "main circulation pump" of the following definitions:

""**main generating station"** means the space in which the main source of electrical power is situated;";

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

""**main switchboard"** means a switchboard which is directly supplied by the main source of electrical power and is intended to distribute electrical energy to the ship's services;"; and

""**main source of electrical power"** means a source intended to supply electrical power to the main switchboard for distribution to all services necessary for maintaining the ship in normal operational and habitable conditions;";

(x) substitution for the definition of "main vertical zones" of the following definition:

""**main vertical zones**" means **[the main vertical zones]** those sections into which the hull, superstructure and deckhouses **[of a ship]** are divided **[in accordance with regulation 50 (1)]** by "A" class divisions, the mean length and width of which on any deck does not in general exceed 40 m;";

(y) substitution for the definition of "margin line" of the following definition:

""**margin line**" means a line drawn at least **[3 inches]**76 millimetres below the upper surface of the bulkhead deck at the side of ship and assumed for the purpose of determining the floodable length of the ship;";

(z) substitution for the definition of "mile" of the following definition:

""**mile**" means a nautical mile of **[6,080 feet,]**1.852 meters;";

(aa) substitution for the definition of "oil fuel unit" of the following definition:

""**oil fuel unit**" means the equipment used for the preparation of oil fuel for delivery to **[the oil burners of]** an oil-fired boiler, or equipment used for the preparation for delivery of heated oil to an internal combustion engine, and includes **[the]**any associated oil pressure **[pumps, filters]**pump, filter and **[heaters]**heater dealing with oil at a pressure of more than 0.18 N/mm²;";

(bb) substitution for the definition of "passenger space" of the following definition:

""**passenger space**" means any space provided for the use of a passenger;";

(cc) deletion of the definition of "public rooms";

(dd) insertion after the definition of "permissible length" of the following definition:

"**"public space"** means those portions of the accommodation which are used for halls, dining rooms, lounges and similar permanently enclosed spaces;";

(ee) deletion of the definition of "radiotelegraph rooms";

(ff) substitution for the definition of "service space" of the following definition:

"**"service space"** includes **[galleys, main pantries, laundries, store rooms, paint rooms, baggage rooms, mail rooms, bullion rooms, carpenters' and plumbers' workshops, and trunkways]** a galley, main pantry, laundry, store room, paint room, baggage room, mail room, carpenters' and plumbers' workshop, and trunkway leading to such **[spaces]**a space;";

(gg) substitution for the definition of "settling tank" of the following definition:

"**"settling tank"** means **[an oil storage tank having a heating surface of not less than 2 square feet per ton of oil capacity]**a deep tank in the engine room used for pre-cleaning of fuel oils by heat or gravity;";

(hh) insertion after the definition of "settling tank" of the following definition:

"**"sister vessel"** means a vessel exactly similar in design to one already dealt with under a particular Part of these Regulations;";

(ii) substitution for the definition of "standard fire test" of the following definition:

"**"standard fire test"** means a test in which specimens of the relevant bulkheads or decks **[having a surface area of not less than [50 square feet]15.24 centimetres and a height of [8 feet]2.43 meters, resembling as closely as possible the intended construction and including where appropriate at**

least one joint,] are exposed in a test furnace to **[a series of time temperature relationships,]**temperatures corresponding approximately **[as follows:-**
At the end of the first 5 minutes-1,000° F. (538° C.);
At the end of the first 10 minutes-1,300° F. (704°C.);
At the end of the first 30 minutes-1,550° F. (843° C.); and
At the end of the first 60 minutes-1,700° F. (927° C.)] to the standard time-temperature curve in accordance with the test method specified in the Fire Test Procedures Code;";

(jj) insertion after the definition of "standard fire test" of the following definition:

""**steel or other equivalent material**" means any non-combustible material which, by itself or due to insulation provided, has structural and integrity properties equivalent to steel at the end of the applicable exposure to the standard fire test;";

(kk) substitution for the definition of "steering gear power unit" of the following definition:

""**steering gear power unit**" means:-
(a) in the case of electric steering gear, **[the]**an electric motor and its associated electrical equipment; **[or]**
(b) in the case of electro-hydraulic steering gear, **[the]**an electric motor, its associated electrical equipment and connected pump**[,]**; or
(c) in the case of **[steam-hydraulic or pneumatic]**other hydraulic steering gear, **[the]**a driving engine and connected pump;";

(ll) substitution for the definition of "subdivision load water line" of the following definition:

""**subdivision load water line"** means the water line assumed in determining the subdivision of the ship in accordance with **[this]** Part I of the regulations;";

(mm) substitution for the definition of "suitable" of the following definition:

""**suitable"** in relation to material means approved by the **[Secretary]**Authority as suitable for the purpose for which it is used;";

(nn) substitution for the definition of "surface spread of flame" of the following definition:

""**surface spread of flame"** for the purpose of Chapter V, means the surface spread of flame classified as Class 1 **[o r]**or Class 2 within the meaning of Section 2 of British Standard Specification 476: Part I: 1953;";

(oo) insertion after the definition of "surface spread of flame" of the following definitions:

""**tanker"** means a ship, other than a passenger ship, constructed or adapted for the carriage in bulk of liquid cargos of an inflammable nature;";

"the Regulations" means the Construction Regulations, 1968 published in Government Gazette No. 1955 by Government Notice No. R. 79 dated 19 January 1968, as amended";

(pp) substitution for the definition of "watertight" of the following definition:

""**watertight" [in relation to a structure,]** means **[its capability]**having scantlings and arrangements capable of preventing the passage of water **[through the structure]** in any direction under a head of water **[up to the ship's**

margin line]likely to occur in intact and damaged conditions: Provided in the damaged condition, the head of water is to be considered in the worst situation at equilibrium, including intermediate stages of flooding;";

(qq) insertion after the definition of "watertight" of the following definition:

""**weather deck**" is a deck which is completely exposed to the weather from above and from at least two sides; and"; and

(rr) substitution for the definition of "weathertight" of the following definition:

""**weathertight" [in relation to a structure means its capability of preventing the passage of sea water through the structure in ordinary sea conditions]**means that in any sea conditions water will not penetrate into the ship;".

Insertion of regulations 2A of the Regulations

1. The following regulation is hereby inserted after regulation 2:

"**2A. General Exemption**

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

(2) (a) The Authority may exempt any ship which embodies features of a novel kind, design and construction from any of the provisions of these Regulations the application of which might seriously impede research into

the development of such features and their incorporation in ships engaged on international voyages.

(b) Any such ship shall, however, comply with safety requirements which, in the opinion of that Authority, are adequate for the service for which it is intended and are such as to ensure the overall safety of the ship and which are acceptable to the Governments of the States to be visited by the ship.".

Insertion of heading of Part I, Chapter I of the Regulations

2. The following heading is inserted in Part I, Chapter I of the Regulations after regulation 2A:

"**PART I**

(Passenger Ships)

CHAPTER I – GENERAL".

Substitution of regulation 3 of the Regulations

3. The following regulation is hereby substituted for regulation 3 of the Regulations:

"**3. Application of this Part**

This **[part]**Part applies to **[every]**a passenger ship of 25 gross tons or over, registered or licensed in the Republic or which is, in terms of the Act, required to be so registered or licensed, and to **[every]**a passenger ship **[which is]** registered in a country other than the Republic.".

Substitution of regulation 4 of the Regulations

4. The following regulation is hereby substituted for regulation 4 of the Regulations:

"**4. Classification of ships**

(1) The ships to which this Part applies are divided into the following classes: -

Class I- A passenger ship engaged on voyages any of which are international voyages other than short international voyages**[.]**;

Class II- A passenger ship, other than a ship of Class I engaged **[or]**on voyages any of which are short international voyages**[.]**;

Class IIA- A ship of **[70 feet]**21 meters in length or over, other than a ship of Class V or VI, engaged on voyages of any kind other than international voyages**[.]**;

Class III- Not yet allocated**[.]**;

Class IV- Not yet allocated**[.]**;

Class V- A passenger ship of **[50 feet in length]**25 gross tons or over engaged only on voyages to sea in fine weather with not more than 40 persons on board, in the course of which voyages the ship is at no time more than 40 miles from the point of departure nor more than 15 miles from land**[.]**; and

Class VI-A passenger ship which operates at a port or is engaged on voyages to sea in fine weather with not more than 250 persons on board, in the course of which voyages the ship is at no time more than 15 miles **[fro m]**from the point of departure nor more than 5 miles from land.

(2) For the purposes of **[paragraph]**subregulation (1), "voyage" includes an excursion.".

Insertion of regulations 4A of the Regulations

5. The following regulation is inserted in Part I, Chapter I of the Regulations after regulation 4:

"**4A. Compliance with the Safety Convention**

A Class I, II and IIA of over 500 gross tons, shall be constructed in compliance with the applicable requirements of, Chapter II-1 of the Safety Convention and the applicable Codes.".

Substitution of regulation 5 of the Regulations

6. The following regulation is hereby substituted for regulation 5 of the Regulations:

"**5. Structural Strength**
The structural strength of **[every]**a ship shall be sufficient for the service for which the ship is intended.".

Substitution of regulation 6 of the Regulations

7. The following regulation is hereby substituted for regulation 6 of the Regulations:

"**6. Submission of Plans**
Before the construction or modification of **[any]**a ship is commenced, **[or at an any stage thereafter, the]**a builder or owner thereof shall submit in duplicate to the Authority the plans particular set forth in Annex 1 for approval.".

Substitution of regulation 7 of the Regulations

8. The following regulation is hereby substituted for regulation 7 of the Regulations:

"**7. Application of Chapter II**
Unless otherwise indicated in this Chapter, this Chapter applies to **[every ship of Class I, II, IIA, V or VI]** a Class I and II or a Class IIA, V and VI ship of less than 500 gross tons except an open or partially decked ship of Class V or a ship of Class VI **[carrying fewer than 151 passengers, and a "Chapter I ship" means a ship to which this Chapter applies]**.".

Substitution of regulation 8 of the Regulations

9. The following regulation is hereby substituted for regulation 8 of the Regulations:

"**8. Watertight subdivisions**

[Every Chapter II ship shall be subdivided by bulkheads, which shall be watertight up to the bulkhead deck, into compartments the maximum length of which shall be calculated in accordance with such of the provisions of Annex 2 as apply to the ship. Every other portion of the internal structure which affects the efficiency of the subdivision of the ship shall be watertight and shall be of a design which will maintain the integrity of the subdivision]

A Class IIA, V and VI ship shall be subdivided by bulkheads, which shall be watertight up to the bulkhead deck, into compartments the maximum length of which shall be calculated in accordance with the requirements of Chapter II-1 regulation 6 and 13 of the Safety Convention.".

Amendment of regulation 9 of the Regulations

10. Regulation 9 of the Regulations is hereby amended–

(a) by the substitution for the heading of regulation 9 of the following heading:

"**9. Peak and machinery space bulkheads, shaft tunnels[, etc.]**";

(b) by the substitution for subregulation (1) of the following:

"**[(1) Every Chapter II ship shall be provided with a collision bulkhead which shall be watertight up to the bulkhead deck and shall be fitted at a distance from the ship's forward perpendicular of not less than 5 per cent of the length of the ship and not more than 10 feet plus 5 per**

cent of such length. If the ship has a forward superstructure, the collision bulkhead shall be extended weathertight to the deck next above the bulkhead deck. The extension shall not be required to be fitted directly over the bulkhead below, provided that it is at least 5 per cent of the length of the ship from the forward perpendicular and the part of the bulkhead deck which forms the step is made effectively weathertight. The plating and stiffeners of such extension shall be constructed in accordance with the provisions of Annex 4 as if the extension formed part of a bulkhead immediately below the bulkhead deck.]

A Class IIA, V and VI ship shall be provided with peak and machinery space bulkheads, shaft tunnels which shall be in accordance with the requirements of Chapter II-1 regulation 12 of the Safety Convention."; and

(c) by the deletion of subregulations (2) and (3).

Amendment of regulation 10 of the Regulations

11. Regulation 10 of the Regulations is hereby amended–

(a) by the substitution for subregulation (1) of the following regulation:

"**[(1) Subject to the provisions of this regulation, every ship of Class I, II or IIA shall be fitted with a watertight double bottom which shall be at least of the following extent-]** A Class IIA, V and VI ship shall be fitted with a watertight double bottom which shall be in accordance with the requirements of Chapter II-1 regulation 12 of the Safety Convention.";

(b) by the deletion in subregulation (1) of paragraphs (a), (b) and (c); and

(c) by the deletion of subregulations (2), (3), (4) and (5).

Amendment of regulation 11 of the Regulations

12. Regulation 11 of the Regulations is hereby amended–

(a) by the substitution in subregulation (1) for paragraph (a) of the following regulation:

"**11. Stability in damaged condition**

[(1) (a) Every Chapter II ship shall be so constructed as to provide sufficient intact stability in all service conditions to enable the ship to withstand the final flooding of any one of the main compartments into which the ship is subdivided in accordance with the provisions of regulation 8. If two of the main compartments, being adjacent to each other, are separated by a bulkhead which is stepped under the conditions of paragraph 6 (3) (a) of Annex 2, the intact stability shall be adequate to withstand the final flooding of those two adjacent main compartments.]

A Class IIA, V and VI ship shall be so constructed as to provide sufficient intact stability in all service conditions to enable the ship to withstand the final flooding of any one of the main compartments into which the ship is subdivided in accordance with the applicable requirements of Chapter II-1 regulation 5, 6, 7 or 8 of the Safety Convention."; and

(b) by the deletion of paragraphs (b) and (c) in sub-regulation (1); and

(c) by the deletion of subregulations (2), (3) and (4).

Substitution of regulation 12 of the Regulations

13. The following regulation is hereby substituted for regulation 12 of the Regulations:

"**12. Ballasting**

In **[every Chapter II ship]**a Class IIA, V and VI ship shall, when ballasting with water is necessary, the water ballast shall not **[in general]** be carried in tanks intended for oil fuel. **[In a ship in which it is not practicable to avoid putting water in oil fuel tanks, oily-water separator equipment to the satisfaction of the Authority shall be fitted, or an alternative means acceptable to the Authority shall be provided for disposing of the oily-water ballast.]**".

Amendment of regulation 13 of the Regulations

14. Regulation 13 of the Regulations is hereby amended–

(a) by the substitution for the heading of regulation 13 of the following heading:

"**13. Construction of watertight bulkheads[, etc.]**";

(b) by the substitution for in regulation 13 for subregulation (1) of the following:

"**[(1)]** In **[every Chapter II ship]**a Class IIA, V and VI ship shall, every portion of the ship required by this Part to be watertight, shall be constructed in accordance with such of the requirements of Chapter II-1 regulation 10 of the Safety Convention."; and

(c) by the deletion of subregulation (2).

Amendment of regulation 14 of the Regulations

15. Regulation 14 of the Regulations is hereby amended–

(a) by the substitution for the heading of regulation 14 of the following heading:

"**14. Openings in watertight bulkheads[, etc.]**";

(b) by the deletion of subregulation (1);

(c) by the substitution for subregulation (2) of the following subregulation:

"(2) In **[every ship of]**a Class **[I, II or]** IIA ship, **[bulkheads]**a bulkhead outside **[the spaces]**any space containing machinery which **[are]**is required by this Part to be watertight, shall not be pierced by openings which are capable of being closed only by portable bolted plates.";

(d) by the substitution for subregulation (3) of the following subregulation:

"(3) In **[every Chapter II ship of]**a Class IIA, Class V or VI ship, **[bulkheads]**a bulkhead required by this Part to be watertight, shall not be pierced by **[doorways, ventilation trunks,]**a doorway, ventilation trunk or other similar **[openings]**opening shall be in accordance with the requirements prescribed in Chapter II-1 regulation 13 of the Safety Convention."; and

(e) by the deletion of subregulation (4).

Amendment of regulation 15 of the Regulations

16. Regulation 15 of the Regulations is hereby amended–

(a) by the substitution for the heading of regulation 15 of the following heading:

"**15. Means of closing openings in watertight bulkheads[, etc.]**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) In **[every slip of]**a Class **[I, II or]** IIA ship, efficient means shall be provided for closing and making watertight **[all openings]**any opening in **[bulkheads and]**any bulkhead or other **[structures]**structure required by this Part to be watertight in accordance with Chapter II-1 regulation 13 of the Safety Convention."; and

(c) by the deletion of subregulations (2), (3), (4), (5), (6) and (7).

Amendment of regulation 16 of the Regulations

17. Regulation 16 of the Regulations is hereby amended–

(a) by the substitution for the heading of regulation 16 of the following heading:

"**16. Means of operating a sliding watertight [doors]door**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) In **[any ship of]**a Class **[I, II or]** IIA ship which is not required to be subdivided **[in accordance with Part III of Annex 2,]**, any sliding watertight door fitted in a bulkhead is in a position which may require it to be opened at sea and the sill thereof is below the deepest subdivision load water line, the requirements of Chapter II-1 regulation 13 of the Safety Convention **[following provisions]** shall apply**[-.**

(a) when the number of such doors (excluding doors at entrances to shaft tunnels) exceeds five, all such and those at the entrances to shaft tunnels, ventilation, forced draught or similar ducts, shall be power operated and shall be capable of being simultaneously closed from a single position situated on the navigating bridge;

(b) when the number of such doors (excluding doors at entrances to shaft tunnels) is greater than one, but does not exceed five,

(i) where the ship has no passenger spaces below the bulkhead deck, all such doors may be hand operated;

(ii) where the ship has passenger spaces below the bulkhead deck, all such doors and those at the entrances to shaft tunnels, ventilation or forced draught or similar ducts, shall be power operated and shall be capable of being simultaneously closed from a single position situated on the navigating bridge;

(c) in any ship where there are only two such doors and they lead into or are within the space containing machinery, the Authority may permit them to be hand operated only]."; and

(c) by the deletion of subregulations (2), (3), (4), (5), (6), (7), (8), (9), (10), (11), (12), and (13).

Amendment of regulation 17 of the Regulations

18. Regulation 17 of the Regulations is hereby amended–

(a) by the substitution for the heading of regulation 17 of the following heading:

"**17. Watertight [doors-signals]door-signals and communications**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) **[Every]**A sliding watertight door fitted in a **[ship of]** Class **[I, II or]** IIA ship, shall be connected with an indicator at each position from which the door may be closed, other than at the door itself, showing when the door is open and when it is closed in accordance with Chapter II-1 regulation 13 of the Safety Convention."; and

(c) by the deletion of subregulation (2) and subregulation (3).

Amendment of regulation 18 of the Regulations

19. Regulation 18 of the Regulations is hereby amended–

(a) by the substitution for the heading of regulation 18 of the following heading:

"**18. Construction and initial test of watertight [doors]closures**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) **[Every]**A closure required by this Part to be watertight shall **[be of such design, material and construction iron as will maintain the integrity of the watertight bulkhead in which it is fitted. Any such door giving direct access to any space which may contain bunker coal shall, together with its frame, be made of cast or mild steel. Any such door in any other position shall, together with its frame, be made of cast or mild steel or cast iron.]**be in accordance with the requirements prescribed in Chapter II-1 regulation 16 of the Safety Convention."; and

(c) by the deletion of subregulations (2), (3), (4), (5), (6), (7) and (8).

Amendment of regulation 19 of the Regulations

20. Regulation 19 of the Regulations is hereby amended–

(a) by the substitution for subregulation (1) of the following subregulation:

"**[(1)]**In **[every Chapter II]**a Class IIA, V or VI ship, the number of side scuttles, scupper, sanitary discharges and other openings in the shell plating below the margin line, shall be the minimum compatible with the design and proper working of the ship shall be in accordance with the requirements prescribed in Chapter II-1 regulation 15 of the Safety Convention."; and

(b) by the deletion of subregulation (2), (3), (4), (5), (6), (7) and (8).

Substitution of regulation 20 of the Regulations

21. The following regulation is hereby substituted for regulation 20 of the Regulations:

"**20. Side and other openings above the margin line**

[(1)] In **[every Chapter II]**a Class IIA, V or VI ship, **[side scuttles, windows, gangway doors, cargo ports, bunkering ports, and other openings]**a side scuttle, window, gangway door, cargo port, bunkering port, or any other opening in the shell plating above the margin line and **[their]**its means of closing, shall be of efficient design and construction and of sufficient strength having regard to the **[spaces it]**space in which **[they are]**it is fitted and **[their positions]**its position relative to the deepest subdivision load

water line and to the intended service of the ship in accordance with the requirements of Chapter II-1 regulation 17 of the Safety Convention.

[(2) In every Chapter II ship, efficient inside deadlights, which can be easily closed and secured watertight, shall be provided for all side scuttles to spaces below the first deck above the bulkhead deck.]".

Substitution of regulation 21 of the Regulations

22. The following regulation is hereby substituted for regulation 21 of the Regulations:

"**21. Weather deck**

(1) In **[every Chapter II]**a Class IIA, V or VI ship**[,]** —

(a) the bulkhead deck or a deck above the bulkhead deck shall be weathertight**[.]**;

(b) **[All openings]**an opening in an exposed weathertight deck shall have coamings of adequate height and strength and shall be provided with efficient and rapid means of closing so as to make **[them]**such opening weathertight**[.]**; and

(c) **[Freeing ports, open rails and scuppers]**a freeing port, open rail or scupper, shall be fitted as necessary for rapidly clearing the weather deck of water under all weather conditions,

in accordance with the requirements prescribed in Chapter II-1 regulation 17 of the Safety Convention.".

Repeal of regulation 22 of the Regulations

23. Regulation 22 of the Regulations is hereby repealed.

Amendment of regulation 23 of the Regulations

24. Regulation 23 of the Regulations is hereby amended–

(a) by the substitution for subregulation (1) of the following subregulation:

"**23. Subdivision load lines**

(1) **[Every Chapter II]**A Class IIA, V or VI ship shall be marked on its sides amidships with the subdivision load lines assigned to it by the **[Minister in the case of an international load line ship or the Secretary in the case of a local load line ship. The marks shall consist of horizontal lines one inch in breadth, and nine inches in length in the case of a ship which is a load line ship for the purposes of the Act and 12 inches in length in the case of any other ship. The marks shall be painted white or yellow on a dark ground or in black on a light ground, and shall also be cut in or centre punched or indicated by welded bead on iron or steel ships, and cut into the planking on wood ships.]**Authority shall be in accordance with the requirements prescribed in Chapter II-1 regulation 18 of the Safety Convention."; and

(b) by the deletion of subregulation (2).

Amendment of regulation 24 of the Regulations

25. Regulation 24 of the Regulations is hereby amended–

(a) by the substitution for the heading of regulation 24 of the following heading:

"**24. [Exhibition of damage]Damage control [plans]information**"; and

(b) by the substitution for regulation 24 of the following:

"(1) In **[every Chapter II]**a Class IIA, V or VI ship, there shall be permanently exhibited for the information of the officer in charge of the ship, information and plans showing clearly for each deck and hold the boundaries of the watertight compartments, the openings therein, that means of closing such openings, the position of the controls and the arrangements for the correction of any list due to flooding in accordance with Chapter II-1 regulation 19 of the Safety Convention.

(2) In addition to the plans referred to in subregulation (1), booklets containing such information shall be available for the use of the officers of the ship.".

Repeal of Chapter II(A) in Part I of the Regulations

26. Chapter II(A) in Part I of the Regulations is hereby repealed.

Substitution of regulation 27 of the Regulations

27. The following regulation is hereby substituted for regulation 27 of the Regulations:

"**27. Application of Chapter III**

Unless otherwise indicated in this Chapter, this Chapter applies to **[every ship of Class I, II, IIA, V or VI and a "Chapter III ship" means a ship to which this Chapter applies]**a Class I and II or a Class IIA, V and VI ship of less than 500 gross tons.".

Substitution of regulation 28 of the Regulations

28. The following regulation is hereby substituted for regulation 28 of the Regulations:

"**28. General**

(1) **[Except in the case of an open ship of Class VI not exceeding 40 feet in length, and not proceeding on voyages to a point more than 5 miles from the starting point, every Chapter III]**A Class IIA, V or VI ship shall be provided with—

(a) an efficient pumping plant capable of pumping from and draining any watertight compartment in the ship, other than a space permanently appropriated for the carriage of fresh water, water ballast or oil and for which other efficient means of pumping or drainage is provided under all conditions likely to arise in practice after a casualty, whether or not the ship remains upright**[.]**;

(b) **[Wing]**wing suctions **[shall be provided]** if necessary, for **[that purpose.]**the purposes of paragraph (a);

(c) **[Efficient]**efficient arrangements **[shall be provided]** whereby water in any watertight compartment may find its way to the suction pipes**[.]**;

(d) **[Efficient]**efficient means **[shall be provided]** for draining water from all insulated hulls and insulated between decks in the ship**[.]**; Provided that the Authority may allow the provision for drainage to be omitted in a particular compartment if **[he]**the Authority is satisfied**[:]**—

[(a)] (i) that having regard to the calculations made **[in accordance with the conditions set out in Annex 3]**for stability in damaged condition, the safety of the ship will not thereby be impaired; and

[(b)] (ii) that the provision of drainage would otherwise be undesirable.".

Amendment of regulation 29 of the Regulations

29. Regulation 29 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 29 of the following heading:

"**29. Number and type of bilge pumps: [ships of] Classes I and II ships**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) **[Every Ship of]**A Class I or II ship shall be provided with **[pumps connected to the bilge main]** the required number and type of bilge pumps in accordance with the **[following table—]** requirements of Chapter II-1 regulation 35-1 of the Safety Convention.";

(c) by the deletion of the table in subregulation (1); and

(d) by the deletion of subregulation (2).

Amendment of regulation 30 of the Regulations

30. Regulation 30 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 30 of the following heading:

"**30. Number and type of bilge pumps: [ships of Class II (A)]Class IIA ships**";

(b) by the substitution for subregulation (1) of the following subregulation:

"**[(1) Every ship of]**A Class IIA ship shall be provided with bilge pumps in accordance with item **[(c), (d) or (e)]**(b), whichever is appropriate, of the following table-";

(c) by the substitution for the table in subregulation (1) of the following table:

[

Length of Ship in feet	**Number of Pumps**		
	Main Engine Pump*	**Independent Power Pumps**	**Hand Pumps†**
(a) Under 50	**1**	**-**	**One of the lever type for each watertight compartment, or one of the crank type.**
(b) 50 feet and under 70	**1**	**1**	**One of the lever type for each watertight compartment, or one of the crank type**
(c) 70 and under 100	**1**	**1**	**One of the lever type for each watertight compartment, or one of the crank type.**
(d) 100 and under 250	**1**	**1**	**One of the crank type**
(e) 250 and over	**1**	**2**	**--**

]

Ship	Number of Pumps

	Main engine pump*	Independent power pumps	Hand pumps†
(a) Under 14 meters	1	-	One of the lever type for each watertight compartment, or one of the crank type for each watertight compartment.
(b) 14 meters and under 500 gross tons	1	1	-
(c) above 500 gross tons	requirements of Chapter II-1 regulation 35-1 of the Safety Convention.		

* The main engine pump may be replaced by one independent power pump.

† The handpumps specified in this column may be replaced by one independent power pump."; and

(d) by the deletion of subregulation (2).

Amendment of regulation 31 of the Regulations

31. Regulation 31 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 31 of the following heading:

"**31. Number and type of bilge pumps[, etc.: ships of]: Classes V and VI ships**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) **[Every ship of]**A Class V ship shall be provided with bilge pumps in accordance with item (b), or (c)**, [(d) or (e),]** whichever is appropriate, of the table set forth in regulation **[30(1)]**30."; and

(c) by the substitution for subregulation (2) of the following subregulation:

"(2) **[Every ship of]**A Class VI ship shall be provided with bilge pumps **[m]**in accordance with the appropriate item of the table set forth in regulation **[30(1)]**30.".

Amendment of regulation 32 of the Regulations

32. Regulation 32 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 31 of the following heading:

"**32. [Requirements for bilge pumps and bilge suctions]Bilge pump requirements and arrangements**";

(b) by the substitution for subregulation (1) of the following subregulation:

"**[(1) Power bilge pumps fitted in any Chapter III ship, shall, where practicable, be placed in separate watertight compartments so arranged or situated as not to be readily flooded by the same damage, and if the ship's engines and boilers are in two or more watertight compartments, the bilge pumps there available shall be distributed through such compartments as far as possible]**

In a Class I, II, IIA, V and VI ship, the following bilge pump requirements and arrangements shall be in accordance with the requirements of Chapter II-1 regulation 35-1 of the Safety Convention:

(a) Arrangement of bilge pipes;

(b) Diameter of bilge suction pipes;

(c) Precautions against flooding through bilge pipes; and

(d) Bilge valves, cocks."; and

(c) by the deletion of subregulations (2), (3), (4), (5) and (6).

Repeal of regulations 33, 34, 35 and 36 of the Regulations

33. Regulations 33, 34, 35 and 36 of the Regulations are hereby repealed.

Substitution of regulation 37 of the Regulations

34. The following regulation is hereby substituted for regulation 37 of the Regulations:

"**37. Bilge mud boxes and strum boxes**

(1) **[Bilge suctions]**A bilge suction in the machinery space of **[every Chapter III]**a Class I,II, IIA, V or VI ship shall be led from readily accessible mud boxes placed wherever practicable above the level of the working floor of such a space.

(2) The boxes in subregulation (1) shall have straight tailpipes of the bilges and covers secured in such a manner as will permit **[them]**the boxes to be readily opened and closed.

(3) The suction ends in hold spaces and tunnel wells shall be enclosed in strum boxes having perforations approximately **[3/8 inch]**10 millimetres in diameter, and the combined area of such perforations shall be not less than twice that of the end of the suction pipe.

(4) **[Strum boxes]**A strum box shall be so constructed that **[they]**it can be cleared without breaking any joint of the suction pipe.".

Substitution of regulation 38 of the Regulations

35. The following regulation is hereby substituted for regulation 38 of the Regulations:

"**38. Sounding pipes**

(1) In **[every ship to which Chapter II applies,]**a Class I,II, IIA, V or VI ship—

(a) all tanks forming part of the structure of the ship and all watertight compartments, not being part of the machinery space, shall be provided with efficient sounding arrangements which shall be protected where necessary against damage**[.]**;

(b) **[Where such]**where the arrangements in paragraph (a) consist of sounding pipes, a thick steel doubling plate shall be securely fixed below each sounding pipe for the sounding rod to strike upon**[.]**;

(c) **[All such]**a sounding **[pipes]**pipe shall extend to **[positions]**a position above the ship's bulkhead deck which shall at all times be readily accessible**[.]**;

(d) **[Sounding pipes for bilges, cofferdams and double bottom tanks, being bilges, cofferdams and tanks]**a sounding pipe for a bilge, cofferdam or double bottom tank, being a bilge, cofferdam or tank situated in the machinery space, shall so extend as prescribed in paragraph (c), unless the upper **[ends]**end of the **[pipes are]**pipe is accessible in ordinary circumstances and **[are]**is furnished with **[cocks]**a cock having parallel plugs with permanently secured handles so loaded that on being released, **[they]**the plugs automatically **[close]**closes the cocks**[.]**; and

(e) **[Sounding pipes]**a sounding pipe for the bilges of insulated holds shall be insulated and not less than **[2½ inches]**65 millimetres in diameter.".

Substitution of regulation 39 of the Regulations

36. The following regulation is hereby substituted for regulation 39 of the Regulations:

"**39. Application of Chapter IV**

Unless otherwise indicated in this Chapter, this Chapter applies to **[every ship of Class I, II, IIA, V or VI and a "Chapter IV ship" means a ship to which this Chapter applies]**a Class I and II or a Class IIA, V and VI ship of less than 500 gross tons.".

Substitution of regulation 40 of the Regulations

37. The following regulation is hereby substituted for regulation 40 of the Regulations:

"**40. General**

(1) In **[every Chapter IV]**a Class IIA, V or VI ship, the electrical equipment and installations, other than the electrical means of propulsion, if any, shall be such that the electrically operated services essential for the safety of the ship and of persons on board can be maintained under emergency conditions in accordance with Chapter II-1 regulation 40 of the Safety Convention.

(2) In **[every Chapter IV]**a Class IIA, V or VI ship, the electrical equipment and installations, including electrical means of propulsion if any, shall be such that the ship and all persons on board are protected against electrical

hazards in accordance with Chapter II-1 regulation 40 of the Safety Convention.".

Amendment of regulation 41 of the Regulations

38. Regulations 41 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 41 of the following heading:

"**41. Main generating sets: [Ships of Classes I, II and IIA]Class I, II and IIA ships**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) (a) **[Every ship of]**A Class I, II or IIA ship, being a ship in which electrical power is the only power for maintaining the auxiliary services essential for the propulsion or safety of the ship, shall be provided with two or more main generating sets of such power that the aforesaid services can be operated when any one of the sets is out of service.

(b) Arrangements shall be made which will safeguard **[such]**the generating sets referred to in paragraph (a) from being rendered inoperative in the event of the partial flooding of the ship's machinery space through leakage from a damaged compartment or otherwise in accordance with Chapter II-1 regulation 41 of the Safety Convention."; and

(c) by the substitution for subregulation (2) of the following subregulation:

"(2) In **[every ship of]**a Class I, II or IIA ship—

(a) where there is only one main generating station, such main generating station and the main switchboard shall be situated in the same main fire zone**[.]**; and

(b) **[Where]**where there is more than one main generating station, and only one main switchboard, such switchboard shall be situated in the same main fire zone as one of the generating stations in accordance with Chapter II-1 regulation 41 of the Safety Convention.".

Amendment of regulation 42 of the Regulations

39. Regulation 42 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 42 of the following heading:

"**42. Emergency source of electric power: [Ships of Classes]Class I, II and IIA ships**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) In **[every ship of]**a Class I, II or **IIA** ship—

(a) there shall be provided in a position above the bulkhead deck not forward of the collision bulkhead and outside the machinery casings, a self-contained emergency source of electric power[.]; and

(b) **[The]**the location of **[this]**the self-contained emergency source referred to in paragraph (a), in relation to the main source or sources of electric power, shall be such as to ensure that a fire or other casualty to the machinery space will not interfere with the supply or distribution of emergency power and in accordance with Chapter II-1 regulation 42 of the Safety Convention.";

(c) by the substitution in subregulation (2) for paragraph (e) of the following paragraph:

"(e) all communication equipment, fire detecting systems and signals which may be required in an emergency, if they are electrically operated from the ship's main generating sets**[,]**;";

(d) by the substitution for subregulation (3) of the following subregulation:

"(3) The emergency source of electric power shall be either an accumulator **[(storage)]**or storage battery capable of complying with subregulation (2) without being recharged or suffering an excessive voltage drop, or a generator driven by internal combustion type machinery with an independent fuel supply and with efficient starting arrangements, and the fuel provided for such machinery shall have a flash point of not less than **[110° F. (43° C.)]**43° C.";

(e) by the substitution in subregulation (5) for paragraph (a) of the following paragraph:

"(5) (a) If **[he]**the emergency source of electric power is an accumulator **[(storage)]**or storage battery, the arrangements shall be such that the ship's emergency lighting system will come into operation automatically in the event of the failure of the main scarce of power for the ship's main lighting system.";

(f) by the substitution in subregulation (5) for paragraph (b) of the following paragraph:

"(b) If the emergency source of electric power is a generator, an accumulator **[(storage)]**or storage battery shall be provided as a

temporary source of electric power, so arranged as to come into operation automatically in the event of a failure of the main or emergency source of electric power, and of sufficient capacity to operate the ship's emergency lighting system continuously for half an hour and with such lighting system is in operation**[:]** —"; and

(g) by the substitution in subregulation (5) for paragraph (d) of the following paragraph:

"(d) An indicator shall be provided in the machinery space, on the main switchboard or at some other suitable position, to show when an accumulator **[(storage)]**or storage battery fitted in accordance with this regulation, is being discharged.".

Substitution of regulation 43 of the Regulations

40. The following regulation is hereby substituted for regulation 43 of the Regulations:

"**43. Emergency switchboards**

In **[every ship of]**a Class I, II or IIA ship in which the provision of an emergency source of electric power is required by this Part—

(a) the emergency switchboard shall be situated as near as practicable to the emergency source of power;

(b) if the emergency source of power is a generator, the emergency switchboard shall be situated in the same space as the generator, unless the operation of the switchboard would thereby be impaired;

(c) if the emergency source of power is a generator, an interconnecting feeder, adequately protected at each end, connecting the main and emergency switchboards shall be fitted;

(d) no accumulator **[(storage)]**or storage battery fitted in accordance with regulation 42, shall be situated in the same space as the emergency switchboard**[.]**,

in accordance with Chapter II-1 regulation 42 of the Safety Convention.".

Amendment of regulation 44 of the Regulations

41. Regulation 44 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation:

"(1) In **[every Chapter IV]**a Class I, II, IIA, V and VI ship**[,]**—

(a) every main and emergency switchboard shall be in accordance with Chapter II-1 regulation 45 of the Safety Convention and so arranged as to give easy access to the back and the front thereof without danger to any person, and shall be suitably guarded**[.]**;

(b) **[A]**a non-conducting mat or grating shall be provided at the back and front where necessary**[.]**; and

(c) **[No]**an exposed **[parts]**part which may have a voltage between conductors or to earth exceeding **[250]**55 volts direct current or **[55]**250 volts alternating current, shall not be installed on the face of any switchboard or control panel.";

(b) by the substitution for subregulation (2) of the following subregulation:

"(2) Hull return shall not be used in any **[Chapter IV]**a Class I, II, IIA, V and VI ship for the power, heat and light distribution systems thereof.";

(c) by the substitution for subregulation (3) of the following subregulation:

"(3) If in any **[Chapter IV]**a Class I, II, IIA, V and VI ship, two or more generating sets maybe in operation at the same time for maintaining the auxiliary

services essential for the propulsion or safety of the ship, provision shall and shall be provided to trip automatically sufficient non-essential load when the total current exceeds the connected generator capacity.";

(d) by the substitution for subregulation (4) of the following subregulation:

"(4) (a) In **[every Chapter IV]**a Class I, II, IIA, V and VI**]** ship**[,]**—

(i) electric and electro-hydraulic steering gear shall be served by two circuits fed from the main switchboard, one of which may pass through the emergency switchboard, if one is provided**[.]**;

(ii) **[Each]**each circuit shall have adequate capacity for supplying all the motors which are normally connected to it and which operate simultaneously, and if transfer arrangements are provided in the steering gear room to permit either circuit to supply any motor or combination of motors, the capacity of each circuit shall be adequate for the most severe load condition**[.]**; and

(iii) **[The]**the circuits in subparagraph (ii) shall be separated as widely as is practicable throughout their length.

(b) Short circuit protection **[only shall be provided for such circuits and motors]** and an overload alarm shall-

(i) be provided for such circuits and motors;

(ii) have protection against excess current, including starting current, if provided, which shall be for not less than twice the full load current of the motor or circuit so protected, and shall be arranged to permit the passage of the appropriate starting currents; and

(iii) where a three-phase supply is used, be provided with an alarm that will indicate failure of any one of the supply

phases and shall be both audible and visual and situated in a conspicuous position in the main machinery space or control room from which the main machinery is operated.

(c) **[Every Chapter IV]**A Class I, II, IIA, V and VI ship which is fitted with electric or electro-hydraulic steering gear, shall be provided with indicators which—

(i) will show when the power units of such steering gear are running**[.]**; and

(ii) **[These indicators]**shall be situated in suitable positions on the navigating bridge and in the machinery space or the machinery control room[.],

in accordance with Chapter II-1 regulation 30 of the Safety Convention.";

(e) by the substitution for subregulation (5) of the following subregulation:

"(5) (a) There shall be not less than two sources of power supply for the sea water pump and automatic alarm and detection system which shall be in accordance with the requirements of Chapter VIII section 2.4 of the FSS Code: Provided where one of the sources of power for the pump is an internal combustion engine it shall, in addition to complying with the provisions of this regulation, be so situated that a fire in any protected space will not affect the air supply to the machinery.

(b) If, in **[any Chapter IV]**a Class I, II, IIA, V and VI ship the power supply for an automatic sprinkler system, requiring not less than two sources of power supply for sea-water pumps, air compressors and automatic alarms, is electrical**[,]**—

(i) such power supplies shall be taken from the main generating sets and from an emergency source of electric power**[.]**;

(ii) **[One]**one supply shall be taken from the main switchboard and another from the emergency switchboard, by separate feeders reserved solely for that purpose**[.]**;

(iii) **[Such]**the feeders referred to in subparagraph (ii) shall be **[run to a change-over switch situated near to the sprinkler unit, and the switch shall normally be kept closed to the feeder from the emergency switchboard.]**so arranged as to avoid galleys, machinery spaces and other enclosed spaces of high fire risk except in so far as it is necessary to reach the appropriate switchboards, and shall be run to an automatic changeover switch situated near the sprinkler pump; and

(iv) **[The changeover]**the change-over switch in subparagraph (iii) shall-

(aa) be clearly labelled and normally kept closed, and no other switch shall be permitted in these feeders**[.]**;

(bb) permit the supply of power from the main switchboard so long as a supply is available therefrom; and

(cc) be so designed that upon failure of that supply it will automatically change over to the supply from the emergency switchboard.";

(f) by the substitution for subregulation (6) of the following subregulation:

"(6) Where fire protection in accordance with regulation **[49 (3)]**49(1)(b) is provided in any **[Chapter IV]**Class I, II, IIA, V and VI ship, the superstructure of which is constructed in aluminium alloy, and where in such a ship the feeders from the emergency generator to the sprinkler unit pass through any space constituting a fire risk, the cables shall be of a fireproof type.";

(g) by the substitution for subregulation (7) of the following subregulation:

"(7) In **[every Chapter IV]**a Class I, II, IIA, V and VI ship**[,]**—

(a) distribution systems shall be so arranged that a fire in any main fire zone will not interfere with essential services in any other main fire zone**[,]**; and

(b) **[Main]**main and emergency feeders passing through any main fire zone, shall be separated as widely as is practicable both horizontally and vertically."; and

(h) by the substitution for subregulation (8) of the following subregulation:

"(8) **[Wiring systems]**A wiring system for interior communications essential for safety and for emergency alarm systems shall be arranged to avoid **[galleys, machinery spaces and other enclosed spaces]**any galley, machinery space or other enclosed space having a high risk of fire except in so far as it is necessary to provide communication or to give alarm within those spaces: Provided that in the case of a ship the construction and small size of which do not permit of compliance with this requirement, measures satisfactory to the Authority shall be taken to ensure efficient protection for a wiring **[systems]**system where **[they pass]**such a wiring system passes through **[galleys, machinery spaces and other enclosed spaces]**a galley, machinery space or other enclosed space having a high risk of fire.".

Amendment of regulation 45 of the Regulations

42. Regulation 45 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation:

"(1) (a) In **[every]**a **[Chapter IV]**a Class I, II, IIA, V and VI ship**[,]**—

(i) all electrical equipment shall be so constructed and installed that there will be no danger of injury to any person handling it in a proper manner**[.]**; and

(ii) **[Subject]**subject to the provisions of paragraph (b), where electrical equipment supplied as ship's equipment is to be operated at a voltage in excess of 55 volts, the exposed metal parts of such equipment which are not intended to have a voltage above that of earth, but, which may have such a voltage under fault conditions, shall be earthed**[.]**; and

(b) (i) **[Exposed]**any exposed metal **[parts]**part of portable electric **[lamps, tools and]**lamp, or similar apparatus, supplied as ship's equipment to be operated at a voltage in excess of 55 volts, shall be earthed through a conductor in the supply cable, unless by the use of double insulation or a suitable isolating transformer, protection at least as effective as earthing through a conductor is provided**[.]**; and

(ii) **[When]**when an electric **[lamps, tools]**lamp, tool or other apparatus **[are]**is used in a damp **[spaces]**space, provision shall be made, so far as practicable, to ensure that the danger of electric shock is reduced to a minimum.";

(b) by the substitution for subregulation (2) of the following subregulation:

"(2) **[Every electric cable in]**In a **[Chapter IV]**a Class I, II, IIA, V and VI ship**[,]**—

(a) an electric cable shall be of a flame retarding type**[.]**;

(b) **[All]**a metal **[sheaths and]**sheath or metal armour of any electrical cable in use in the ship, shall be electrically continuous and shall be earthed**[.]**; and

(c) **[Every]**an electric cable which is neither metal sheathed nor armoured shall, if installed where its failure might cause a fire or explosion, be otherwise effectively protected.";

(c) by the substitution for subregulation (3) of the following subregulation:

"(3) Wiring in **[every]**a **[Chapter IV]**a Class I, II, IIA, V and VI ship shall be supported in such a manner as to avoid chafing and other injury.";

(d) by the substitution for subregulation (4) of the following subregulation:

"(4) In **[every]**a **[Chapter IV]**a Class I, II, IIA, V and VI ship**[,]**—

(a) the joints in all electrical conductors shall be made only in junction or outlet boxes except in the case of low voltage communication circuits**[.]**; and

(b) **[All such]**the junctions or outlet boxes in paragraph (a) shall be so constructed as to prevent the spread of fire therefrom.";

(e) by the substitution for subregulation (5) of the following subregulation:

"(5) In **[every]**a **[Chapter IV]**a Class I, II, IIA, V and VI ship, lighting fittings shall be arranged to prevent rises in temperature which would be injurious to the electrical wiring thereof or which would result in a risk of fire in surrounding material.";

(f) by the substitution for subregulation (6) of the following subregulation:

"(6) **[Every]**An electric space-heater forming part of the equipment of a **[Chapter IV]**a Class I, II, IIA, V and VI ship, shall—

(a) be fixed in position and shall be so constructed as to reduce the risk of fire to a minimum**[.]**; and

(b) **[No such heater shall]**be constructed with an element so exposed that clothing, curtains, or other similar material, can be scorched or set on fire by heat from the element.";

(g) by the substitution for subregulation (7) of the following subregulation:

"(7) In **[every]**a **[Chapter IV]**a Class I, II, IIA, V and VI ship**[,]**—

(a) every separate electrical circuit, other than a circuit which operates the ship's steering gear, shall be protected against overload and short circuit**[.]**; and

(b) **[There]**there shall be clearly and permanently indicated on or near each over-load protective device, the current carrying capacity of the circuit which it protects and the rating or setting of the device.";

(h) by the substitution for subregulation (8) of the following subregulation:

"(8) In **[every Chapter IV]**a Class I, II, IIA, V and VI ship, **[all]**an accumulator **[(storage) batteries]**or storage battery shall be housed in **[boxes]**a box or **[compartments]** compartment which **[are]**is so constructed as to protect the **[batteries]** battery from damage and **[are]**is so ventilated as to **[minimize]**minimise the accumulation of explosive gas.";

(i) by the substitution for subregulation (9) of the following subregulation:

"(9) **[In spaces where inflammable mixtures are liable to collect, no electrical]**Electrical equipment shall not be installed in a space where inflammable mixtures are liable to collect, unless **[it]**the electrical equipment is of a type which will not ignite the mixture concerned."; and

(j) by the substitution for subregulation (10) of the following subregulation:

"(10) In **[every Chapter]**a Class I, II, IIA, V and VI ship, **[every]**a lighting circuit in a bunker or hold shall be provided with an isolating switch outside the space.".

Substitution of regulation 46 of the Regulations

43. The following regulation is hereby substituted for regulation 46 of the Regulations:

"**46. Spare parts and tools**

[Every ship of]A Class I, II or IIA ship shall be provided with an adequate quantity of replacements for those parts of the ship's electrical equipment and installations which, having regard to the intended service of the ship, it would be essential for the safety of the ship and of persons on board to replace in the event of failure while the ship is at sea, together with such tools as are necessary for the fitting of those replacements.".

Amendment of Chapter V of Part I of the Regulations

44. Chapter V of Part I of the Regulations is hereby amended by the substitution for the heading of Chapter V of the following heading:

"**CHAPTER V - FIRE PROTECTION: [SHIPS OF CLASSES]CLASS I, II AND IIA SHIPS**".

Substitution of regulation 47 of the Regulations

45. The following regulation is hereby substituted for regulation 47 of the Regulations:

"**47. Application of Chapter V**

This Chapter applies to **[every ship of]**a Class I, II or IIA ship carrying more than 36 passengers, and a "Chapter V ship" means a ship to which this Chapter applies.".

Substitution of regulation 48 of the Regulations

46. The following regulation is hereby substituted for regulation 48 of the Regulations:

"**48. Methods of fire protection**

(1) **[The]**An accommodation **[spaces and]**space or service **[spaces]**space in **[every]**a Chapter V ship, shall be constructed in accordance with any one of the following methods of fire protection, or a combination thereof, and shall comply with such of the following requirements of this Chapter as are applicable to the method or methods adopted**[:-]**—

(a) Method I: The construction in **[the]**an accommodation **[spaces and]**space or service **[spaces]**space of a system of internal bulkheading consisting of "B" Class divisions, together with an automatic fire alarm and fire detection system in **[these spaces.]**any such space;

(b) Method II: The fitting of an automatic sprinkler, fire detection and fire alarm system in the accommodation **[spaces and]**space or service **[spaces.]**space; or

(c) Method III: The subdivision of **[the]**an accommodation **[spaces and]**space or service **[spaces]**space by "A" Class and "B" Class divisions, together with the fitting of an automatic fire alarm and fire detection system in **[all]**any accommodation **[spaces and]**space or service **[spaces]**space and a restriction of the provision of combustible material in **[these spaces]**any such space.".

Substitution of regulation 49 of the Regulations

47. The following regulation is hereby substituted for regulation 49 of the Regulations:

"**49. Methods I, II and III**

(1) **[Every]**A Chapter V ship shall be constructed in accordance with one of the following methods of fire protection or a combination of two or more of such methods**[.]**;

[(2)] (a) Method I:

[(a)] (i) The hull, superstructure, structural **[bulkheads decks and deckhouses]**bulkhead deck or deckhouse shall be constructed of steel or other equivalent material**[.]**; and

[(b)] (ii) **[Crowns and casings]**A crown or casing of a boiler **[and]**or machinery **[spaces]**space shall be of steel construction, adequately insulated, and **[the openings]**any opening therein, **[if any,]** shall be suitably arranged and protected to prevent spread of fire.

[(3)] (b) Method II:

[(a)] (i) The hull, superstructure, structural **[bulkheads, decks and deckhouses]**bulkhead deck or deckhouse shall be constructed of steel or other equivalent **[material. The]**material and the use of combustible materials of all kinds shall be reduced as far as s reasonable and practicable**[.]**; and

[(b)] (ii) Where the superstructure is constructed of aluminium alloy—

[(i)] (aa) the temperature rise of the metallic cores of the "A" Class divisions, when exposed to a standard fire test of 60 minutes duration, shall have regard to the mechanical properties of the material**[.,]**;

[(ii)] (bb) an automatic sprinkler system complying with the requirements of regulation 57 (2) shall be installed;

[(iii)] (cc) adequate provision shall be made to ensure that in the event of fire, arrangements for the stowage and launching of and the embarkation into survival craft remain as effective as if the superstructure were constructed of steel; and

[(iv)] (dd) **[crowns and casings]**a crown or casing of a boiler **[and]**or machinery **[spaces]**space shall be of steel construction adequately insulated and **[the openings]**any opening therein, **[if any,]** shall be suitably arranged and protected to prevent spread of fire.

[(4)] (d) Method III:

[(a)] (i) The hull, superstructure, structural **[bulkheads, decks and deckhouses,]**bulkhead, deck or deckhouse shall be constructed of steel or other equivalent material**[.]**; and

[(b)] (ii) Where the superstructure is constructed of aluminium alloy—

[(i)] (aa) the temperature rise of the metallic cores oil the "A" Class divisions, when exposed to a standard fire test of 60 minutes duration, shall have regard to the mechanical properties of the material;

[(ii)] (bb) ceilings shall be of incombustible material**[,]**;

[(iii)] (cc) adequate provision shall be made to ensure that in the event of fire, arrangements for the stowage and launching of and embarkation into survival craft remain as effective as if the superstructure were constructed of steel; and

[(iv)] (dd) **[crowns and casings]**a crown or casing of a boiler **[and]**or machinery **[spaces]**space shall be of steel construction adequately insulated and **[the openings]**any opening therein, if any, shall be suitably arranged and protected to prevent spread of fire.

[(5)] (2) Where **[the]**an accommodation **[and]**or service **[spaces]**space in the ship **[are]**is constructed in accordance with a combination of any of the foregoing methods, the requirements as to the structure of any part of the ship shall be those appropriate to the method of fire protection adopted in that part of the ship.".

Amendment of regulation 50 of the Regulations

48. Regulation 50 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following:

"**50. Main vertical zones**

[(1)]In a Chapter V ship **[The]**the hull, superstructure **[and]**and **deckhouses]** deckhouse of every Chapter V ship shall be subdivided by bulkheads consisting of "A" Class divisions into main vertical zones**[. The mean length of each zone, above the bulkhead deck, shall not exceed 131 feet. Steps and recesses shall be kept to a minimum, but any which are necessary shall consist of "A" Class divisions. Provided that in the case of a ship in which Method III of fire protection has been adopted, additional "A" Class divisions shall be provided within the accommodation spaces in order to reduce in these spaces the mean length of the main vertical zones to about 65.5 feet]** in accordance with Chapter II-2 regulation 9 of the Safety Convention."; and

(b) by the deletion of subregulation (2).

Repeal of regulations 51, 52, 53, 54 and 55 of the Regulations

49. Regulations 51, 52, 53, 54 and 55 of the Regulations are hereby repealed.

Amendment of regulation 56 of the Regulations

50. Regulation 56 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following:

"**56. Automatic fire alarm and fire detection systems: Methods I and III**

[(1)]In **[every]**a Chapter V ship in which Method I or Method III of fire protection has been adopted, a fire alarm and fire detection system shall be installed which will detect the presence or the signs of a fire and its location in any accommodation space or service space in accordance with Chapter II-2 regulation 7 of the Safety Convention."; and

(b) by the deletion of subregulations (2), (3) and (4).

Substitution of regulation 57 of the Regulations

51. The following regulation is hereby substituted for regulation 57 of the Regulations:

"**57. Automatic sprinkler, fire alarm and fire detection systems: Method II**

(1) In **[every]**a Chapter V ship in which Method II of fire protection has been adopted, an automatic sprinkler and fire alarm and fire detection system complying with the requirements specified in **[Annex 5]** Chapter II-2 regulation 7 of the Safety Convention shall be installed and so arranged as to protect all accommodation spaces and service spaces in the ship.

(2) In **[every]**a ship referred to in **[sub-regulation]**subregulation (1), the superstructure of which is wholly or partly constructed of aluminium alloy, the whole unit including the sprinkler pump, tank and air compressor shall

be situated to the satisfaction of the Authority in a position reasonably remote from the boiler and machinery spaces.".

Substitution of regulation 58 of the Regulations

52. The following regulation is hereby substituted for regulation 58 of the Regulations:

"**58. Protection of stairways**

(1) **[*Method's*]***Methods I and III:*

(a) In **[every]**a Chapter V ship in which Method I or III has been adopted, **[every]**a stairway within an accommodation space or service space shall be of steel frame construction in accordance with Chapter II-2 regulation 9 of the Safety Convention: Provided that the Authority may permit in lieu of steel, the use of other material considered equivalent to steel by virtue of insulation **[. Every]**and such stairway shall lie within an enclosure constructed of "A" Class divisions except that—

(i) a stairway serving only two decks shall not be required to be enclosed by "A" Class divisions at more than one deck; and

(ii) a stairway in a public room shall not be required to be so enclosed if it lies wholly within the room.

(b) **[Every]**An opening in a stairway enclosure shall be provided with a means of closure which shall be permanently attached thereto**[. The means of closure]** which shall be, as far as practicable equivalent in resisting fire to the division in which it is fitted and shall, unless it is a watertight door, be self-closing.

(c) **[Every]**A stairway enclosure in a ship referred to in paragraph (a), shall—

(i) communicate directly with the corridors adjacent thereto and shall be of sufficient area to prevent congestion, having regard

to the number of persons likely to use the stairway in an emergency**[. Every such enclosure]**; and

(ii) shall contain as little accommodation space or service space as is practicable in the circumstances.

(2) *Method II*:

(a) In **[every]**a Chapter V ship in which Method II has been adopted, **[every]**a stairway within an accommodation space or service space shall be of steel frame construction: Provided that the Authority may permit in lieu of steel the use of other suitable material or condition that additional fire extinguishing or fire protection arrangements to the satisfaction of the Authority are provided**[. Every]** and such stairway shall lie within an enclosure constructed of "A" Class divisions except that—

(i) a stairway serving only two decks shall not be required to be enclosed by "A" Class divisions at more than one deck; and

(ii) a stairway in a public room shall not be required to be so enclosed if it lies wholly within the room.

(b) **[Every]**An opening in a stairway enclosure shall be provided with a means of closure which shall be permanently attached thereto**[. The means of closure shall be,]**and as far as practicable, equivalent in resisting fire to the division in which it is fitted and shall, unless it is a watertight door, be self-closing.

(c) **[Every]**A stairway enclosure in a ship referred to in paragraph (a), shall—

(i) communicate directly with the corridors adjacent thereto and shall be of sufficient area to prevent congestion, having regard to the number of persons likely to use the stairway in an emergency**[. Every such enclosure shall]**; and

(ii) contain as little accommodation space or service space as is practicable in the circumstances.".

Substitution of regulation 59 of the Regulations

53. The following regulation is hereby substituted for regulation 59 of the Regulations:

"**59. Separation of accommodation spaces from other enclosed spaces**
In **[every]**a Chapter V ship, **[the bulkheads and decks]**a bulkhead or deck separating an accommodation **[spaces]**space from **[other]**another enclosed **[spaces]**space shall consist of "A" Class divisions.".

Amendment of regulation 60 of the Regulations

54. Regulation 60 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following:

"**60. Protection of lifts and vertical trunks for light and air**
[(1)]In **[every]**a Chapter V ship, **[every]**a lift trunk, **[and every]** light-and-air **[and]**or similar trunk in an accommodation space or service space, shall be constructed of "A" Class divisions: Provided that a lift trunk within a stairway enclosure shall not be required to be insulated**[. Every]** and any door in such a trunk shall be constructed of steel or other equivalent material and shall be as effective as the trunk in resisting fire in accordance with Chapter II-2 regulation 9 of the Safety Convention."; and

(b) by the deletion of subregulations (2), (3) and subregulation (4).

Substitution of regulation 61 of the Regulations

55. The following regulation is hereby substituted for regulation 61 of the Regulations:

"**61. Protection of control stations**

(1) **[Every]**A control station in **[every]**a Chapter V ship shall be in accordance with Chapter II-2 regulation 7 of the Safety Convention and separated from the rest of the ship by bulkheads and decks consisting of "A" Class divisions.

(2) **[The]**A radiotelegraph room in a Chapter V ship shall not be situated directly above any stairway.".

Amendment of regulation 62 of the Regulations

56. Regulation 62 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 62 of the following heading:

"**62. Protection of store rooms[, etc.]**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) In **[every]**a Chapter V ship, the boundary bulkheads separating a galley, baggage room, mail room, store room, paint room, lamp room, or any similar space from any other space, shall consist of "A" Class divisions in accordance with Chapter II-2 regulation 7 of the Safety Convention."; and

(c) by the substitution for subregulation (2) of the following subregulation:

"(2) **[Spaces]**A space appropriated for the storage of highly inflammable stores shall be so constructed and situated as to **[minimize]**minimise the danger to persons on board in the event of fire.".

Amendment of regulation 63 of the Regulations

57. Regulation 63 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following:

"**63. Ventilation systems**

[(1)]The main inlets of **[every]**an air supply system and the main outlets of **[every]**an air exhaust system in **[every]**an Chapter V ship shall be capable of being closed from external positions**[. Wherever]** and wherever practicable, the system of ducts leading from each ventilating fan shall be within one main vertical zone in accordance with the applicable provisions of Chapter II-2 regulation 5 and 9 of the Safety Convention."; and

(b) by the deletion of subregulations (2), (3) and subregulation (4).

Substitution of regulation 64 of the Regulations

58. The following regulation is hereby substituted for regulation 64 of the Regulations:

"**64. Miscellaneous items of fire protection**

(1) The following provisions shall apply to all parts of any Chapter V ship**[-]**:

(a) paints, varnishes or similar preparations shall not be used if they contain a nitro-cellulose or other highly inflammable base, and fabrics containing nitro-cellulose shall not be fitted**[,]**;

(b) **[any]**a pipe which penetrates an "A" Class or "B" Class division, shall be of suitable material and shall have regard to the temperature such divisions are required to withstand;

(c) **[pipes]**a pipe intended for oil or other inflammable liquids, shall be of suitable material having regard to the risk of fire; and

(d) an overboard **[scuppers]**scupper, sanitary **[discharges]**discharge or other **[outlets]**outlet close to the waterline, shall not be of a material likely to fail in the event of fire and thereby give rise to a danger of flooding.

(2) The following provisions shall apply to **[the]**an accommodation and a service **[spaces]**space of any Chapter V ship**[-]**:

(a) **[every]**an air space enclosed behind a ceiling, panel or lining in **[the]**an accommodation **[spaces]**space or service **[spaces]**space, shall be divided by close fitting draught-stops spaced not more than **[45 feet]**14 meters apart and which shall be closed at each deck;

(b) **[every]**a ceiling, panel and lining referred to in paragraph (a), shall be so constructed as to enable a fire patrol to detect any smoke originating in a concealed or inaccessible space, without impairing the efficiency of the fire protection of the ship;

(c) the concealed surfaces of **[every]**a bulkhead, lining, panel, stairway, wood ground and other structure in an accommodation **[spaces and]**space or service **[spaces]**space, shall be such that the surface spread of flame is not exceeded;

(d) the use of wood for the construction and equipment of **[galleys, bakeries and main pantries]**a galley, bakery or main pantry shall be **[restricted so far as is practicable]**prohibited;

(e) (i) **[every]**a window **[and]**or side scuttle in the ship's side in **[bulkheads]**a bulkhead protecting an accommodation **[spaces]** space from the weather, shall—

(aa) be constructed with **[frames]**a frame of steel or other suitable material and the glass therein shall be retained by a metal glazing bead**[. If]**; and

(bb) if the window or side scuttle in item (aa) is in a position in which the fusion of the frame, ring or bead may give rise to danger of flooding, the frame, ring or bead, as the case may

be, shall consist of metal which is not likely to fuse in the event of fire; and

(ii) **[every]**a window and side scuttle in **[bulkheads]**a bulkhead within an accommodation **[spaces]**space, shall be constructed so as to preserve the integrity requirements of the type of bulkhead in which it is fitted;

(f) **[any]**a permanent deck sheathing within an accommodation space, service space, control station, stairway or corridor, shall be of a type which will not readily ignite; and

(g) cellulose-nitrate-based film shall not be used in a cinematograph **[installations]**installations.

(3) The following provisions shall apply to **[the]**a machinery **[spaces]**space of **[any]**a Chapter V ship**[-]**;

(a) **[the skylights]**a skylight to **[spaces]**a space containing main propulsion machinery or an oil-fired **[boilers]**boiler or auxiliary internal combustion type machinery of a total horse power of 1,000 or over, shall be capable of being closed and opened from outside the space in the event of fire and, where they contain glass panels, such panels shall be of fire resisting construction fitted with wire reinforced glass and shall have external permanently attached shutters of steel or other equivalent material; and

(b) (i) **[windows]**a window shall not be fitted in an engine **[casings]**casing except where the Authority is satisfied that **[they are]**it is necessary and will not constitute a fire hazard.

(ii) **[Where]**where such **[windows are]**a window is fitted, **[they]**it shall be of a non-opening type and shall be of fire resisting construction fitted with wire reinforced glass and shall have external permanently attached shutters of steel or other equivalent material.".

Amendment of Chapter V(A) of Part I of the Regulations

59. Chapter V(A) of Part I is hereby amended by the substitution for the heading of Chapter V(A) of the following heading:

"**CHAPTER V(A) - FIRE PROTECTION: [SHIPS OF CLASSES]CLASS I, II AND IIA SHIPS**".

Substitution of regulation 65 of the Regulations

60. The following regulation is hereby substituted for regulation 65 of the Regulations:

"**65. Application of Chapter V(A)**

This Chapter applies to **[every ship of]**a Class I, II or IIA ship carrying **[not more]**less than 36 passengers, and a "Chapter V (A) ship" means a ship to which this Chapter applies.".

Substitution of regulation 66 of the Regulations

61. The following regulation is hereby substituted for regulation 66 of the Regulations:

"**66. General**

(1) **[Every]**A Chapter V(A) ship, shall comply with regulations 49 to **[52]**50 inclusive, regulations 59, 60 (1), 61, 62, 64 (1) (a), (b), (c) and (d) and regulation 64 (2) (c), (d), (e), (f) and (g).

(2) In **[any]**a Chapter V(A) ship, the Authority may permit smaller amounts of insulation to be fitted than are required **[by]**in terms of regulation **[51 (1)]**50, and the following additional provisions shall apply to such ship—

(a) **[all stairways]**a stairway and means of escape in an accommodation **[and]**or a service **[spaces]**space shall be of steel or other equivalent material**[..]**;

(b) power ventilation of a machinery space shall be capable of being stopped from an easily accessible position outside the space; and

(c) except where all bulkheads in accommodation spaces conform with the requirements of regulation**[, 54 (1) and 55 (1)]** 50, the ship shall be provided with an automatic fire detection system conforming with regulation 56, and in accommodation spaces the corridor bulkheads shall be of steel or shall be incombustible "B" Class divisions.".

Amendment of Chapter V(B) of the Regulations

62. Chapter V(B) of Part I is hereby amended by the substitution for the heading of Chapter V(B) of the following heading:

"**CHAPTER V(B): FIRE PROTECTION: [SHIPS OF CLASSES]CLASS V AND VI SHIPS**".

Substitution of regulation 67 of the Regulations

63. The following regulation is hereby substituted for regulation 67 of the Regulations:

"**67. Application of Chapter V(B)**

This Chapter applies to **[every ship of]**a Class V or VI ship.".

Substitution of regulation 68 of the Regulations

64. The following regulation is hereby substituted for regulation 68 of the Regulations:

"**68. Structure of the ship**

The hull, superstructure, structural **[bulkheads, decks and]**bulkhead, deck or deck **[houses]**house of **[every ship of]**a Class V or VI ship shall be constructed of steel or any other equivalent material.".

Substitution of regulation 69 of the Regulations

65. The following regulation is hereby substituted for regulation 69 of the Regulations:

"**69. Divisions**

In **[every ship of]**a Class V or VI ship being a ship fitted with internal combustion propelling machinery or oil-fired boilers, the accommodation spaces shall be separated from machinery spaces by "A" Class divisions.".

Substitution of regulation 70 of the Regulations

66. The following regulation is hereby substituted for regulation 70 of the Regulations:

"**CHAPTER VI: BOILERS AND MACHINERY**

70. Application of Chapter VI

Unless otherwise indicated in this Chapter, this Chapter applies to **[every ship of]**a Class I, II, IIA, V or VI ship**[, and a "Chapter VI ship" means a ship to which this Chapter applies]**.".

Amendment of regulation 71 of the Regulations

67. Regulation 71 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 71 of the following heading:

"**71. General; Boilers, machinery, other pressure vessels, associated piping systems and fittings**";

(b) by the substitution for regulation 71 of the following:

"(1) In **[every Chapter VI]**a Class I, II, IIA, V or VI ship, the machinery, boilers and other pressure vessels, associated piping systems and fittings shall be of a design and construction adequate for the service for which they are intended and shall be so installed and protected as to **[minimize]** reduce to a minimum any danger to persons on board**[. Without prejudice to the generality of the foregoing, means shall be provided which shall prevent overpressure in any part of such machinery boilers and other pressure vessels, and in particular every boiler and every unfired steam generator shall be provided with not less than two safety valves: Provided that the Authority may, having regard to the output or any other features of any boiler or unfired output or steam generator, permit only one safety valve to be fitted if he is satisfied that adequate protection against overpressure is thereby provided]**, with due regard being paid to moving parts, hot surfaces and other hazards."; and

(c) by the addition after subregulation (1) of the following subregulations:

"(2) The design referred to in subsection (1) shall have regard to materials used in construction, the purpose for which the equipment is intended, the working conditions to which it will be subjected and the environmental conditions on board, in accordance with Chapter II-1 regulation 26 of the Safety Convention.

(3) The Authority shall give special consideration to the reliability of single essential propulsion components and may require a separate source of propulsion power sufficient to give the ship a navigable speed, especially in the case of unconventional arrangements.

(4) Means shall be provided whereby normal operation of propulsion machinery can be sustained or restored even though one of the essential auxiliaries becomes inoperative: Provided, the Authority, having regard to overall safety considerations, may accept a partial reduction in propulsion capability from normal operation.

(5) Means shall be provided to ensure that the machinery can be brought into operation from the dead ship condition without external aid.

(6) All boilers, all parts of machinery, all steam, hydraulic, pneumatic and other systems and their associated fittings which are under internal pressure shall be subjected to appropriate tests including a pressure test before being put into service for the first time.

(7) Main propulsion machinery and all auxiliary machinery essential to the propulsion and the safety of the ship shall, as fitted in the ship, be designed to operate when the ship is upright and when inclined at any angle of list up to and including 15^0 either way under static conditions and 22.5^0 under

dynamic conditions or rolling either way and simultaneously inclined dynamically or pitching 7.5^0 by bow or stern: Provided the Authority may permit deviation from these angles, taking into consideration the type, size and service conditions of the ship.

(8) Provision shall be made to facilitate cleaning, inspection and maintenance of main propulsion and auxiliary machinery including boilers and pressure vessels.

(9) Special consideration shall be given to the design, construction and installation of propulsion machinery systems so that any mode of their vibrations shall not cause undue stresses in this machinery in the normal operating ranges.

(10) Non-metallic expansion joints in piping systems, if located in a system which penetrates the ship's side and both the penetration and the non-metallic expansion joint are located below the deepest load waterline, shall be inspected as part of the surveys prescribed in Chapter II-1 regulation 10 of the Safety Convention and replaced as necessary, or at an interval recommended by the manufacturer.

(11) Operating and maintenance instructions and engineering drawings for ship machinery and equipment essential to the safe operation of the ship shall be written in a language understandable by those officers and crew members who are required to understand such information in the performance of their duties.

(12) Location and arrangement of vent pipes for fuel oil service, settling and lubrication oil tanks shall—

(a) be such that in the event of a broken vent pipe this shall not directly lead to the risk of ingress of seawater splashes or rainwater; and

(b) be provided with two fuel oil service tanks for each type of fuel used on board necessary for propulsion and vital systems or equivalent arrangements on each new ship, with a capacity of at least 8 h at maximum continuous rating of the propulsion plant and normal operating load at sea of the generator plant.".

Amendment of regulation 72 of the Regulations

68. Regulation 72 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 72 of the following heading:

"**72. [Boilers and other pressure vessels]Steam Boilers and boiler feed systems**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) **[In every Chapter VI ship, every boiler or other pressure vessel and its respective mountings shall, before being put into service for the first time, be subjected to a hydraulic test to a pressure suitably in excess of the working pressure which will ensure that the boiler or other pressure vessel and its mountings are adequate in strength and design for the intended service, having regard to-**

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

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

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

and every such boiler or other pressure vessel shall at any time thereafter be capable of withstanding such a test.] A steam boiler and every unfired steam generator shall be in accordance with Chapter II-1 regulation 32 of the Safety Convention."; and

(c) by the substitution for subregulation (2) of the following subregulation:

"**[(2) Provision shall be made which will facilitate the cleaning and inspection of every pressure vessel.]**

(2) (a) A feed check valve, fitting or pipe through which feed later passes from a pump to a boiler in a Chapter VI ship, shall be designed and constructed to withstand the maximum working stresses to which it may be subjected, with a factor of safety which is adequate having regard to the material of which it is constructed and the working conditions under which it will be used; and

(b) A valve, fitting or pipe referred to in paragraph (a) shall before being put into service for the first time, be subjected to a hydraulic test suitably in excess of the maximum working pressure of the boiler to which it is connected or of the maximum working pressure to which the feed line may be subjected, whichever shall be the greater, and shall at any time thereafter be capable of withstanding such a test.".

Amendment of regulation 73 of the Regulations

69. Regulation 73 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 73 of the following heading:

"**73. Machinery and machinery control**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) In **[every]**a Chapter VI ship, main and auxiliary machinery necessary for the propulsion and safety of the ship, shall be provided with effective means of control, **[and the machinery shall be capable of being brought into**

operation when initially no power is available in the ship] in accordance with Chapter II-1 regulation 27 and 31 of the Safety Convention."; and

(c) by the deletion of subregulations (2), (3) and (4).

Insertion of regulation 73A of the Regulations

70. The following regulation is inserted in Part I, Chapter VI of the Regulations after regulation 73:

"**73A. Refrigeration systems**
Full particulars of refrigeration installations, other than domestic refrigerators, shall be submitted to the Authority for approval.".

Amendment of regulation 74 of the Regulations

71. Regulation 74 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 74 of the following heading:

"**74. [Power for]Means of going astern**

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) **[Every]**A Chapter VI ship shall have **[sufficient power]**means for going astern **[to secure control of the ship in all normal circumstances]** in accordance with Chapter II-1 regulation 28 of the Safety Convention."; and

(c) by the deletion of subregulation (2).

Substitution of regulation 75 of the Regulations

72. The following regulation is hereby substituted for regulation 75 of the Regulations:

"**75. Shafts, gearing and coupling used for transmission**

In **[every]**a Chapter VI ship, **[every]**a shaft, gearing and coupling used for transmission, shall be so designed and constructed that it will withstand the maximum working stresses to which it may be subjected, with a factor of safety which is adequate having regard to—

(a) the material of which it is constructed;

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

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

in accordance with Chapter II-1 regulation 27 of the Safety Convention.".

Repeal of regulation 76 of the Regulations

73. Regulation 76 of the Regulations is hereby repealed.

Amendment of regulation 77 of the Regulations

74. Regulation 77 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation:

"**77. Steam pipe systems**

(1) In **[every]**a Chapter VI ship, **[every]** steam pipe **[and fitting connected thereto through which steam may pass,]** systems shall be **[so designed and constructed as to withstand the maximum working stresses to which it may be subjected, with a factor of safety which is adequate having regard to—]** in accordance with Chapter II-1 regulation 33 of the Safety Convention.";

(b) by the deletion in subregulation (1) of paragraphs (a) and (b); and

(c) by the deletion of subregulations (2), (3), (4), (5) and subregulation (6).

Substitution of regulation 78 of the Regulations

75. The following regulation is hereby substituted for regulation 78 of the Regulations:

"**78. Air pressure systems**

(1) Air pressure systems shall be constructed in compliance with Chapter II-1 regulation 34 of the Safety Convention.

(2) A ship in which machinery essential for the propulsion and safety of the ship or of persons on board is required to be started, operated or controlled solely by compressed shall be provided at least two air compressors each of which shall be of efficient design and of sufficient strength and capacity for the service for which it is intended: Provided that in a ship of Class V or VI only one such compressor shall be required.

(3) If an air pressure pipe may receive air from any source at a higher pressure than it can withstand with an adequate factor of safety, an efficient reducing valve, relief valve and pressure gauge shall be fitted to such pipe.

(4) Air pressure systems shall be inspected and tested to the satisfaction of the Authority.

(5) The Authority, in its discretion, may allow a deviation from the requirements of subregulation (2) and (3).".

Amendment of regulation 79 of the Regulations

76. Regulation 79 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 79 of the following heading:

"**79. Cooling water systems**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) (a) In **[every]**a Chapter VI ship, where machinery essential for the propulsion or safety of the ship or of persons on board is dependent for its operation on an efficient cooling water system, there shall be provided at least one circulating pump and, except in the case of any emergency generator and in a ship of Class V or VI, provision shall be made so that in the event of the failure of such pump, an alternative pump is available for the same duty.

(b) **[Such pumps]**The pump referred to in paragraph (a) shall be capable of supplying adequate cooling water to such machinery, oil coolers, fresh water coolers or condensers fitted thereto, as required by original equipment manufacturer specifications, as the case may be.";

(c) by the substitution for subregulation (3) of the following subregulation:

"(3) Means shall be provided for ascertaining whether **[the]**a cooling **[systems are]**system is working properly and for preventing overpressure in any part thereof."; and

(d) by the substitution for subregulation (4) of the following subregulation:

"(4) **[The]**An exhaust **[pipes and silencers]**pipe or silencer of **[every]**an internal combustion engine provided in **[every]**a Chapter VI ship, shall be efficiently cooled or lagged.".

Substitution of regulation 80 of the Regulations

77. The following regulation is hereby substituted for regulation 80 of the Regulations:

"**80. [Oil]Lubricating oil systems [for lubricating, cooling and control]**

(1) In **[every]**a Chapter VI ship, being a ship in which oil is circulated under pressure for the lubrication or cooling or as the sole means of control of machinery essential for the propulsion or safety of the ship or persons on board, at least two pumps shall be provided each of which shall be adequate for circulating such oil: Provided that in a ship of Class V or VI and in the case of any emergency generator in any ship, only one such pump shall be required.

(2) (a) In **[every ship of]**a Class I, II or IIA ship propelled by turbine machinery, or having turbo-electric propelling machinery, the lubricating oil arrangements shall be such that an emergency supply of oil is available sufficient to maintain after a power failure an adequate supply of lubricating oil for at least three minutes or for such time as may be required for unloaded turbo-electric propelling machinery to come to rest from the maximum running speed.

(b) **[Such]**The emergency supply referred to in paragraph (a) shall automatically come into use on failure of the pressure supply of lubricating oil from the pump or pumps.

(3) Strainers shall be provided for straining the lubricating oil, and, except in a **[ship of]** Class V or VI ship, where lubricating oil shall be capable of being cleaned without interrupting the supply of such oil.

(4) Means shall be provided for ascertaining whether the lubricating system is working properly and for preventing overpressure in any part of the system**[. If]** and if the means of preventing overpressure is a relief valve, it shall be in close circuit.".

Amendment of regulation 81 of the Regulations

78. Regulation 81 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation:

"**81. Oil fuel installations (boilers and machinery)**

(1) (a) For the purposes of this regulation, the expression "oil fuel tank" includes an oil fuel storage tank, an oil fuel settling tank, an oil fuel service tank and an oil fuel overflow tank.

(b) In **[every]**a Chapter VI ship, **[any]** oil fuel **[used in boilers or machinery]** installations shall, except as allowed by regulation 42(3), have a flash point of not less than **[150° F. or 65° C. (Closed test.)]**60° C. and be in accordance with the applicable provisions of Chapter II-1 regulations 11, 56 and 57 and Chapter II-2 regulation 4 of the Safety Convention.";

(b) by the substitution for subregulation (2) of the following subregulation:

"(2) **[In every Chapter VI ship, being a ship propelled by means of oil-fired boilers or internal combustion machinery, every double bottom**

compartment appropriated for the storage of oil fuel, not being a compartment situated at the extreme forward or after end of the ship, shall be fitted with a watertight centre division,]In a ship being a ship in which oil or gaseous fuel is used, the arrangements for the storage, distribution and utilisation of the fuel shall be such that, having regard to the hazards of fire and explosion which the use of such fuel may entail, the safety of the ship and of persons on board is preserved.";

(c) by the substitution for subregulation (3) of the following subregulation:

"(3) **[Every oil fuel tank in a Chapter VI ship shall be properly constructed and shall, where necessary, be provided with save-alls or gutters which will catch any oil which may leak from the tank. No such tank shall be situated directly above boilers or other heated surfaces. Without prejudice to the generality of the foregoing, every such tank shall before being put into service for the first time, be subjected to a test by hydraulic pressure in the case of ea storage tank, settling tank or service tank, equal to that of a head of water one foot greater than the greatest head to which the tank may be subject when in service, but in the case of a settling tank, to not less than 15 lb. per square inch, and such tank shall at any time thereafter be capable of withstanding such a test]** In a ship being a ship in which oil or gaseous fuel is used in engines or boilers for the propulsion or safety of the ship, the arrangements for the storage, distribution and utilisation of the fuel, shall be such that the effective use of the engines can be maintained under all conditions likely to be met by the ship in service.";

(d) by the substitution for subregulation (4) of the following subregulation:

"(4) **[The oil fuel carried in a Chapter VI ship, shall be effectively isolated from water ballast which may be carried therein. The pumping**

arrangements shall be such as will permit the oil fuel to be transferred from any storage tank or settling tank appropriated for oil fuel into another storage tank or settling tank so appropriated. Provision shall be made to prevent the accidental discharge or overflow of oil overboard. If fresh water is stored in a tank adjacent to a tank appropriated for the storage of oil fuel, a cofferdam shall be provided which will prevent contamination of the fresh water by the oil.] In a ship, an oil fuel installation which serves a boiler supplying steam for the propulsion of the ship, shall include not less than two oil fuel units."; and

(e) by the deletion of subregulations (5), (6), (7), (8), (9), (10), (11), (12), (13), (14), (15), (16), (17), (18), (19) and (20).

Amendment of regulation 82 of the Regulations

79. Regulation 82 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 82 of the following heading:

"**82. Oil fuel and gas installations (cooking ranges and other heating appliances)**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) **[If, in any]**In a Chapter VI ship, if a cooking range or other heating appliance is supplied with oil fuel **[from an oil tank, the tank shall not be situated in a galley, and the supply of oil to the burners shall be capable of being controlled from a position outside the galley. No range or burner shall be fitted which is designed to be operated by means of oil fuel having a flash point of less than 150° F. (65.6° C.)]** or

gas, the installations shall be in accordance with Chapter II-2 regulation 4 of the Safety Convention."; and

(c) by the deletion of subregulations (2) and (3).

Amendment of regulation 83 of the Regulations

80. Regulation 83 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 83 of the following heading:

"**83. Ventilation and ventilation systems in machinery spaces**";

(b) by the substitution for regulation 83 of the following:

"(1) In **[every Chapter VI]**a ship, **[every]**a space in which an oil fuel tank or any part of an oil fuel installation is situated, shall be adequately ventilated in compliance with Chapter II-2 regulation 4 of the Safety Convention."; and

(c) by the addition after subregulation (1) of the following subregulations:

"(2) Machinery spaces shall be adequately ventilated for the purpose of that machinery space to ensure that when machinery or boilers therein are operating at full power in all weather conditions including heavy weather, an adequate supply of air is maintained to the spaces for the safety and comfort of personnel and the operation of the machinery in accordance with Chapter II-1 regulation 35 of the Safety Convention.

(3) The ventilation of machinery spaces shall be sufficient under normal conditions to prevent accumulation of oil vapour.".

Substitution of regulation 84 of the Regulations

81. The following regulation is hereby substituted for regulation 84 of the Regulations:

"**84. Communication between bridge and engine room**

[Every ship of] Class I, II or IIA ship shall be provided with **[two]** means of communicating orders from the navigating bridge to the **[engine room]**machinery control **[platform.]**station **[One of the means shall be an engine room telegraph]** in accordance with Chapter II-1 regulation 37 of the Safety Convention: Provided the Authority may, subject to such conditions as the Authority may impose, permit deviation from compliance with this regulation.".

Amendment of regulation 85 of the Regulations

82. Regulation 85 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation:

"**85. Steering gear**

(1) **[Every]**A Chapter VI ship shall be provided with efficient main means of steering and **[auxiliary]** alternative means of steering suitable to its size and the type of steering **[gear: Provided that if main steering gear power units and their connections are fitted in duplicate to the satisfaction of the Authority and each power unit enables the steering gear to meet the requirements of sub-regulation (2) (b), no auxiliary steering gear shall be required gear]** used, in accordance with Chapter II-1 regulations 29 and 30 of the Safety Convention."; and

(b) by the deletion of subregulations (2), (3) and subregulation (4).

Substitution of regulation 86 of the Regulations

83. The following regulation is hereby substituted for regulation 86 of the Regulations:

"**86. Spare gear**

[Every ship of Class I, II or IIA]A ship shall be provided with sufficient spare gear together with tools necessary for the fitting of the spare gear, having regard to the intended service of the ship.".

Insertion of regulations 86A to 86D of the Regulations

84. The following regulations are inserted in Part I, Chapter VI of the Regulations after regulation 86:

"**86A. Location of emergency installations in passenger ships**

If, in a passenger ship, emergency installations are required, the location thereof must be in accordance with Chapter II-1 regulation 39 of the Safety Convention.

86B. Protection from noise

A ship shall be constructed to reduce onboard noise and to protect personnel from the noise in accordance with the Code on Noise Levels on Board Ships, adopted by the Maritime Safety Committee by resolution MSC.337(91).

86C. Engineers' Alarm

An engineers' alarm shall be in accordance with Chapter II-1 regulation 38 of the Safety Convention.

86D. Special consideration: Periodically unattended machinery space

Machinery spaces shall be attended: Provided that a passenger ship may be specially approved by the Authority as to whether or not their machinery spaces may be periodically unattended and if so, whether additional requirements to those stipulated in Chapter II-1 Part E are necessary to achieve equivalent safety to that of normally attended machinery spaces.".

Substitution of regulation 87 of the Regulations

85. The following regulation is hereby substituted for regulation 87 of the Regulations:

"**CHAPTER VII: MISCELLANEOUS**

87. Application of Chapter VII

Unless otherwise indicated in this Chapter, this Chapter applies to **[every ship of]**a Class I, II, IIA, V or VI ship, and a "Chapter VII ship" means a ship to which this Chapter applies.".

Substitution of regulation 88 of the Regulations

86. The following regulation is hereby substituted for regulation 88 of the Regulations:

"**88. Anchors and chain cables**

[Every]A Chapter VII ship shall be provided with such anchors and chain cables as are sufficient in number, weight and strength, having regard to the size and intended service of the ship.".

Substitution of regulation 89 of the Regulations

87. The following regulation is hereby substituted for regulation 89 of the Regulations:

"**89. Hawsers and warps**

[Every]A Chapter VII ship shall be provided with such hawsers and warps as are sufficient in number and strength, having regard to the size and intended service of the ship.".

Substitution of regulation 90 of the Regulations

88. The following regulation is hereby substituted for regulation 90 of the Regulations:

"**90. Means of escape**

(1) (a) **[Every]**A Chapter VII ship, not being an open or partially-decked **[ship of]** Class V or VI ship, shall be provided with such doorways, stairways, ladderways and other means of escape as will provide readily accessible means of escape for all persons in the ship in accordance with the applicable requirements of Chapter II-2 regulation 13 of the Safety Convention.

(b) The means of escape shall be so designed and constructed as to be capable of being easily used by the persons for whom they are intended.

(c) The number and width of such means of escape shall be sufficient, having regard to the number of persons by whom they may be used.

(2) In **[every ship of]**a Class I, II or IIA ship, there shall be provided below the bulkhead deck at least two means of escape from each compartment bounded by watertight bulkheads or from each similarly restricted space or group of spaces, and at least one of the means of escape provided from

each such compartment or from each such space or group of spaces shall be independent of watertight doors.

(3) In **[every ship of]**a Class I, II or IIA ship, there shall be provide above the bulkhead deck at least two means of escape from each space bounded by main vertical zone bulkheads or from each similarly restricted space or group of spaces, and one of the means of escape provided from each space or group of spaces shall give access to the lifeboat or liferaft embarkation deck or decks or to a stairway leading to such decks.

(4) In **[every ship of]**a Class I, II or IIA ship, at least one of the means of escape so provided shall be enclosed, so as to afford, as far as practicable, continuous fire shelter from the level of its origin to the lifeboat and liferaft embarkation deck or decks.

(5) In **[every ship of]**a Class V or VI ship, not being an open or partially-decked ship, the means of escape shall lead to an open deck of sufficient area, having regard to the number of person; which the ship may carry.

(6) **[Every ship of]**A Class V or VI, being an open or partially-decked ship, shall be provided with readily accessible means of escape from all enclosed spaces in the ship. Such means of escape shall be sufficient in number and width, having regard to the number of persons who may be in the said spaces.

(7) (a) In the machinery spaces in **[every]**a Chapter VII ship, not being a ship, undecked in way of the machinery space, there shall be provided from each engine room, shaft tunnel **[and]**or boiler room two means of escape as widely separated as practicable, one of which may be a watertight door if such a door is available as a means of escape.

(b) Where **[no such]**the watertight door referred to in paragraph (a) is not available, the two means of escape shall consist of two sets of steel ladders leading to separate doors in the casing or elsewhere from which there is access to the lifeboat or liferaft embarkation deck or decks.

(8) (a) In **[every ship of]**a Class I ship, suitable signs shall be displayed in corridors and stairways indicating the direction of escape routes to passenger muster stations.

(b) **[Such]**The signs referred to in paragraph (a) shall—

(i) be continuously illuminated **[and shall]**;

(ii) be adequate in number and distribution**[. They shall]**; and

(iii) be capable of being illuminated by the ship's emergency lighting system.

(9) (a) In **[every]**a Chapter VII ship, the means of escape from any public room which may be used for the purpose of concerts, cinema shows or similar forms of entertainment, shall be adequate having regard to the number of persons who may be in the audience, and the seating shall be arranged in rows to ensure free access to the exists.

(b) Where in any **[such public rooms]**public room referred to in paragraph (a) subdued lighting is used, the exits shall be clearly marked with illuminated signs, and any doors shall be constructed to open outwards.".

Amendment of regulation 91 of the Regulations

89. Regulation 91 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 91 of the following heading:

"**91. Guard rails, [stanchion's]stanchions and bulwarks**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) (a) In **[every]**a Chapter VII ship, bulwarks or guard rails shall be provided on every exposed deck to which any persons or vehicles may have access.

(b) **[Such]**The bulwarks or guard rails referred to in paragraph (a), together with stanchions supporting the guard rails, shall be so placed, designed and constructed, and in particular shall be of such a height above the deck as to prevent any person who may have access to that deck or any vehicle from accidentally falling therefrom.

(c) Any freeing ports fitted in such a bulwark shall be covered by a grid or bars which will prevent any person from falling through the port."; and

(c) by the substitution for subregulation (2) of the following subregulation:

"(2) In **[every]** an open or a partially-decked **[ship of Class V or VI, every]**Class V or VI ship, a washstrake, covering board **[and]**or coaming, shall be so placed, designed and constructed and in particular shall be of such a height above the floorboards as to prevent any person from accidentally falling overboard.".

Insertion of regulation 91A of the Regulations

90. The following regulation is inserted in Part I, Chapter VII of the Regulations after regulation 91:

"**91A. Ventilation for spaces**

In a ship, ventilators shall be sufficient in number and size to provide adequate ventilation for all spaces which, in the opinion of the surveyor, require ventilation as prescribed in Chapter II regulation 19 of the Loadline Convention.".

Substitution of regulation 92 of the Regulations

91. The following regulation is hereby substituted for regulation 92 of the Regulations:

"**CHAPTER VIII: EQUIVALENTS AND EXEMPTIONS**

92. Equivalents

Where this Part requires that the hull or machinery of a ship shall be constructed in a particular manner, or that particular equipment shall be provided, or that particular provision shall be made, the Authority may allow the hull or machinery of the ship to be constructed in any other manner or any other equipment to be provided or other provision made, if **[he]**the Authority is satisfied that such other construction equipment or provision is at least as effective as that required by this Part.".

Substitution of regulation 93 of the Regulations

92. The following regulation is hereby substituted for regulation 93 of the Regulations:

"**93. General exemption**

The Authority may exempt **[any]**a ship which was constructed before the date of coming into operation of this Part, not being a ship converted on or after that date for service as a passenger ship, from the requirements of this Part to the extent

to which **[he]**the Authority is satisfied that compliance therewith is unreasonable or impracticable in the circumstances.".

Substitution of regulation 94 of the Regulations

93. The following regulation is hereby substituted for regulation 94 of the Regulations:

"**94. Exemption for certain ships on limited service**

The Authority may exempt any ship of Class II or IIA which does not proceed more than 20 miles from the nearest land from the requirements of this Part to the extent that **[he]**the Authority is satisfied that compliance therewith is unreasonable or impracticable by reason of the sheltered nature and conditions of the intended service of the ship.".

Substitution of regulation 95 of the Regulations

94. The following regulation is hereby substituted for regulation 95 of the Regulations:

"**95. Exemption in respect of double bottoms**

(1) The Authority may exempt **[any ship of]**a Class I, II or IIA ship from the requirements of regulation **[10 (4)]**10 in respect of any well which **[he]**the Authority is satisfied will not diminish the protection given by the double bottom.

(2) The Authority may exempt **[any ship of]**a Class II or IIA ship from the requirements or regulation 10 in respect of a double bottom in any portion of the ship which is subdivided by application of a factor of subdivision not exceeding 0.5, if **[he]**the Authority is satisfied that the fitting of a double

bottom in that portion of the ship would not be compatible with the design and proper working of the ship.".

Substitution of regulation 96 of the Regulations

95. The following regulation is hereby substituted for regulation 96 of the Regulations:

"**96. Exemption in respect of openings in the shell plating below the margin line**

The Authority may exempt **[any Chapter II ship of]**a Class V or VI ship referred to in Chapter II from the requirements of regulation **[19 (8)]**19 to the extent to which **[he]**the Authority is satisfied that compliance therewith is unreasonable or impracticable in the circumstances.".

Substitution of regulation 97 of the Regulations

96. The following regulation is hereby substituted for regulation 97 of the Regulations:

"**97. Exemption in respect of methods of fire protection**

The Authority may exempt **[any Chapter V ship of]**a Class I, II or IIA ship referred to in Chapter V from the requirements of regulation 50 to the extent that **[he]**the Authority is satisfied that compliance therewith is incompatible with the purpose for which the ship is designed and that other equally effective methods of fire protection have been adopted in the ship.".

Substitution of regulation 98 of the Regulations

97. The following regulation is hereby substituted for regulation 98 of the Regulations:

"**98. Exemption in respect of "A" and "B" Class divisions**

The Authority may exempt **[any Chapter V ship of]**a Class I, II or IIA ship referred to in Chapter V from the requirements of regulation **[51]**50 relating to insulation, to the extent that **[he]**the Authority is satisfied that compliance therewith is unnecessary, having regard to the degree of fire hazard present.".

Substitution of regulation 99 of the Regulations

98. The following regulation is hereby substituted for regulation 99 of the Regulations:

"**99. Exemption in respect of automatic fire alarm and fire detection systems: Methods I and III**

The Authority may exempt **[any Chapter V ship of]**a Class I, II or IIA ship referred to in Chapter V from the requirements of regulation 56 to the extent that **[he]**the Authority is satisfied that the accommodation spaces and service spaces therein afford no substantial fire risk.".

Substitution of regulation 100 of the Regulations

99. The following regulation is hereby substituted for regulation 100 of the Regulations:

"**100.Exemption in respect of automatic sprinkler, fire alarm and fire detection systems**

The Authority may exempt **[any Chapter V ship of]**a Class I, II or IIA ship referred to in Chapter V from the requirements of regulation 57(1): -

(a) to the extent that **[he]**the Authority is satisfied that the accommodation spaces and service spaces therein afford no substantial fire risk; and

(b) in respect of any baggage room or store room which **[he]**the Authority is satisfied is provided with adequate arrangements for the detection of fire or for the smothering of fire by gas or other suitable means.".

Substitution of regulation 101 of the Regulations

100. The following regulation is hereby substituted for regulation 101 of the Regulations:

"**101. Exemption in respect of protection of stairways**

The Authority may exempt **[any Chapter V ship of]**a Class I, II or IIA ship referred to in Chapter V from the requirements of regulation 58(2) in relation to any stairway which **[he]**the Authority is satisfied is an auxiliary stairway adequately protected by sprinklers.".

Substitution of regulation 102 of the Regulations

101. The following regulation is hereby substituted for regulation 102 of the Regulations:

"**102. Exemption in respect of miscellaneous items of fire protection**

The Authority may exempt **[any Chapter V ship of]**a Class I, II or IIA ship referred to in Chapter V from the requirements of regulation 64 (2) (b) if **[he]**the Authority is satisfied that there is no risk of fire originating in the spaces mentioned in that regulation.".

Substitution of regulation 103 of the Regulations

102. The following regulation is hereby substituted for regulation 103 of the Regulations:

"**103. Exemption in respect of structure of Class V or VI ship**
The Authority may exempt **[any ship of]**a Class V or VI ship wholly or in part from the requirements of regulation 68.".

Substitution of regulation 104 of the Regulations

103. The following regulation is hereby substituted for regulation 104 of the Regulations:

"**104. Exemption in respect of means of escape**
The Authority may exempt **[any ship of]**a Class I, II, IIA, V or VI ship, being a ship of less than 2,000 gross tons, from the requirements of regulation 90 (7).".

Amendment of Part II of the Regulations

104. Part II of the Regulations is hereby amended by the substitution in the Arrangement of Regulations (table of contents) of the following table:

"**PART II**

(Cargo ships.)

CHAPTER I - GENERAL

[105. Interpretation.]
106. Application of Part II.
106A. Compliance with the Safety Convention.

CHAPTER II - CONSTRUCTION

107. Structural strength.

108. Submission and approval of plans.

109. Watertight **[doors]**closures.

110. Bilge pumping arrangements.

111. Electrical equipment and installation-general.

111A. Main source of electrical power and lighting systems.

[112. Emergency source of electric power: Ships of 5,000 gross tons or over.

113. Emergency source of electric power: Ships of 1,600 gross tons or over but under 5,000 gross tons.]

114. Emergency source of electric power**[: Ships of under 1,600 tons.]**

114A. Starting arrangements for emergency generating sets.

115. Electric and electro-hydraulic steering gear.

116. Precautions against shock, fire and other hazards of electrical origin.

117. Fire protection: Ships of 4,000 gross tons or over.

118. Fire protection: **[General]**Openings in machinery space boundaries.

119. **[Boilers and machinery: general]**General: Boilers, machinery, other pressure vessels, associated piping systems and fittings.

120. **[Boilers and other pressure vessels]**Steam boilers and boiler feed systems.

121. Machinery and machinery control.

121A. Ventilation and ventilation system in machinery space.

121B Refrigeration systems.

122. Means for going astern.

123. Shafts, gearing and coupling used for transmission.

[124. Boiler feed systems.]

125. Steam pipe systems.

126. Air pressure systems.

127. Cooling water system.

128. Lubricating **[and other]** oil systems.

CHAPTER V - EQUIVALENTS AND EXEMPTIONS

141. Equivalents.

142. Exemption in respect of precautions against shock, fire and other hazards of electrical origin.

143. Exemption in respect of means of escape.

144. General exemption.".

Repeal of regulation 105 of the Regulations

105. Regulation 105 of the Regulations is hereby repealed.

Amendment of regulation 106 of the Regulations

106. The following regulation is hereby substituted for regulation 106 of the Regulations:

"**[(1) Subject to the provisions of sub-regulation (2), this]** This Part applies to–

(a) **[every ship]**a ship of 500 gross tons or over which is registered in the **[republic]**Republic or which is, in terms of the Act, required to be so registered**[, and]**;

(b) **[every** ship]a ship of 500 gross tons or over which is registered in a country other than the Republic, and which plies or is intended to ply on international voyages, not being a passenger **[ship]**vessel, fishing boat, **[sealing boat, whaling boat,]** pleasure **[yacht]**vessel or a ship which is not propelled by mechanical means**[.]**;

(c) a ship of 25 gross tons or over but less than 500 gross tons which is registered in the Republic or which is, in terms of the Act, required to be so registered; and

(d) a ship of 25 gross tons or over but less than 500 gross tons which is registered in a country other than the Republic, and which plies or is intended to ply on international voyages, not being a passenger vessel, fishing boat, pleasure vessel or a vessel which is not propelled by mechanical means.

[(2) Regulation 109 (2), (3), (4) and (5), regulations 111 to 118 inclusive, regulations 119 (2), 124 (2), 126 (2) (c) and (d), 130, 131 (2) and (3) and regulation 134 (2) do not apply to a ship the keel of which was laid before 26th May, 1965].".

Insertion of regulations 106A of the Regulations

107. The following regulation is inserted in Part II, Chapter I of the Regulations after regulation 106:

"**106A. Compliance with the Safety Convention**

A cargo ship of 500 gross tons or over, shall be constructed in compliance with the requirements of, Chapter II-1 of the Safety Convention as applicable to cargo ships and the applicable Codes.".

Substitution of regulation 107 of the Regulations

108. The following regulation is hereby substituted for regulation 107 of the Regulations:

"**107. Structural strength**

The structural strength of **[every]**a ship and the number and disposition of transverse watertight bulkheads, shall be adequate for the service for which the ship is intended.".

Substitution of regulation 108 of the Regulations

109. The following regulation is hereby substituted for regulation 107 of the Regulations:

"**108. Submission and approval of plans**

Before the construction or modification of any ship is commenced, the builder or owner thereof shall submit in duplicate to the **[Minister or]** Authority for approval such plans and particulars as may be required by the **[Minister or]** Authority, as the case may be as set forth in Annex 1.".

Substitution of regulation 109 of the Regulations

110. The following regulation is hereby substituted for regulation 109 of the Regulations:

"**109. Watertight [doors]closures**

(1) In **[every]**a ship in which a watertight **[door]**closure is provided to maintain the watertight integrity of a bulkhead, every such watertight **[door]**closure shall be made of suitable material and shall be efficiently constructed for its intended duty in accordance with the applicable requirements of Chapter II-1 regulations 13 and 16 of the Safety Convention.

(2) In **[every]**a ship to which this **[sub-regulation]**subregulation applies–

(a) **[every]**a watertight door of the sliding type, shall be capable of being operated by efficient hand operated gear both at the door itself and from an accessible position above the bulkhead deck; and

(b) the operating gear for operating from above the bulkhead deck any sliding watertight door fitted in the bulkhead of a machinery space, shall be situated outside the machinery space, unless such a position

is inconsistent with the efficient arrangement of the necessary gearing.

(3) In **[every]**a ship to which this **[sub-regulation]**subregulation applies, where there is access from the lower part of the machinery space to a watertight shaft tunnel, the access opening shall be provided with a sliding watertight door which shall be capable of being operated locally on both sides of tie door.

(4) In **[every]**a ship to which this **[sub-regulation]**subregulation applies, means shall be provided at remote operating positions to indicate when a sliding door is closed.

(5) In **[every]**a ship to which this **[sub-regulation]**subregulation applies, a watertight **[doors]**door shall be capable of being operated when the ship is listed up to 15 degrees either way.".

Substitution of regulation 110 of the Regulations

111. The following regulation is hereby substituted for regulation 110 of the Regulations:

"**110. Bilge pumping arrangements**

(1) **[Every]**a ship shall be provided with efficient bilge pumping plant and means for drainage so arranged that water entering any part of the hull, other than a space permanently appropriated for the carriage of fresh water, water ballast, oil fuel or liquid cargo and for which other efficient means of pumping or drainage are provided, can be pumped out through at least one suction pipe when the ship is on even keel or is listed not more than 5 degrees either way**[. Wing]**and wing suction shall be provided where

necessary for this purpose in accordance with the requirements of Chapter II-1 regulation 35-1 of the Safety Convention.

(2) Efficient means shall be provided whereby water may easily flow to the suction pipes**[.]**: Provided that the **[Minister]**Authority may allow the means of pumping or drainage to be dispensed with in particular compartments of any **[ship]**vessel or class of **[ships]**vessel, if **[he]**the Authority is satisfied that the safety of the **[ship]**vessel is not thereby impaired.".

Substitution of regulation 111 of the Regulations

112. The following regulation is hereby substituted for regulation 111 of the Regulations:

"**111. Electrical equipment and installations - general**

(1) In **[every]**a ship to which this regulation applies, the electrical equipment and installations including any electrical means of propulsion, shall be such that the ship and all persons on board are protected against electrical hazards in compliance with the requirements of Chapter II-1 regulation 40 of the Safety Convention.

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

(3) In **[every]**a ship to which this regulation applies, where there electrical load includes services essential for the propulsion or safety of the **ship** and the normal sea load is such that two or more generators are required to operate in parallel, arrangements shall be made to trip automatically sufficient non-

essential load when the total current exceeds the connected generator capacity.".

Insertion of regulation 111A of the Regulations

113. The following regulation is inserted in Part II, Chapter II of the Regulations after regulation 110:

"**111A. Main source of electrical power and lighting systems**

(1) The main source of electrical power and lighting systems in a cargo vessel shall—

(a) consist of at least two generating sets; and

(b) be in accordance with the requirements of, Chapter II-1 regulation 41 of the Safety Convention.".

Repeal of regulation 112, 113 of the Regulations

114. Regulations 112 and 113 of the Regulations are hereby repealed.

Substitution of regulation 114 of the Regulations

115. The following regulation is hereby substituted for regulation 114 of the Regulations:

"**114. Emergency source of electric power[: ships of under 1,600 tons]**

(1) In **[every]**a ship to which this regulation applies **[being a ship of under 1,600 tons]** not having its main source of electric power situated above the uppermost continuous deck or raised quarter-deck and outside the machinery casings, there shall be provided in a position above the uppermost continuous deck or raised quarter deck and outside the

machinery casings, a self-contained emergency source of electric power so arranged as to ensure its functioning in the event of fire or other casualty causing failure, of the main electrical installation.

(2) In **[every]**a ship referred to in **[sub-regulation]**subregulation (1), the emergency source of electric power required by that subregulation shall be capable of operating simultaneously for a period of at least 3 hours the following services**[–]**;

(a) the emergency lighting **[required by regulation 45 (3) (a) and (b) of the Life-Saving Equipment Regulations, 1968]** —

(i) at every muster and embarkation station and over the sides;

(ii) in all service and accommodation alleyways, stairways and exists, personnel lift cars and personnel lift trunks;

(iii) in machinery spaces and main generating stations including their control positions;

(iv) in all control stations, machinery control rooms and at each main and emergency switchboard;

(v) at all stowage positions for firemen's outfits;

(vi) at the steering gear;

(vii) at the fire pump;

(viii) at the sprinkler pump, and at the emergency bilge pump, if any, and at the starting positions of their motors; and

(ix) in all cargo pump rooms of tankers constructed on or after 1 July 2002;

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

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

(d) the ship's radio installations;

(e) the ship's internal communication equipment;

(f) fire detection and fire alarm systems;

(g) intermittent operation of the daylight signalling lamp, the ship's whistle, the manually operated call points and all internal signals that are required for an emergency,

Provided any of the items listed in paragraph (a) to (g) may be powered by its own emergency source of power.

(3) In **[every]**a ship referred to in **[sub-regulation]**subregulation (1)–

(a) the emergency source of electric power shall be either accumulator **[(storage)]**or storage batteries capable of complying with the requirements of **[sub-regulation]**subregulation (2) without being recharged or suffering an excessive voltage drop, or a generator driven by internal combustion type machinery with an independent fuel supply and with efficient starting arrangement and the fuel provided for such machinery shall have a flash point of not less than **[110° F. (43° C.)]**43° C.;

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

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

Insertion of regulations 114A of the Regulations

116. The following regulation is inserted in Part II, Chapter II of the Regulations after regulation 114:

"**114A. Starting arrangements for emergency generating sets**

Emergency generating sets shall be in compliance with Chapter II-1 regulation 44 of the Safety Convention and be capable of being readily started in their cold condition at a temperature of 0°C: Provided if this is impracticable, or if lower

temperatures are likely to be encountered, provision acceptable to the Authority shall be made for the maintenance of heating arrangements, to ensure ready starting of the generating sets.".

Amendment of regulation 115 of the Regulations

117. Regulation 115 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation

"**115. Electric and electro-hydraulic steering gear**

(1) **[Every]**Δ ship to which this regulation applies which is fitted with electric or electro-hydraulic steering gear, shall be provided with indicators which will show when the power units of such steering gear are running**[. These]**, which indicators shall be situated in the machinery space, preferably in the control room if any, and on the navigating bridge in accordance with Chapter II-1 regulation 29 and 30 of the Safety Convention."; and

(b) by the deletion of subregulations (2) and (3).

Amendment of regulation 116 of the Regulations

118. Regulation 116 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation:

"**116. Precautions against shock, fire and other hazards of electrical origin**

(1) In **[every]**a ship to which this regulation applies, all electrical equipment shall be so constructed and installed **[that there will be no danger of injury to any person handling it in a proper manner. Subject to the**

provisions of sub-regulation (2), where electrical equipment supplied as ships' equipment is to be operated at a voltage in excess of 55 volts, the exposed metal parts of such equipment which are not intended to have a voltage above that of earth but which may have such a voltage under fault conditions, shall be earthed]in accordance with Chapter II-1 regulation 45 of the Safety Convention."; and

(b) by the deletion of subregulations (2), (3), (4), (5), (6), (7), (8), (9), (10) and (11).

Repeal of regulation 117 of the Regulations

119. Regulation 117 of the Regulations is hereby repealed.

Amendment of regulation 118 of the Regulations

120. Regulation 118 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 118 of the following heading:

"**118. Fire protection: [general]Openings in machinery space boundaries**";

(b) by the substitution for subregulation (1) of the following:

"**[(1) In every ship to which this regulation applies, the skylights to spaces containing main propulsion machinery or oil-fired boilers or auxiliary internal combustion type machinery of a total horsepower of 1,000 or over, shall be capable of being closed and, where practicable, opened from outside the space in the event of fire and, where they contain glass panels, such panels shall be of fire resisting construction fitted with wire**

reinforced glass and shall have external, permanently attached shutters of steel or other equivalent material]

The following provision of this regulation shall apply to machinery space boundaries and, where the Authority considers it desirable, to any other spaces:

(a) The number of skylights, doors, ventilators, openings in funnels to permit exhaust ventilation and other openings to machinery spaces shall be reduced to a minimum consistent with the needs of ventilation and the proper and safe working of the ship.

(b) Skylights shall be of steel and shall not contain glass panels.

(c) Means of control shall be provided for closing power-operated doors or actuating release mechanisms on doors other than power-operated watertight doors.

(d) The control in paragraph (c) shall be located outside the space concerned, where they will not be cut off in the event of fire in the space it serves.

(e) Windows shall not be fitted in machinery space boundaries: Provided, this does not preclude the use of glass in control rooms within the machinery spaces."; and

(c) by the deletion of subregulation (2).

Amendment of regulation 119 of the Regulations

121. Regulation 119 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 119 of the following heading:

"**119. [Boilers and machinery: general]General: Boilers, machinery, other pressure vessels, associated piping systems and fittings**";

(b) by the substitution for subregulation (1) of the following:

"(1) In **[every]**a ship, **[the]** machinery, **[boilers and]**a boiler or other pressure **[vessels]**vessel shall be **[of a design and construction adequate for the service for which they are intended and shall be so installed and protected as to reduce to a minimum any danger to persons on board]** in accordance with Chapter II-1 regulation 26 of the Safety Convention."; and

(c) by the deletion of subregulation (2).

Amendment of regulation 120 of the Regulations

122. Regulation 120 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 120 of the following heading:

"**120. [Boilers and other pressure vessels]Steam boilers and boiler feed systems**";

(b) by the substitution for subregulation (1) of the following:

[(1)]In **[every]**a ship, **[every]**a steam boiler **[or other pressure vessel and in respective mountings]**and boiler feed systems shall**[, before being put into service for the first time, be subjected to a hydraulic test to a pressure suitably in excess of the working pressure which shall ensure that the boiler or other pressure vessel and its mountings are adequate in strength and design for the service for which it is intended having regard to–**

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

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

(c) the working conditions under which it is intended to be used, and every such boiler or other pressure vessel and its respective mountings shall be maintained in an efficient condition]be in accordance with Chapter II-1 regulation 32 of the Safety Convention."; and

(c) by the deletion of subregulation (2).

Amendment of regulation 121 of the Regulations

123. Regulation 121 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 121 of the following heading:

"**121. Machinery and machinery control**";

(b) by the substitution for subregulation (1) of the following:

"(1) In **[every]**a ship, main and auxiliary machinery essential for the propulsion and safety of the ship, shall be **[provided with effective means of control, and the machinery shall be capable of being brought into operation when initial no power is available in the ship]**in accordance with Chapter II-1 regulations 27 and 31 of the Safety Convention."; and

(c) by the deletion of subregulations (2) and (3).

Insertion of regulations 121A and 121B of the Regulations

124. The following regulations are inserted in Part II, Chapter II of the Regulations after regulation 121:

"**121A. Ventilation and ventilation system in machinery space**

(1) In a ship, a space in which an oil fuel tank or any part of an oil fuel installation is situated, shall be adequately ventilated in compliance with Chapter II-2 regulation 4 of the Safety Convention.

(2) Machinery spaces shall be adequately ventilated for the purpose of that machinery space to ensure that when machinery or boilers therein are operating at full power in all weather conditions including heavy weather, an adequate supply of air is maintained to the spaces for the safety and comfort of personnel and the operation of the machinery in compliance with Chapter II-1 regulation 35 of the Safety Convention.

(3) The ventilation of machinery spaces shall be sufficient under normal conditions to prevent accumulation of oil vapour.

121B. Refrigeration systems

Full particulars of refrigeration installations, other than domestic refrigerators, shall be submitted to the Authority for approval.".

Substitution of regulation 122 of the Regulations

125. The following regulation is hereby substituted for regulation 122 of the Regulations:

"**122. Means for going astern**

[Every]A ship shall have sufficient power for going astern to secure proper control of the ship in all normal circumstances in accordance with Chapter II-1 regulation 28 of the Safety Convention.".

Substitution of regulation 123 of the Regulations

126. The following regulation is hereby substituted for regulation 123 of the Regulations:

"**123. Shafts, gearing and coupling used for transmission**

In **[every]**a ship, **[every]**a shaft, gearing and coupling used for transmission shall be so designed and constructed **[that it will withstand the maximum working stresses i o which it may be subjected, with a factor of safety which is adequate having regard to–**

(a) the material of which it is constructed;

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

(c) the type of engines by which it is driven or of which it forms a part]in accordance with Chapter II-1 regulation 27 of the Safety Convention.".

Repeal of regulation 124 of the Regulations

127. Regulation 124 of the Regulations is hereby repealed.

Amendment of regulation 125 of the Regulations

128. Regulation 125 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following:

"**125. Steam pipe systems**

(1) In **[every]**a ship, every steam pipe **[and every fitting connected thereto through which steam may pass,]**system shall be so designed and constructed **[as to withstand the maximum working stresses to which it may be subjected, with a factor of safety which is adequate having regard to–]** in accordance with Chapter II-I regulation 33 of the Safety Convention.";

(b) by the deletion in subregulation (1) of paragraphs (a) and (b); and

(c) by the deletion of subregulations (1), (2), (3), (4), (5) and (6).

Substitution of regulation 126 of the Regulations

129. The following regulation is hereby substituted for regulation 126 of the Regulations:

"**126. Air pressure systems**

(1) Air pressure systems shall be constructed in compliance with Chapter II-1 regulation 34 of the Safety Convention.

(2) A ship in which machinery essential for the propulsion and safety of the ship or of persons on board is required to be started, operated or controlled solely by compressed shall be provided at least two air compressors each of which shall be of efficient design and of sufficient strength and capacity for the service for which it is intended: Provided that in a ship of Class V or VI only one such compressor shall be required.

(3) If an air pressure pipe may receive air from any source at a higher pressure than it can withstand with an adequate factor of safety, an efficient reducing valve, relief valve and pressure gauge shall be fitted to such pipe.

(4) Air pressure systems shall be inspected and tested to the satisfaction of the Authority.

(5) The Authority, in its discretion, may allow a deviation from the requirements of subregulation (2) and (3).".

Substitution of regulation 127 of the Regulations

130. The following regulation is hereby substituted for regulation 127 of the Regulations:

"**127. Cooling water system**

[In every ship in which cooling water services are essential for the running of the propelling machinery, there shall be at least two means of operating such water services.]

(1) In a ship, where machinery essential for the propulsion or safety of the ship or of persons on board is dependent for its operation on an efficient cooling water system, there shall be provided at least one circulating pump and, provision shall be made so that in the event of the failure of such pump, an alternative pump is available for the same duty.

(2) The pump referred to in subregulation (1) shall be capable of supplying adequate cooling water to such machinery, oil coolers, fresh water coolers or condensers fitted thereto, as required by original equipment manufacturer specifications, as the case may be.

(3) If direct sea water cooling is used for essential internal combustion machinery, the sea water suctions shall be provided with strainers which can be cleaned without interruption of the supply of water.

(4) Means shall be provided for ascertaining whether a cooling system is working properly and for preventing overpressure in any part thereof.

(5) An exhaust pipe or silencer of an internal combustion engine provided in a ship, shall be efficiently cooled or lagged.".

Amendment of regulation 128 of the Regulations

131. Regulation 128 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 128 of the following heading:

"**128. Lubricating [and other] oil systems**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) In **[every]**a ship in which oil for lubrication, cooling or operation of the main propelling machinery and its ancillary services is circulated under pressure, **[provision shall be made so that in the event of the failure of a pump, an alternative means of circulating such oil is available]**at least two pumps shall be provided each of which shall be adequate for circulating such oil: Provided that in a ship of Class V or VI and in the case of any emergency generator in any ship, only one such pump shall be required.";
and

(c) by the addition after subregulation (1) of the following subregulations:

"(2) (a) In a Class I, II or IIA ship propelled by turbine machinery, or having turbo-electric propelling machinery, the lubricating oil arrangements shall be such that an emergency supply of oil is available sufficient to

maintain after a power failure an adequate supply of lubricating oil for at least three minutes or for such time as may be required for unloaded turbo-electric propelling machinery to come to rest from the maximum running speed.

(b) The emergency supply referred to in paragraph (a) shall automatically come into use on failure of the pressure supply of lubricating oil from the pump or pumps.

(3) Strainers shall be provided for straining the lubricating oil, and, except in a Class V or VI ship, where lubricating oil shall be capable of being cleaned without interrupting the supply of such oil.

(4) Means shall be provided for ascertaining whether the lubricating system is working properly and for preventing overpressure in any part of the system and if the means of preventing overpressure is a relief valve, it shall be in close circuit.".

Substitution of regulation 129 of the Regulations

132. The following regulation is hereby substituted for regulation 129 of the Regulations:

"**129. Oil and gaseous fuel installations**

(1) In **[every]**a ship, oil fuel provided for use in boilers or machinery, shall have a flash point of not less than **[150ºF.]**60º C. (closed test): Provided that the **[Minister]**Authority may, subject to such conditions as **[he]**the Authority may impose-

(a) permit any ship to use **[oil]** fuel having a flash point **[of not]** less than **[130º F.]**60ºC. in boilers**[, or oil fuel having a flash point of not less than 110º F. in internal combustion type]**or machinery as

prescribed in Chapter II-1 regulations 56 and 57 and Chapter II-2 regulation 4 of the Safety Convention; or

(b) permit the use of gaseous fuel in a ship designed for the carriage of liquefied gas if such fuel results solely from evaporation of cargo carried in accordance with the IGC Code**[.]**.

[Nothing]Provided that nothing in this **[sub-regulation]**subregulation shall apply to fuel provided for machinery permitted by regulation **[112 (3) (a), 113 (3) (a) or]** 114 (3) (a).

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

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

(4) In **[every]**a ship, **[every]**an oil fuel installation which serves a boiler supplying steam for the propulsion of the ship, shall include not less than two oil fuel units.".

Insertion of regulations 129A of the Regulations

133. The following regulation is inserted in Part II, Chapter II of the Regulations after regulation 129:

"**129A. Oil fuel and gas installations (cooking ranges and other heating appliances)**

In a ship, if a cooking range or other heating appliance is supplied with oil fuel or gas, the installations shall be in compliance with Chapter II-2 regulation 4 of the Safety Convention.".

Substitution of regulation 130 of the Regulations

134. The following regulation is hereby substituted for regulation 130 of the Regulations:

"**130. Communication between navigation bridge and [engine room] machinery control station**

[Every]A ship to which this regulation applies, shall be provided with **[two]** means of communicating orders from the navigating bridge to the **[engine room]**machinery control **[platform]**station **[. One of the means shall be an engine room telegraph]**in compliance with Chapter II-1 regulation 37 of the Safety Convention: Provided the Authority may, subject to such conditions as the Authority may impose, permit deviation from compliance with this regulation.".

Amendment of regulation 131 of the Regulations

135. Regulation 131 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following:

"**131. Steering gear**

[(1) Every]A ship shall be provided with efficient main means of steering and **[auxiliary]** alternative means of steering suitable to its size and the type of

steering **[gear: Provided that, if duplicate steering gear power units and their connections are fitted and each power unit complies with the requirements of sub-regulation (2) (c) and the duplicate units and connections operating operating together comply with the requirements of subregulation (2) (b), no auxiliary steering gear shall be required]** suitable to its size and the type of steering used in accordance with Chapter II-1 regulation 29 and 30 of the Safety Convention."; and

(b) by the deletion of subregulations (2) and (3).

Substitution of regulation 132 of the Regulations

136. The following regulation is hereby substituted for regulation 132 of the Regulations:

"**132. Spare gear**

[Every]A ship shall be provided with sufficient spare gear together with the necessary tools for the fitting of the spare gear, having regard to the intended service of the ship.".

Substitution of regulation 133 of the Regulations

137. The following regulation is hereby substituted for regulation 133 of the Regulations:

"**133. Anchors and chain cables**

[Every]A ship shall be provided with such anchors and chain cables as are sufficient in number, weight and strength, having regard to the size and intended service of the ship.".

Substitution of regulation 134 of the Regulations

138. The following regulation is hereby substituted for regulation 134 of the Regulations:

"**134. Means of escape**

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

(2) (a) In **[every]**a ship to which this **[sub-regulation]**subregulation applies, there shall be provided from each engine room, workshop, shaft tunnel and boiler room two means of escape as widely separated as practicable, one of which may be a watertight door if such a door is available as a means of escape; Provided, at least one escape route shall provide a continuous fire shelter to a safe position outside the machinery space.

(b) Where **[no such]**the watertight door referred to in paragraph (a) is available, the two means of escape shall consist of two sets of steel ladders leading to separate doors in the casing or elsewhere from which there is access to the lifeboat or liferaft embarkation deck or decks.".

Amendment of regulation 135 of the Regulations

139. Regulation 135 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 135 of the following heading:

"**135. [Means for stopping machinery, shutting off fuel suction pipes and closing of openings]Fire growth potential**";

(b) by the substitution for subregulation (1) of the following:

"**[(1)]**In **[every]**a ship, there shall be provided means for **[stopping ventilating fans serving machinery, accommodation and cargo spaces. For machinery and cargo spaces, there shall be provided means for closing all skylights, doorways, ventilators, annular spaces around funnels and other openings to such spaces. Such means shall be capable of being operated from positions outside the said spaces which would not be made inaccessible by a fire within such spaces]**limiting fire-growth potential in every space of the ship, in accordance with Chapter II-2 regulation 5 of the Safety Convention."; and

(c) by the deletion of subregulations (2) and (3).

Insertion of regulation 135A of the Regulations

140. The following regulation is inserted in Part II, Chapter II of the Regulations after regulation 135:

"**135A. Ventilation for spaces**

In a ship, ventilators shall be sufficient in number and size to provide adequate ventilation for all spaces which, in the opinion of the surveyor, require ventilation as prescribed in Chapter II regulation 19 of the Loadline Convention.";

Amendment of Chapter III of Part II of the Regulations

141. Chapter III of Part II of the Regulations is hereby amended by the substitution for the heading of Chapter III of the following heading:

"CHAPTER III - SURVEY PRIOR TO THE ISSUE OF A CARGO SHIP SAFETY CONSTRUCTION CERTIFICATE, A DRY DOCK CERTIFICATE AND APPLICATION FOR THE ISSUE OF THE CERTIFICATE".

Substitution of regulation 136 of the Regulations

142. The following regulation is hereby substituted for regulation 136 of the Regulations:

"136. Application for survey prior to the issue of a cargo ship safety construction certificate

[Every]An application for the survey of a ship prior to the issue of a cargo ship safety construction certificate shall be made to the Authority or proper officer and shall be accompanied by such information relating to the ship as the Authority or proper officer may require.".

Amendment of regulation 137 of the Regulations

143. Regulation 137 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 137 of the following heading:

"137. Survey of a ship prior to the issue of a cargo [shiip]ship safety construction certificate";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) The Authority or proper officer, as the case may be, shall upon receipt of **[the]**an application for survey, cause the ship to be surveyed by a qualified surveyor."; and

(c) by the substitution for subregulation (2) of the following subregulation:

"(2) The surveyor referred to in subregulation (1) shall survey the ship **[and shall satisfy himself]**to be satisfied that the **[arrangements, materials and scantlings of the structure, boilers and other pressure vessels and their appurtenances (other than domestic boilers having a heating surface of 50 square feet or less and a working pressure of 50 lb. per square inch or less and other domestic pressure vessels having such a working pressure), main and auxiliary machinery, electrical installations and other equipment comply]**ship complies with the requirements of Chapter II of these Regulations and **[are]**is in all respects satisfactory for the service for which the ship is intended, having regard to the period for which the cargo ship safety construction certificate in respect **[oil]**of the ship is to be issued.".

Substitution of regulation 138 of the Regulations

144. The following regulation is hereby substituted for regulation 138 of the Regulations:

"**138. Application for the issue of a cargo ship safety construction certificate**

Application for the issue of a cargo ship safety construction certificate shall be made to the proper officer at the port of registry of the ship concerned or to the Authority.

Insertion of regulations 138A to 138C of the Regulations

145. The following regulations are inserted in Part II, Chapter III of the Regulations after regulation 138:

"**138A. Application for survey prior to the issue of a dry dock certificate**

An application for the survey of a ship prior to the issue of a cargo ship safety construction certificate shall be made to the Authority or proper officer and shall be accompanied by such information relating to the ship as the Authority or proper officer may require.

138B. Survey of a ship prior to the issue of a dry dock certificate

(1) The Authority or proper officer, as the case may be, shall upon receipt of an application for survey, cause the ship to be surveyed by a qualified surveyor.

(2) The surveyor referred to in subregulation (1) shall survey the ship to be satisfied that the ship complies with the requirements of Chapter II of these Regulations and is in all respects satisfactory for the service for which the ship is intended, having regard to the period for which the cargo ship safety construction certificate in respect of the ship is to be issued.

138C. Application for the issue of a dry dock certificate

Application for the issue of a cargo ship safety construction certificate shall be made to the proper officer at the port of registry of the ship concerned or to the Authority.".

Substitution of regulation 139 of the Regulations

146. The following regulation is hereby substituted for regulation 139 of the Regulations:

"**CHAPTER IV - INTERMEDIATE SURVEYS**

139. General

(1) The owner of **[every]**a ship in respect of which a cargo ship safety construction certificate has been issued shall, so long as the certificate remains in force, cause the ship to be surveyed in the manner and at the intervals specified in **[sub-regulation (3) for the purpose of seeing whether the certificate should remain in force]** Chapter II-1 regulation 10 and 11 of the Safety Convention.

(2) (a) **[Every]**An application for the survey of a ship in accordance with this regulation shall be made to the Authority who issued the cargo ship safety construction certificate in respect of the ship concerned or to the proper officer.

(b) Upon receipt of the application referred to in paragraph (a), the Authority or proper officer as the case may be, shall cause the ship to be surveyed by a qualified surveyor.

[(3) The surveys to be carried out under sub-regulation (1) shall be as follows unless the Minister decides otherwise—

(a) the hull and the ship's side fastenings shall be examined in dry dock every two years and the ship side fittings shall be thoroughly examined every four years;

(b) all boilers, including exhaust gas or steam heated steam generators, economizers, and domestic boilers (other than domestic boilers having a heating surface of 50 square feet or

less and a working pressure of 50 lb. per square inch or less) shall be examined internally and externally every two years until they are eight years old and thereafter annually;

(c) screw shafts and tube shafts fitted with continuous liner; or running in oil shall be withdrawn and surveyed every three years, and other screw and tube shafts shall be withdrawn and surveyed every two year and

(d) pressure vessels (other than domestic pressure vessels having a working pressure of 50 lb. per square inch or less) shall be examined internally every five years: Provided that small vessels which are inaccessible may be tested to a pressure equal to twice the working pressure in lieu of internal examination.]

(4) The surveyor referred to in subregulation (2) shall survey the ship with a view to **[satisfying himself]**being satisfied—

(a) that such of the parts of the ship and its equipment **[specified in sub-regulation (3)]** as are the subject of the application for survey remain efficient; and

(b) so far as practicable, that no material alterations have been made in the hull, machinery or equipment of the ship to which the cargo ship safety construction certificate relates without the approval of the **[Minister or]** Authority.".

Substitution of regulation 140 of the Regulations

147. The following regulation is hereby substituted for regulation 140 of the Regulations:

"**140. Additional surveys**

Notwithstanding the provisions of regulation 139, the **[Minister or]** Authority may require **[any]**a ship to undergo such additional surveys as **[he]**the Authority may deem necessary.".

Substitution of regulation 141 of the Regulations

148. The following regulation is hereby substituted for regulation 141 of the Regulations:

"**CHAPTER V-EQUIVALENTS AND EXEMPTIONS**

141. Equivalents

Where **[his]**this Part requires that the hull or machinery of a ship shall be constructed in a particular manner, or that particular equipment shall be provided, or that particular provision shall be made, the **[Minister]**Authority may allow the hull or machinery of the ship to be constructed in any other manner, or any other equipment to be provided or other provision made, if **[he]**the Authority is satisfied that such other construction, equipment or provision is at least as effective as that required by this Part.".

Substitution of regulation 142 of the Regulations

149. The following regulation is hereby substituted for regulation 142 of the Regulations:

"**142. Exemption in respect of precautions against shock, fire and other hazards of electrical origin**

The **[Minister]**Authority may exempt any ship**[, other than a tanker,]** from the requirements of regulation **[116 (4)]**116.".

Substitution of regulation 143 of the Regulations

150. The following regulation is hereby substituted for regulation 143 of the Regulations:

"**143. Exemption in respect of means of escape**

The **[Minister]**Authority may exempt any ship **[of less than 2,000 tons]** from the requirements of regulation 134 (2).".

Substitution of regulation 144 of the Regulations

151. The following regulation is hereby substituted for regulation 144 of the Regulations:

"**144. General exemption**

The **[Minister]**Authority may exempt any ship which is 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 this Part on condition that it complies with safety requirements which are adequate in the opinion of the **[Minister]**Authority for the voyage which is to be undertaken by the ship.".

Amendment of Part III of the Regulations

152. Part III of the Regulations is hereby amended by the substitution in the Arrangement of Regulations (table of contents) of the following table:

"**PART III**

[(Boats.)]Other Vessels

CHAPTER I - GENERAL

CHAPTER II – CONSTRUCTION OF [BOATS]VESSELS, OTHER THAN [SKI AND SURF BOATS AND DINGHIES] VESSELS TO WHICH THE MERCHANT SHIPPING (NATIONAL SMALL VESSEL SAFETY) REGULATIONS APPLY, AND GENERAL SURVEY

163. Doors, sills, side scuttles and escape hatches.

163A. Means of escape.

164. Bulwarks.

165. Ventilation for spaces.

165A. Ventilation and ventilation system in machinery space.

166. Stern bearings.

167. **[Testing]**Initial testing of watertight compartments.

168. **[Anchors and cables]**Towing and mooring arrangements.

169. Steering gear.

170 General electrical precautions.

170A. Air pressure systems.

170B. Cooling water system.

170C. Lubricating oil systems.

170D. Oil and gaseous fuel installations.

170E. Oil fuel and gas installations (cooking ranges and other heating appliances).

170F. Communication between navigation bridge and machinery control station.

170G. Spare gear.

170H. Main source of electrical power and lighting systems.

170I. Emergency source of electric power.

170J. Starting arrangements for emergency generating sets.

170K. Machinery and machinery control.

170L. Means of going astern.

170M. Steam pipe systems.

CHAPTER III - PERIODIC SURVEYS: [BOATS]VESSELS OTHER THAN [SKI BOATS, SURF BOATS AND DINGHIES] VESSELS TO WHICH THE MERCHANT SHIPPING (NATIONAL SMALL VESSEL SAFETY) REGULATIONS APPLY

CHAPTER IV - SKI BOATS, SURF BOATS AND DINGHIES

190.-194 .....

[Deleted by GN R1023/86]

CHAPTER V - ADDITIONAL SURVEYS, EQUIVALENTS AND EXEMPTIONS

Annex. 1: Construction of Passenger Ships: Plans and particulars.
[Annex. 2 : Calculation of maximum length of watertight compartments.
Annex. 3 : Stability in damaged condition.
Annex. 4: Construction of watertight bulkheads, etc.
Annex. 5 Automatic sprinkler, fire alarm and fire detection system.]
Annex. 6 Construction of **[boats]**vessels: Plans and particulars.
[Annex. 7 Construction of boats: Wood watertight bulkheads.
Annex. 8 Construction of boats: Hatches.
Annex. 9 Steering chains and anchor chains of boats.]".

Amendment of Part III of the Regulations

153. Part III of the Regulations is hereby amended by the substitution for the heading of Part III of the Regulations of the following:

"**[PART III**

[(Boats.)]Other Vessels

CHAPTER I-GENERAL".

Repeal of regulation 145 of the Regulations

154. Regulation 145 of the Regulations is hereby repealed.

Amendment of regulation 146 of the Regulations

155. Regulation 146 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation

"**146. Application of Part III**

(1) This **[part shall apply]**Part applies to **[every boat]**a vessel of 25 or more gross tons to which Part I and Part II do not apply."; and

(b) by the addition after subregulation (1) of the following subregulation:

"(2) This Part does not apply to pleasure vessels of less than 100 gross tons as defined in the Merchant Shipping (National Small Vessel Safety) Regulations, 2007.".

Insertion of regulation 146A of the Regulations

156. The following regulation is inserted in Part III, Chapter I of the Regulations after regulation 146:

"**146A. Compliance with the Safety Convention**

A vessel of over 500 gross tons, shall be constructed in compliance with the requirements of, Chapter II-1 of the Safety Convention as applicable and the applicable Codes.".

Substitution of regulation 147 of the Regulations

157. The following regulation is hereby substituted for regulation 147 of the Regulations:

"**147. Structural strength**

The structural strength of **[every boat]**a vessel shall be sufficient for the service for which the **[boat]**vessel is intended.".

Amendment of Chapter II of Part III of the Regulations

158. Chapter II of Part III of the Regulations is hereby amended by the substitution for the heading of Chapter II of the following heading:

"CHAPTER II – CONSTRUCTION OF [BOATS]VESSELS, OTHER THAN [SKI AND SURF BOATS AND DINGHIES] VESSELS TO WHICH THE MERCHANT SHIPPING (NATIONAL SMALL VESSEL SAFETY) REGULATIONS APPLY, AND GENERAL SURVEY".

Substitution of regulation 148 of the Regulations

159. The following regulation is hereby substituted for regulation 148 of the Regulations:

"**148. Application of Chapter II**

This Chapter applies to **[every boat]**a vessel other than **[a ski or surf boat or dinghy]**a vessel to which the Merchant Shipping (National Small Vessel Safety) Regulations, 2007 apply, and a "Chapter II **[boat]**vessel" means a **[boat]**vessel to which this Chapter applies.".

Substitution of regulation 149 of the Regulations

160. The following regulation is hereby substituted for regulation 149 of the Regulations:

"**149. Submission and approval of plans**

(1) Subject to the provisions of **[sub-regulation]**subregulation (2), before the construction or modification of **[any]**a Chapter II **[boat of 30 feet or over in length]**vessel to which this Part applies is commenced**[, or at an early**

stage thereafter], the builder or owner thereof shall submit in duplicate to the proper officer the plans and particulars set forth in Annex 6 for approval by the **[Secretary]**Authority.

(2) In the case of a Chapter II **[boat]**vessel which is a sister **[boat]**vessel, the builder or owner shall furnish to the proper officer particulars of the specification and plans previously approved by the **[Secretary]**Authority.

(3) Any subsequent modifications or additions to the scantlings, arrangements or equipment shown on approved plans shall be submitted to the proper officer as prescribed in subregulation (1).

(4) The **[Secretary]**Authority may, **[in his discretion,]** call for the submission of additional or more detailed plans or particulars, and may also waive the requirement that certain of these plans be submitted.

[(5) In the case of a Chapter II boat of under 30 feet in length, the proper officer may request the builder or owner them of to submit to him such plans and specifications as he may specify, and upon such request being made, the said builder or owner shall comply therewith.]".

Amendment of regulation 150 of the Regulations

161. Regulation 150 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 150 of the following heading:

"**150. Inspection and tests [duping]during construction**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) During the construction of a Chapter II **[boat]**vessel, inspections **[and tests]** shall be conducted by **[the]**a surveyor."; and

(c) by the addition after subregulation (1) of the following subregulation:

"(2) Tests shall be conducted by the appropriate testing authority and witnessed by a surveyor.".

Substitution of regulation 151 of the Regulations

162. The following regulation is hereby substituted for regulation 151 of the Regulations:

"**151. Survey of new construction**

(1) **[The]**A builder or owner of a Chapter II **[boat of 30 feet or over in length]**vessel, shall notify the **[surveyor]**Authority at least one week in advance of—

(a) the commencement of framing;

(b) the commencement of planking, plating or laminating;

(c) the completion of the fitting of **[all]** underwater fittings, rudder, stern tube, shaft and propeller;

(d) the launching; and

(e) the dock and sea trials.

(2) (a) Dock and sea trials shall be carried out in the presence of **[the]**a surveyor, at which times the pumping arrangement, steering gear and main and auxiliary machinery shall be tested to the satisfaction of the surveyor.

(b) Any such further tests shall be made as the surveyor considers necessary to **[satisfy himself]**the satisfaction of the surveyor that the **[boat]**vessel is safe and suitable for the purpose for which it is intended.".

Insertion of regulations 151A and 151B of the Regulations

163. The following regulations are inserted in Part III, Chapter II of the Regulations after regulation 151:

"**151A. General: Boilers, machinery, other pressure vessels, associated piping systems and fittings**

In a vessel, machinery, a boiler or other pressure vessel shall be constructed in compliance with Chapter II-1 regulation 26 of the Safety Convention.

151B. Steam boilers and boiler feed systems

In a vessel, a steam boiler and boiler feed systems shall be constructed in compliance with Chapter II-1 regulation 32 of the Safety Convention.".

Substitution of regulation 152 of the Regulations

164. Regulation 152 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 152 of the following heading:

"**152. Hydraulic testing of boilers[, etc.]**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) **[The]**A surveyor shall be satisfied by such examination and calculation as may be necessary that all pressure parts are capable of withstanding the working pressures to which **[they]** the parts may be subjected, and **[he]** shall ensure that all hydraulic testing is satisfactorily carried out.";

(c) by the substitution for subregulation (2) of the following subregulation:

"(2) **[Boilers]**A boiler shall be hydraulically tested **[in accordance with the following pressures:**

(a) For a new [boilers]boiler-

test pressure = 1½ x W.P. + [50 lb. per square inch]22 kg. per square centimetre for W.P.s in excess of [100 lb. per square inch]45 kg. per square centimetre and = 2 X W.P. for W.P.s of [100 lb. per square inch]45 kg. per square centimetre and less.

(b) for [boilers]a boiler which [are]is not new –

test pressure = 1½ x W.P.]to the satisfaction of the Authority.";

(d) by the substitution for subregulation (3) of the following subregulation:

"(3) When **[the]**a survey of a new boiler is completed, it shall, in a position which will be clearly visible at all times, be stamped **[as follows:**

STAMP OF TESTING AUTHORITY

W.P . .....

Tested to .....[lb.]kg.

W.P .....[lb.]kg.

Date . .....

Surveyor's initials .....] by the appropriate testing authority.";

(e) by the substitution for subregulation (4) of the following subregulation:

"(4) Pressure parts, other than boilers, when new shall be hydraulically tested **[in accordance with the following pressures:**

***Boiler mountings*.**

Feed check valves ... ... 2½ x W.P.

Other mountings ... ... 2 x W.P.

Steam pipes ... ... 2 x W.P.

Feed pipes ... ... 2½ x W.P.

Feed heaters ... ... 2½ x W.P. (bodies, tubes or coils).

[Oil fuel pipes, heaters, coils or tubes: 400 lb. per square inch]<u>An oil pipe, heater, coil or tube: 181 kg. per square centimetre</u> or twice the maximum working pressure to which they are subjected, whichever is greater.

Evaporator bodies: Twice the maximum working pressure of the evaporator.

Evaporator coils or tubes: Twice the maximum working pressure to which they may be subjected.

Air receivers : As for boilers]<u>to the satisfaction of the Authority</u>."; and

(f) by the deletion of subregulation (5).

Amendment of regulation 153 of the Regulations

165. Regulation 153 of the Regulations is hereby amended by the substitution for subregulation (1) of the following subregulation:

"(1) **[Every]**<u>**A**</u> boiler shall be provided with at least two safety valves.".

Substitution of regulation 154 of the Regulations

166. The following regulation is hereby substituted for regulation 154 of the Regulations:

"**154. Feed pumps**

(1) (a) **[Every]**A Chapter II **[boat]**vessel propelled by steam shall be provided with not less than two entirely separate power feed pumps.

(b) One of **[these]**the feed pumps referred to in paragraph (a) may be operated from the main engines, and the other shall be an independent power pump.".

Amendment of regulation 155 of the Regulations

167. Regulation 155 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation:

"(1) (a) The **[man]**main engine, shafting and propeller shall be of proved commercial marine design and quality and of a power suitable for the purpose for which the **[Chapter II boat]**vessel is designed.

(b) The main engine shall be installed to the satisfaction of **[the]**a surveyor.";

(b) by the substitution for subregulation (2) of the following subregulation:

"(2) In the case of a **[Chapter II boat]**vessel propelled by an engine depending on compressed air for starting, **[the]**a surveyor shall be satisfied by such examination and calculation as may be necessary that—

(a) air receivers and other pressure vessels are capable of withstanding the pressure assigned to them;

(b) the capacity of such air receivers is sufficient to provide the main engine with 12 consecutive starts if it is a reversible engine or six consecutive starts if it is a non-reversible engine, without replenishing the air in the receivers**[.,]**; and

(c) one air compressor, driven by a prime mover, which can be started without the use of compressed air is fitted: Provided that the Authority may, in its discretion, allow the use of a hand operated air compressor capable of charging one empty starting air receiver to normal working pressure within 30 minutes.";

(c) by the insertion after subregulation (2) of the following subregulations:

"(3) Where main engines depend upon an auxiliary petrol driven starting engine, the fuel tank for the latter shall be situated in a position outside the engine room which is approved by a surveyor.

(4) Where main engines depend upon electrical starting arrangements, a charging unit, independent of the main engines, shall be provided except that in the case of a vessel with twin engines, each with a charging unit capable of charging both sets of starting batteries, this shall be accepted.".

(d) by the substitution for subregulation (5) of the following subregulation:

"(5) Where main engines depend upon means other than those mentioned in **[sub-regulations]**subregulations (2), (3) and (4) for starting, **[the]**a surveyor shall be satisfied that such means are ample for all circumstances.";

(e) by the deletion of subregulation (6);

(f) by the substitution for subregulation (7) of the following subregulation:

"(7) (a) The main and auxiliary engines, other than steam engines, of a Chapter II **[boat]**vessel shall be fitted with suitable silencers to the satisfaction of the surveyor.

(b) The silencers and exhaust pipes shall be efficiently water-cooled, lagged or installed in such a manner that they will create no fire risk, and they shall be so arranged that there is no danger of water entering the engines or of exhaust fumes or water passing back into the **[boat]**vessel."; and

(g) by the substitution for subregulation (8) of the following subregulation:

"(8) (a) Every possible precaution shall be taken to avoid fuel and lubricating oil running into the bilges.

(b) Metal or lead-lined trays with proper means of drainage shall be provided under fuel tanks and, where possible, under engines.".

Amendment of regulation 156 of the Regulations

168. Regulation 156 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation:

"(1) **Every]** Chapter II **[boat]**vessel shall be fitted with bilge pumps and piping in accordance with the following table:

(b) by the substitution for the table in subregulation (1) of the following table:

"**[**

Length of Boat in Feet.				

Boats Designed for Catching Pilchards, Maasbankers and Mackerel. (a)	Other Boats. (b)	Minimum Number of Pumps (c)	Minimum Capacity of Pumps in Gallons per Minute (d)	Minimum Internal Diameter of Bilge Main and Direct Bilge Piping (e)	Minimum Internal Diameter of Bilge Branch, Piping (f)
—	30 and under	1 power driven or hand operated	15	2"	1½"
30 and under	Over 30 to 65	2 (1 power driven + 1 power driven or hand operated)	30 total	2"	1½"
Over 30 to 65	Over 65 to 80	2 (1 power driven + 1 power driven or hand operated)	60 total	2"	2"
Over 65 to 80	Over 80 to 100	2 power driven (1 may be driven by main engine)	100 total	2"	2"
Over 80 to 100	Over 100 to 150	2 power driven (1 may be driven by main engine)	170 total	2½"	2"

Over 100	**Over 150**	**2 power driven (1 may be driven by main engine)**	**220 total**	**3"**	**2½"**

]

Length of Vessel in Meters. (a)	Minimum Number of Pumps (b)	Minimum Capacity of Pumps in Liters per Minute (c)	Minimum Internal Diameter of Bilge Main and Direct Bilge Piping (d)	Minimum Internal Diameter of Bilge Branch, Piping (e)
Over 9 to 19	2 (1 power driven + 1 power driven or hand operated)	113 total	5	4
Over 19 to 24	2 (1 power driven + 1 power driven or hand operated)	227 total	5	5
Over 24 to 30	2 power driven (1 may be driven by main engine)	378 total	5	5
Over 30 to 45	2 power driven (1 may be driven by main engine)	643 total	6	5
Over 45	2 power driven (1 may be	832 total	8	6

	driven by main engine)			

";

(c) by the substitution for subregulation (4) of the following subregulation:

"(4) In a Chapter II **[boat]**vessel required to be provided with not less than two power driven pumps, no power pump provided shall have a capacity less than 25 per cent of the total capacity required, and at least one power driven pump independent of the main engines shall have a capacity of not less than 50 per cent of the total required.";

(d) by the substitution for subregulation (5) of the following subregulation:

"(5) Subject to the provisions of **[sub-regulation]**subregulation (8), bilge suctions, piping and means for drainage shall be so arranged that any water which may enter a main compartment can be pumped out through at least one bilge suction situated in such compartment, and all compartments within each main division shall be so arranged to drain to that bilge suction, when the **[boat]**vessel is on an even keel and is either upright or has a list of not more than 5 degrees.";

(e) by the substitution for subregulation (6) of the following subregulation:

"(6) (a) **[Every]**An independent power pump shall have a direct suction from the space in which it is situated, provided that not more than two direct suctions shall be required in any one space.

(b) **[Every such]**The suction referred to in paragraph (a) shall be of a diameter not less than that of the Chapter II **[boat's]**vessel's main bilge pipe.

(c) The direct suctions in the **[boat's]**vessel's machinery space shall be so arranged that water may be pumped from each side of the space through direct suction to independent bilge pumps.";

(f) by the substitution for subregulation (8) of the following subregulation:

"(8) In a Chapter II **[boat]**vessel exceeding **[80 feet]**24 meters in length, the following compartments, if not used for carrying water ballast, may be provided with bilge drainage arrangements as follows: forward of—

(a) in the case of compartments situated in the collision bulkhead, with a manual pump**[.]**;

(b) in the case of compartments situated forward of the collision bulkhead on a **[boat]**vessel which has a watertight bulkhead between the collision and machinery space bulkheads, with a manual pump or with a drain cock secured to the collision bulkhead operated from above the main deck;

(c) in the case of watertight compartments which overhang the thrust shaft recess, with a manual pump or with a self-closing drain cock operated from the engine-room; and

(d) in the case of compartments situated aft of the after peak bulkhead, with a manual pump or with a self-closing drain cock operated from the engine room or from above the main deck.";

(g) the substitution for subregulation (9) of the following subregulation:

"(9) (a) Manual pumps provided in accordance with subregulation (8), shall have a capacity of at least **[15 gallons]**56 litres per minute and shall be fitted with suction piping having an internal diameter of not less than **[2 inches. Such]**5 centimetres.

(b) The manual pumps referred to in paragraph (a) shall be capable of being operated from a position above the bulkhead deck.";

(h) by the substitution for subregulation (10) of the following subregulation:

"(10) Bilge suctions and means for drainage on a Chapter II **[boat]**vessel which is not divided into watertight compartments, shall be arranged in such a manner that any water which enters the **[boat]**vessel is able to drain to at least one bilge suction.";

(i) by the substitution for subregulation (11) of the following subregulation:

"(11) Drain cocks provided in accordance with subregulation (8), shall have an internal diameter of not less than **[1½ inches]**4 centimetres and shall be accessible at all times.";

(j) by the substitution for subregulation (16) of the following subregulation:

"(16) (a) Where holds are provided with cement filling, the cement level shall be to the top of the floors and a well or dill of not less than **[4 cubic feet]**0.11 cubic meters capacity shall be situated at the after end of the hold.

(b) A suitable strainer shall be placed over the well and the bilge suction shall be fitted with a suitable strainer, the area of the openings in which shall be at least three times the cross-sectional area of the bilge suction pipe.";

(k) by the substitution for subregulation (18) of the following subregulation:

"(18) **[All]**A bilge discharge **[pipes]**pipe shall be fitted with valves or cocks attached to the hull in the manner prescribed in regulation 158 or by other equally efficient means approved by the **[Secretary]**Authority after full particulars have been submitted to **[him]**the Authority.";

(l) by the substitution for subregulation (19) of the following subregulation:

"(19) (a) Bilge piping shall be of seamless Schedule 40 steel pipe or other material considered by the surveyor to be suitable for the purpose, but short lengths of rubber or plastic hose, clearly visible at all times, may be fitted where deemed necessary by the surveyor to reduce the effects of vibration**[; any hose so]**.

(b) Bilge piping shall be joined by either welding or flanges.";

(m) by the substitution for subregulation (20) of the following subregulation:

"(20) (a) In a coal-fired Chapter II **[boat]**vessel, a length of flexible suction hose, with suitable screwed connection to the machinery space bilge line, shall be supplied, in order that the engine and boiler space bilges may be pumped in the event of the suction strainer becoming choked.

(b) The connection on the bilge line referred to in paragraph (a) shall be fitted with a jointed metal cap."; and

(n) by the substitution for subregulation (21) of the following subregulation:

"(21) **[Every]** Chapter II **[boat]**vessel in which the machinery space is not continuously manned and in which the bilges cannot be monitored from the conning position shall be fitted with a bilge high level alarm; any such alarm shall be audible and visible in the machinery space and at the conning position.".

Amendment of regulation 157 of the Regulations

169. Regulation 157 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation:

"(1) In a Chapter II **[boat]**vessel, a fuel tank **[which is separate from the hull]** shall **[comply with the following requirements:]**—";

(b) by the substitution in subregulation (1) for paragraph (a) of the following paragraph:

"(a) **[it shall]** be constructed of steel or other material which, in the opinion of the surveyor, is suitable for the purpose**[.]**;";

(c) by the deletion in subregulation (1) of paragraphs (b), (c), (d) and (e);

(d) by the substitution in subregulation (1) for paragraph (g) of the following paragraph:

"(g) A fuel tank having—

(i) a capacity of more than **[300 gallons]**1135 but not more than **[1,000 gallons]**3785, shall be fitted with a suitable door for purposes of cleaning**[.For tanks having]**; and

(ii) a capacity of more than **[1,000 gallons]**3785, a manhole door shall be fitted.

(e) by the deletion in subregulation (1) of paragraph (h);

(f) by the substitution in subregulation (1) for paragraph (i) of the following paragraph:

"(i) (i) **[All tanks]**A tank shall on completion be tested by hydraulic pressure to a head not less than the maximum head to which the

tank can be subjected, or **[8 feet]**2.4 meters above the top of the tank, whichever is the greater.

(ii) **[Such]**The tests referred to in subparagraph (i) shall be witnessed by the surveyor, but, in the case of any tank having a capacity of not more than **[300 gallons]**1135 litres, the surveyor may, when it is not possible **[for him]** to witness the test, accept a written statement from the manufacturer certifying that the hydraulic pressure test described in this paragraph has been carried out and that no defects were revealed.";

(g) by the substitution for subregulation (2) of the following subregulation:

"(2) Where the capacity of a fuel tank exceeds **[25 gallons]**94 litres, it shall be provided with the following:

(a) a filling pipe that—

(i) is at least **[1½ inches]**3.81 centimetres in internal diameter;

(ii) leads from the top of the tank to the weatherdeck, the connection through the deck being watertight;

(iii) is fitted with a screwed brass plug or cap; and

(iv) is made sufficiently flexible to absorb any vibration or sinkage of the tank; and

(b) a vent pipe of at least the same internal diameter as the filling pipe leading from the top of the tank to a safe height and location above the weatherdeck through a watertight deck connection and clear of all openings into the hull or deck-house**[. The]** which shall comply with the following requirements:

(i) the end of the vent pipe shall be covered with gauze and turned down through an angle of 180 degrees**[. Two]**;

(ii) two or more vent pipes may be branched off from the pipe leading to the deck, provided the deck pipe is increased in

diameter to maintain the required cross-sectional area**[. The]**; and

(iii) the gauze shall be made of incorrodible material and shall be so fitted that it can readily be removed for cleaning or renewal.";

(h) by the substitution for subregulation (3) of the following subregulation:

"(3) (a) (i) **[Every]**A fuel tank shall be provided with a suitable means for ascertaining the level of the fuel.

(ii) If sounding pipes are fitted, **[they]**the pipes shall be led to an accessible position above the bulkhead deck.

(iii) Where **[this]**the arrangement in subparagraph (ii) is not practicable, short sounding pipes may be fitted in the machinery spaces if they are led to readily accessible positions above the platforms and fitted with self-closing cocks or valves.

(iv) Striking plates shall be fitted under all sounding pipes.

(b) Glass or plastic tubing may be used as level gauges only under the following circumstances:

(i) on a tank of under **[25 gallons]**94 litres capacity containing fuel having a close test flash point of over **[125° F.]**51°C.; **[and]**

(ii) on a tank of **[25 gallons]**94 litres capacity or over, containing fuel having a close test flash point of over **[125° F.]**51°C. with gauges fitted with self-closing valves or cocks top and bottom; and

(iii) if the tubing is suitably protected against impact.";

(i) by the substitution for subregulation (5) of the following subregulation:

"(5) **[All]**An outlet **[pipes]**pipe from a fuel tank shall at such tank be fitted with cocks or valves which are readily accessible at all times and are capable of being operated from outside the compartment in which the tank is situated.";

(j) by the substitution for subregulation (6) of the following subregulation:

"(6) **[Every]**A fuel tank shall be fitted in a position remote from heated surfaces."; and

(k) by the deletion of subregulation (7).

Amendment of regulation 158 of the Regulations

170. Regulation 158 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation:

"(1) Valves or cocks shall be fitted to all suction and discharge pipes which pass through the hull below the weatherdeck, provided that this paragraph shall not apply to

(a) pump discharges of **[1½"]**3.81 centimetres internal diameter or less, which are situated above the load water line;

(b) keel cooling systems; or

(c) scuppers which pass from the weatherdeck to the Chapter II **[boat's]**vessel's side above the load water line**[. Valves]**: Provided valves or cocks shall be fitted as close to the hull as possible.";

(b) by the substitution for subregulation (2) of the following subregulation:

"(2) Suction and discharge valves and cocks on a steel Chapter II **[boat]**vessel shall be attached to the hull or to the plating of fabricated water boxes by-

(a) bolts, with countersunk heads, tapped through the platings**[,]**; or

(b) studs which are screwed into heavy steel pads welded or riveted to the plating, but not penetrating the plating, and such valves or cocks shall be fitted with spigots passing through the plating.

(c) by the substitution for subregulation (3) of the following subregulation:

"(3) Suction and discharge valves and cocks on a wooden Chapter II **[boat]**vessel shall be flanged and provided with spigots passing through the planking and secured by means of through bolts having an outer ring or flange between bolt heads and planking: Provided that the surveyor may allow any other efficient means of securing such fittings after consideration of full particulars submitted to **[him]**such surveyor.";

(d) by the substitution for subregulation (4) of the following subregulation:

"(4) Suction and discharge valves and cocks of a Chapter II **[boat]**vessel of reinforced plastic construction, shall be attached to the hull by means approved by the surveyor after full particulars have been submitted to **[him]**such surveyor."; and

(e) by the substitution for subregulation (3) of the following subregulation:

"(5) Blow-down valves or cocks on the Chapter II **[boat's]**vessel's side shall be fitted in an accessible position and shall be arranged in such a manner that it can be readily seen whether they are open or shut, the handles shall not be capable of being removed unless the valves or cocks are shut.".

Amendment of regulation 159 of the Regulations

171. Regulation 159 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation:

"(1) In a Chapter II **[boat]**vessel, the heating and cooking arrangements may be by means of coal, oil or electricity**[. Liquid]** and liquid petroleum gas may be permitted, but only under the following conditions**[-]**:

(a) the installation shall be as approved by **[the]**a surveyor;

(b) **[no]**the installation, or any part **[of the installation]**thereof shall not be situated in a machinery **[spaces.,]**space;

(c) the liquid petroleum gas cylinders, regulators and low pressure safety devices, shall be placed above deck in a suitable, well ventilated metal cabinet separated from living spaces **[end]**and other closed spaces by a gas tight partition and removed from sources of heat, electric cable, etc., and shall be effectively earthed;

(d) the cylinders shall be secured in an upright position, and the operating equipment shall at all times be readily accessible;

(e) approved safety devices shall be provided to protect the low pressure stages of the apparatus from high pressure, and any leak off from such a device shall be conducted to the open air remote from any source of heat;

(f) the installation shall be provided with a stop valve immediately inside the compartment containing the cooking or heating appliances in addition to a valve of each appliance, provided that, if there is only one appliance connected by a short low pressure lead, it will be sufficient to have one valve only where the lead enters the compartment in which the appliance is situated;

(g) (i) the low pressure leads shall be of seamless steel or copper and suitably protected from damage and the effects of vibration, expansion and contraction**[.]**;

(ii) **[The]**the use of a short length of high pressure hose may be permitted on a low pressure lead, provided the arrangement is to the satisfaction of the surveyor;

(h) all appliances shall be provided with equipment by means of which the gas supply is completely cut off when the flame, through whatever cause, is extinguished; and

(i) the high, medium and low pressure leads shall be tested during the installation and at four yearly intervals thereafter, in the presence of the surveyor as follows**[—]**:

(i) high and medium pressure leads to a pressure of **[425 lb./in.^{2}]**192 kg/cm^2;

(ii) low pressure leads to a pressure of **[5 lb. /in.^{2}]**2,2 kg/cm^2;

(iii) the pressures mentioned in **[sub-paragraphs]**subparagraphs (i) and (ii) shall be maintained for not less than 15 minutes, during which period no drop in pressure shall be recorded on an accurate manometer or pressure gauge; and

(iii) the flexible portions of copper leads shall be pressure tested and re-annealed.";

(b) by the substitution for subregulation (2) of the following subregulation:

"(2) After installation is complete, the whole installation shall be tested for leaks by the use of soapy water or liquid detergent or by some other method approved by the **[Secretary]**Authority."; and

(c) by the substitution for subregulation (4) of the following subregulation:

"(4) In **[every]**a wooden Chapter II **[boat,]**vessel—

(a) the galley stove shall be secured to a pad of concrete or other suitable material at least **[2 inches]**5 centimetres thick**[. Bulkheads]**; and

(b) bulkheads in the way of the stove shall be lined with **[asbestos]**fire-retardant material covered with sheet steel, and the galley funnel shall be effectively insulated where it passes through the deck head.".

Amendment of regulation 160 of the Regulations

172. Regulation 160 of the Regulations is hereby amended by the substitution for subregulation (1) of the following subregulation:

"(1) Full particulars of refrigeration installations**[(other)]**, other than domestic **[refrigerators)]**refrigerators, shall be submitted to the **[Secretary]**Authority for approval.".

Amendment of regulation 161 of the Regulations

173. Regulation 161 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation:

"**161. Bulkheads**

(1) (a) **[Every]**A decked or partially decked Chapter II **[boat over [30 feet but not exceeding 80 feet in length,]**vessel shall be fitted with not less than two suitably spaced watertight **[bulkhead]**bulkheads.

(b) The spacing of **[these]**the bulkheads referred to in paragraph (a) shall be subject, to approval by the **[surveyor]**Authority, having regard to the type of construction of the **[boat]**vessel and to the duties for which it is intended.";

(b) by the substitution for subregulation (2) of the following subregulation:

"(2) (a) **[Every]**A Chapter II **[boat]**vessel exceeding **[80 feet]** 24 meters in length shall be fitted with not less than three suitably spaced watertight bulkheads extending from the keel or horn timber to the weatherdeck.

(b) The forward bulkhead shall be located at a reasonable distance from the bow of the **[boat]**vessel subject to a minimum of one-twentieth of the length.

(c) The positions of the bulkheads shall be in accordance with the plan; submitted and approved in terms of regulation 149.";

(c) by the substitution for subregulation (3) of the following subregulation:

"(3) (a) **[Openings]**An opening in a watertight **[bulkheads]**bulkhead shall have a suitable watertight **[doors]**door or other means of closing which can at all times be readily and quickly applied.

(b) **[Such]**The closing appliances referred to in paragraph (a) shall be of ample strength and shall be close-fitting to the satisfaction of the **[surveyor]**Authority.";

(d) by the substitution for subregulation (4) of the following subregulation:

"(4) **[Wood,]**A wood, steel and reinforced plastic watertight **[bulkheads]**bulkhead shall be constructed and stiffened in accordance with plans approved by the **[Secretary. Wood watertight bulkheads may consist of either-]** Authority as referred to in regulation 149.";

(e) by the deletion in subregulation (4) of paragraphs (a), (b) and (c); and

(f) by the deletion of subregulations (5) and (6).

Amendment of regulation 162 of the Regulations

174. Regulation 162 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation:

"**162. Hatches**

(1) In a Chapter II **[boat]**vessel, scantlings of hatch coamings, beams and covers shall be **[not less than as set out in Annex 8.]**constructed to the satisfaction of the Authority.";

(b) by the substitution for subregulation (2) of the following subregulation:

"(2) Hatchways shall be provided with **[efficient]** means of **[battening down]**closing constructed to the satisfaction of the Authority."; and

(c) by the deletion of subregulation (3).

Amendment of regulation 163 of the Regulations

175. Regulation 163 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation:

"(1) In **[every]**a Chapter II **[boat]**vessel, the sills of doors giving access to the main hull shall **[have a minimum height of 12 inches, but doors situated on top of any superstructure deck house, or raised forecastle, may have sills of not less than 6 inches in height]**be in accordance with the requirements prescribed in Chapter II regulation 12 of the Loadline Convention.";

(b) by the substitution for subregulation (2) of the following subregulation:

"(2) Side scuttles fitted below the weatherdeck or on the sides or ends of the engine casing or on the sides or ends of any first tier structure giving access to the main hull, shall be fitted with efficient deadlights in accordance with the requirements prescribed in Chapter II regulation 23 of the Loadline Convention.

(c) by the substitution for subregulation (3) of the following subregulation:

"(3) (a) Solid toughened glass of not less than **[one-quarter of an inch]**6.35 millimetres thick, shall be fitted to wheelhouse windows of up to **[30 inches]**76 centimetres square clear light size.

(b) For window sizes greater than **[30 inches]**76 centimetres square, the minimum thickness of glass shall be **[three-eighths of an inch]**9.5 millimetres.";

(d) by the substitution for subregulation (4) of the following subregulation:

"(4) When laminated toughened glass is fitted to wheelhouse windows, the thickness shall be increased by **[one-sixteenth inch]** over the thicknesses indicated in **[sub-regulation]**subregulation (3).";

(e) by the substitution for subregulation (5) of the following subregulation:

"(5) Where, in an existing Chapter II **[boat]**vessel, replacements to wheelhouse windows become necessary, the thicknesses of glass specified in **[sub-regulations]**subregulations (3) and (4) shall apply.";

(f) by the substitution for subregulation (6) of the following subregulation:

"(6) **[Doors]**A door giving access to the main hull shall be strongly constructed **[and hung on substantial hinges, and]**with locking arrangements and

shall be such that a door can be opened from either side to the satisfaction of the Authority.";

(g) by the substitution for subregulation (8) of the following subregulation:

"(8) (a) Two engine room entrances, providing easy access and exit, **[each measuring]** at least **[22 inches square,]**0.5m² shall be provided in **[every]**a Chapter II **[boat]**vessel of 25 gross register tons or over. **[Every decked Chapter II boat of less than 25 gross register tons, shall have two entrances measuring 22 inches square or one entrance measuring not less than 36 inches by 24 inches].**"; and

(h) by the substitution for subregulation (9) of the following subregulation:

"(9) Where more than 10 **[men]**persons are berthed in a crew space, an entrance of ample size shall be fitted as near as practicable to the centre line**[. A]** and a separate escape hatch shall also be provided.".

Insertion of regulation 163A of the Regulations

176. The following regulation is inserted in Part III, Chapter II of the Regulations after regulation 163:

"**163A. Means of escape**

A Chapter II vessel shall be provided with such doorways, stairways, ladderways and other means of escape as will provide readily accessible means of escape for all persons in the ship over in accordance with Chapter II-2 regulation 13 of the Safety Convention.".

Amendment of regulation 164 of the Regulations

177. Regulation 164 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation:

"**164. Bulwarks**

(1) **[Subject to the provisions of sub-regulation (2) and (3), bulwarks,]**Bulwarks rails, chains, wire ropes, or any combination thereof, shall be fitted around the weather deck of **[every]**a Chapter II **[boat, at least 30 inches in height above that deck. If solid bulwarks are fitted, the maximum height shall be 39 inches]** vessel, in accordance with Chapter II regulation 25 of the Loadline Convention.";

(b) by the deletion of subregulations (2) and (3); and

(c) by the substitution for subregulation (4) of the following subregulation:

"(4) Freeing ports shall be sufficient for the purpose of efficient drainage of water on deck, and shall be **[suitably situated. The area of freeing ports shall be at least one square foot per 6 feet length of bulwarks which are 30 inches high for greater heights the area shall be increased in direct proportion]** as prescribed in Chapter II regulation 24 of the Loadline Convention.".

Amendment of regulation 165 of the Regulations

178. Regulation 165 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 165 for the following heading:

"**165. Ventilation for spaces**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) In **[every]**a Chapter II **[boat]**vessel, ventilators shall be sufficient in number and size to provide adequate ventilation for all spaces which, in the opinion of the surveyor, require ventilation in accordance with Chapter II regulation 19 of the Loadline Convention."; and

(c) by the deletion of subregulations (1), (2), (3), (4), (5) and subregulation (6).

Insertion of regulation 165A of the Regulations

179. The following regulation is inserted in Part II, Chapter II of the Regulations after regulation 165:

"**165A. Ventilation and ventilation system in machinery space**

(1) In a vessel, a space in which an oil fuel tank or any part of an oil fuel installation is situated, shall be adequately ventilated in accordance with Chapter II-2 regulation 4 of the Safety Convention.

(2) Machinery spaces shall be adequately ventilated for the purpose of that machinery space to ensure that when machinery or boilers therein are operating at full power in all weather conditions including heavy weather, an adequate supply of air is maintained to the spaces for the safety and comfort of personnel and the operation of the machinery in accordance with Chapter II-1 regulation 35 of the Safety Convention.

(3) The ventilation of machinery spaces shall be sufficient under normal conditions to prevent accumulation of oil vapour.".

Substitution of regulation 166 of the Regulations

180. The following regulation is hereby substituted for regulation 166 of the Regulations:

"**166. Stern bearings**

[Stern]A stern bearing **[assemblies]**assembly in a Chapter II **[boat]**vessel shall consist of either-

(a) (i) a stern bearing of not less than three and one half shaft diameters in length**[.]**;

(ii) a gland situated inside the vessel; and

(iii) a watertight tube fitted between the bearing and the gland**[.]**; or

(b) any other type approved by the **[surveyor]**Authority.".

Amendment of regulation 167 of the Regulations

181. Regulation 167 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 167 of the following heading:

"**167. [Testing]Initial testing of watertight compartments**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) **[The bulkheads of a wooden or reinforced plastic]**Compartments in a Chapter II **[boat]**vessel shall before the **[boat]**vessel is launched, be tested to the satisfaction of **[the]**a surveyor, by hose pressure or other suitable means**[: Provided that this requirement shall apply only to bulkheads which are intended to be watertight]**.";

(c) by the substitution for subregulation (2) of the following subregulation:

"(2) Before a **[steel]** Chapter II **[boat]**vessel is launched, the compartments within the main hull shall, before any **[cementing]**coating is commenced, be subjected to hose or pressure tests as **[follows—]**in accordance with Chapter II-1 regulation 11 of the Safety Convention."; and

(d) by the deletion in subregulation (2) of the paragraphs (a), (b), (c), (d) and (e).

Amendment of regulation 168 of the Regulations

182. Regulation 168 of the Regulations is hereby amended—

(a) by the substitution for the heading of regulation 168 of the following heading:

"**168. [Anchors and cables]Towing and mooring arrangements**";

(b) by the substitution for subregulation (1) of the following subregulation:

"(1) **[Every]**A Chapter II **[boat of under 25 gross register tons]**vessel shall **[carry an anchor weighing 15 lb. for every 10 feet or part of 10 feet of overall length. The anchor shall be attached to a chain cable or wire, manila or nylon rope of such a size as shall be to the satisfaction of the surveyor. The length of the cable, wire or rope shall not be less than three times the length of the boat]**be provided with arrangements, equipment and fittings of sufficient safe working load to enable the safe conduct of all towing and mooring operations associated with the normal operation of the vessel in accordance with Chapter II-1 regulation 3-8 of the Safety Convention."; and

(c) by the deletion for subregulations (2), (3), (4), (5), (6), (7), (8) and (9).

Amendment of regulation 169 of the Regulations

183. Regulation 169 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following:

"**169. Steering gear**

[(1) Particulars of steering arrangements, including rudder and stock, for every Chapter II boat other than a boat requiring hand tiller steering only or a boat which is under 3 feet in length, shall be submitted to the Secretary.]

A Chapter II vessel shall be provided with efficient main means of steering and alternative means of steering suitable to its size and the type of steering used in accordance with Chapter II-1 regulation 29 and 30 of the Safety Convention.";

and

(b) by the deletion of subregulations (2) and (3).

Amendment of regulation 170 of the Regulations

184. Regulation 170 of the Regulations is hereby amended—

(a) by the substitution in subregulation (1) for paragraph (a) of the following paragraph:

"**170. General electrical precautions**

(1) (a) In **[every Chapter II boat, all]**a Chapter II vessel, electrical equipment and installations, including any electrical means of propulsion, shall be **[so constructed and installed]**such that **[there will be no danger of injury to any person handling it in a proper manner. Subject to the provisions of paragraph (b), where electrical equipment supplied as boat's equipment is to be operated at a voltage in excess of 55 volts, the exposed metal parts of such equipment which are not intended to have a voltage above that of earth, but which may have such a voltage under fault conditions, shall be earthed]**the vessel and all persons on board are protected against electrical hazards in accordance with the requirements of Chapter II-1 regulation 40 of the Safety Convention.";

(b) by the deletion in subregulation (1) of paragraph (b); and

(c) by the deletion of subregulations (2), (3), (4), (5), (6), (7), (8), (9) and (10).

Insertion of regulations 170A to 170M of the Regulations

185. The following regulations are inserted in Part III, Chapter II of the Regulations after regulation 170:

"**170A. Air pressure systems**

(1) Air pressure systems shall be constructed in accordance with Chapter II-1 regulation 34 of the Safety Convention.

(2) A vessel in which machinery essential for the propulsion and safety of the ship or of persons on board is required to be started, operated or controlled solely by compressed shall be provided at least two air compressors each of which shall be of efficient design and of sufficient strength and capacity

for the service for which it is intended: Provided that in a ship of Class V or VI only one such compressor shall be required.

(3) If an air pressure pipe may receive air from any source at a higher pressure than it can withstand with an adequate factor of safety, an efficient reducing valve, relief valve and pressure gauge shall be fitted to such pipe.

(4) Air pressure systems shall be inspected and tested to the satisfaction of the Authority.

(5) The Authority, in its discretion, may allow a deviation from the requirements of subregulation (2) and (3).

170B. Cooling water system

(1) In a vessel, where machinery essential for the propulsion or safety of the ship or of persons on board is dependent for its operation on an efficient cooling water system, there shall be provided at least one circulating pump and, provision shall be made so that in the event of the failure of such pump, an alternative pump is available for the same duty.

(2) The pump referred to in subregulation (1) shall be capable of supplying adequate cooling water to such machinery, oil coolers, fresh water coolers or condensers fitted thereto, as required by original equipment manufacturer specifications, as the case may be.

(3) If direct sea water cooling is used for essential internal combustion machinery, the sea water suctions shall be provided with strainers which can be cleaned without interruption of the supply of water.

(4) Means shall be provided for ascertaining whether a cooling system is working properly and for preventing overpressure in any part thereof.

(5) An exhaust pipe or silencer of an internal combustion engine provided in a ship, shall be efficiently cooled or lagged.

170C. Lubricating oil systems

(1) In a vessel in which oil for lubrication, cooling or operation of the main propelling machinery and its ancillary services is circulated under pressure, at least two pumps shall be provided each of which shall be adequate for circulating such oil: Provided that in a ship of Class V or VI and in the case of any emergency generator in any ship, only one such pump shall be required.

(2) (a) In a vessel propelled by turbine machinery, or having turbo-electric propelling machinery, the lubricating oil arrangements shall be such that an emergency supply of oil is available sufficient to maintain after a power failure an adequate supply of lubricating oil for at least three minutes or for such time as may be required for unloaded turbo-electric propelling machinery to come to rest from the maximum running speed.

(b) The emergency supply referred to in paragraph (a) shall automatically come into use on failure of the pressure supply of lubricating oil from the pump or pumps.

(3) Strainers shall be provided for straining the lubricating oil, and, except in a Class V or VI ship, where lubricating oil shall be capable of being cleaned without interrupting the supply of such oil.

(4) Means shall be provided for ascertaining whether the lubricating system is working properly and for preventing overpressure in any part of the system and if the means of preventing overpressure is a relief valve, it shall be in close circuit.

170D. Oil and gaseous fuel installations

(1) In a vessel, oil fuel provided for use in boilers or machinery, shall have a flash point of not less than 60⁰ C. (closed test): Provided that the Authority may, subject to such conditions as the Authority may impose-

(a) permit any ship to use fuel having a flash point less than 60ºC. in boilers or machinery in accordance with Chapter II-1 regulations 56 and 57 and Chapter II-2 regulation 4 of the Safety Convention; or

(b) permit the use of gaseous fuel in a ship designed for the carriage of liquefied gas if such fuel results solely from evaporation of cargo carried in accordance with the IGC Code,

Provided that nothing in this subregulation shall apply to fuel provided for machinery permitted by regulation 114 (3) (a).

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

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

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

170E. Oil fuel and gas installations (cooking ranges and other heating appliances)

In a vessel, if a cooking range or other heating appliance is supplied with oil fuel or gas, the installations shall be in accordance with Chapter II-2 regulation 4 of the Safety Convention.

170F. Communication between navigation bridge and machinery control station

A vessel to which this regulation applies, shall be provided with means of communicating orders from the navigating bridge to the machinery control station in accordance with Chapter II-1 regulation 37 of the Safety Convention: Provided the Authority may, subject to such conditions as the Authority may impose, permit deviation from compliance with this regulation.

170G. Spare gear

A vessel shall be provided with sufficient spare gear together with tools necessary for the fitting of the spare gear, having regard to the intended service of the ship.

170H. Main source of electrical power and lighting systems

(1) The main source of electrical power and lighting systems in a vessel shall-

(a) consist of at least two generating sets; and

(b) be in accordance with the requirements of, Chapter II-1 regulation 41 of the Safety Convention.

170I. Emergency source of electric power

(1) In a vessel to which this regulation applies not having its main source of electric power situated above the uppermost continuous deck or raised quarter-deck and outside the machinery casings, there shall be provided in a position above the uppermost continuous deck or raised quarter deck and outside the machinery casings, a self-contained emergency source of electric power so arranged as to ensure its functioning in the event of fire or other casualty causing failure, of the main electrical installation.

(2) In the vessel referred to in subregulation (1), the emergency source of electric power required by that subregulation shall be capable of operating simultaneously for a period of at least 3 hours the following services–

(a) the emergency lighting -

(i) at every muster and embarkation station and over the sides;

(ii) in all service and accommodation alleyways, stairways and exists, personnel lift cars and personnel lift trunks;

(iii) in machinery spaces and main generating stations including their control positions;

(iv) in all control stations, machinery control rooms and at each main and emergency switchboard;

(v) at all stowage positions for firemen's outfits;

(vi) at the steering gear;

(vii) at the fire pump;

(viii) at the sprinkler pump, and at the emergency bilge pump, if any, and at the starting positions of their motors; and

(ix) in all cargo pump rooms of tankers constructed on or after 1 July 2002;

(b) the general alarm, if electrically operated;

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

(d) the ship's radio installations;

(e) the ship's internal communication equipment;

(f) fire detection and fire alarm systems;

(g) intermittent operation of the daylight signalling lamp, the ship's whistle, the manually operated call points and all internal signals that are required for an emergency,

Provided any of the items listed in paragraph (a) to (g) may be powered by its own emergency source of power.

(3) In the vessel referred to in subregulation (1)–

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

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

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

170J. Starting arrangements for emergency generating sets

Emergency generating sets shall be in accordance with Chapter II-1 regulation 44 of the Safety Convention and be capable of being readily started in their cold condition at a temperature of 0°C: Provided if this is impracticable, or if lower temperatures are likely to be encountered, provision acceptable to the Authority shall be made for the maintenance of heating arrangements, to ensure ready starting of the generating sets.

170K. Machinery and machinery control

In a vessel, main and auxiliary machinery necessary for the propulsion and safety of the ship, shall be provided with effective means of control, in accordance with Chapter II-1 regulation 27 and 31 of the Safety Convention.

170L. Means of going astern

A vessel shall have means for going astern in accordance with Chapter II-1 regulation 28 of the Safety Convention.

170M. Steam pipe systems

In a vessel, every steam pipe system shall be so designed and constructed in accordance with Chapter II-I regulation 33 of the Safety Convention.".

Amendment of Chapter III of Part III of the Regulations

186. Chapter III of Part III of the Regulations is hereby amended by the substitution for the heading of Chapter III of the following heading:

"**CHAPTER III - PERIODIC SURVEYS: [BOATS]VESSELS OTHER THAN [SKI BOATS,SURF BOATS AND DINGHIES]VESSELS TO WHICH THE NATIONAL SMALL VESSEL SAFETY) REGULATIONS APPLY**".

Substitution of regulation 171 of the Regulations

187. The following regulation is hereby substituted for regulation 171 of the Regulations:

"**171. Application of Chapter III**

This Chapter applies to **[every boat]**a vessel in this Part, other than a **[ski or surf boat or dinghy]**vessel to which the Merchant Shipping (National Small Vessel Safety) Regulations, 2007 apply, and a "Chapter III **[boat]**vessel" means a **[boat]**vessel to which this Chapter applies.".

Substitution of regulation 172 of the Regulations

188. The following regulation is hereby substituted for regulation 172 of the Regulations:

"**172. General**

(1) The hull, boilers, machinery and equipment of a Chapter III **[boat]**vessel shall be surveyed **[at intervals and in the manner set forth in regulations 173 to 188 inclusive]**in accordance with Chapter I regulation 6 and 10 of the Safety Convention.

(2) Where a survey of a Chapter III **[boat]**vessel is required the owner shall **[address his request for inspection to the proper officer in order to give at least three working days' notice of the required service]**maintain the vessel in accordance with Chapter I regulation 11 of the Safety Convention.".

Repeal of regulations 173, 174, 175, 176, 177, 178,179 and 180 of the Regulations

189. Regulations 173, 174, 175, 176, 177, 178,179 and 180 of the Regulations are hereby repealed.

Amendment of regulation 181 of the Regulations

190. Regulation 181 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation:

"**181. [Steel hulls: dry docking]Dry Docking**

(1) **[Every]**A steel Chapter III **[boat]**vessel shall every twelve months be placed in dry dock or on a slipway for inspection by **[the]**a surveyor in accordance with Chapter II-1 Regulation 10 and 11 of the Safety Convention.";

(b) by the substitution for subregulation (2) of the following subregulation:

"(2) **[The hull of every steel Chapter III boat]**A Chapter III vessel surveyed for a dry dock certificate shall be **[inspected]**surveyed as **[follows:-]**prescribed in subregulation (1), except that it shall be subject to an initial survey, and a renewal survey every two years.";

(c) by the deletion in subregulation (2) of paragraphs (a), (b), (c) and (d); and

(d) by the addition after subregulation (2) of the following subregulation:

"(3) All repairs and renewals required by the surveyor shall be carried out to his satisfaction.".

Amendment of regulation 182 of the Regulations

191. Regulation 182 of the Regulations is hereby amended—

(a) by the substitution for subregulation (1) of the following subregulation:

"**182. Wooden hulls: dry docking**

(1) **[Every]**A wooden Chapter III **[boat of 30 feet or over in length]**vessel shall every twelve months be placed in dry dock or on a slip way, or suitably supported on blocks for examination by **[the]**a surveyor. **[A boat of under 30 feet in length may be beached for examination at the discretion of the surveyor.]**";

(b) by the substitution for subregulation (2) of the following subregulation:

"(2) The hull of [every]a wooden Chapter III **[boat]**vessel shall be **[inspected]**maintained as **[follows:-]**prescribed in Chapter II-1 regulation 11 of the Safety Convention."; and

(c) by the deletion in subregulation (2) of paragraphs (a), (b) and (c).

Repeal of regulation 183 of the Regulations

192. Regulation 183 of the Regulations is hereby repealed.

Substitution of regulation 184 of the Regulations

193. The following regulation is hereby substituted for regulation 184 of the Regulations:

"**184. Propeller shafts**

(1) Propeller shafts of a Chapter III **[boat]**vessel shall be withdrawn and propellers removed once every two years for inspection by **[the]**a surveyor, except that shafts of the following types need be withdrawn only once every **[three years in the case of a single screw boat and once every]** four years **[in the case of a boat having two or more screws[:-]**;

(a) shafts fitted with continuous liners in way of the stern tubes and in way of the outside bearings if fitted;

(b) shafts fitted with approved glands at the after end to permit of them being efficiently lubricated; and

(c) shafts of **[bronze, monel metal or other approved]** non-corrosive material.

(2) The Authority may grant an extension to the period provided in subregulation (1) upon application prior to the surveyor attendance.".

Substitution of regulation 185 of the Regulations

194. The following regulation is hereby substituted for regulation 185 of the Regulations:

"**185. Sea connections**

(1) **[All sea]**Sea suction and discharge valves and cocks in a Chapter III **[boat]**vessel shall every two years be opened up for inspection by **[the]**a surveyor while the hull is being surveyed externally.

(2) Every twelve months, during an external hull survey, **[the]**a surveyor shall examine **[all]** sea connection fastenings and, if considered necessary, **[he]**the surveyor may require any valve or cock to be opened up for inspection or testing.".

Substitution of regulation 186 of the Regulations

195. The following regulation is hereby substituted for regulation 186 of the Regulations:

"**186. [Rudders]Rudder and Rudder Stock**

(1) The rudder and rudder stock of **[every]**a Chapter III **[boat]**vessel shall be **[lifted]**removed at the time of **[the annual survey of the hull externally]** propeller shaft withdrawal, if **[the]**a surveyor considers it necessary, **[and any repairs or renewals which he]**except that a surveyor can have the rudder or rudder stock removed at any time the surveyor considers necessary**[shall be effected]**.

(2) Any repairs or renewals which the surveyor in subregulation (1) considers necessary shall be effected.".

Substitution of regulation 187 of the Regulations

196. The following regulation is hereby substituted for regulation 187 of the Regulations:

"**187. Anchors, cables and steering chains**

(1) Every twelve months, the anchors and cables, windlass and steering chains **[(if any)]**if any, of a Chapter III **[boat]**vessel, shall be given a general examination by **[the]**a surveyor, who may request any opening up which **[he]**the surveyor deems necessary.

(2) Anchor cables shall be ranged for inspection by **[the]**a surveyor eight years after construction of **[the]**a Chapter III **[boat]**vessel and thereafter at intervals of four years.

(3) Where anchor **[cables or steering]** chains are worn **[to such an extent that the mean diameter of any part is reduced to the minimum size shown in Annex 9 as requiring renewal]**to the maximum permissible diminution of 12%, such part shall be renewed.".

Repeal of regulation 188 of the Regulations

197. Regulation 188 of the Regulations is hereby repealed.

Substitution of regulation 189 of the Regulations

198. The following regulation is hereby substituted for regulation 189 of the Regulations:

"**189. Alterations to hull**

Any alterations affecting the seaworthiness or tonnage of a Chapter III **[boat]**vessel, shall have the prior approval of the **[surveyor]**Authority, and shall be carried out to **[his]**the satisfaction of the Authority.".

Substitution of regulation 195 of the Regulations

199. The following regulation is hereby substituted for regulation 195 of the Regulations:

"**CHAPTER V-ADDITIONAL SURVEYS, EQUIVALENTS AND EXEMPTIONS**

195. Additional surveys

(1) Notwithstanding the requirements of the preceding Chapters of this Part, **[any boat]**a vessel may be called upon at any time by the **[Secretary]**Authority, proper officer or surveyor to undergo such additional surveys as are deemed necessary for any reason.

(2) **[Further, at]**At the time of an annual survey, or at the time of any additional surveys required by this regulation, **[the]**a surveyor may require any part to be opened up at **[his]**the surveyor's discretion, and may require any renewals of parts or fittings, or the fitting of any additional part or parts considered necessary for the safety and seaworthiness of the **[boat]**vessel.

(3) **[The]**A surveyor may board any **[boat]**vessel at any time, and shall be allowed by the owner or master to carry out any examination **[he]**the surveyor considers necessary.".

Substitution of regulation 196 of the Regulations

200. The following regulation is hereby substituted for regulation 196 of the Regulations:

"**196. Equivalents**

Where this Part requires that the hull or machinery of a **[boat]**vessel shall be constructed in a particular manner, or that particular equipment shall be provided or that particular provision shall be made, the **[Secretary]**Authority may allow the hull or machinery of the **[boat]**vessel to be constructed in any other manner, or any other equipment to be provided or other provision made, if **[he]**the Authority is satisfied that such other construction, equipment or provision is at least as effective as that required by this Part.".

Substitution of regulation 197 of the Regulations

201. The following regulation is hereby substituted for regulation 197 of the Regulations:

"**197. Exemption of [boats]**vessels **constructed before a certain date**

The **[Secretary]**Authority may on such conditions as **[he]**the Authority thinks fit, exempt any **[boat]**vessel which was constructed before the date of coming into force of this **[part]**Part, not being a ship converted on or after that date as a **[boat]**vessel, from any of the requirements of this Part, if **[he]**the Authority is satisfied that compliance therewith is unreasonable or impracticable in the circumstances.".

Substitution of regulation 198 of the Regulations

202. The following regulation is hereby substituted for regulation 198 of the Regulations:

"**198. General exemption**

The **[Secretary]** the Authority may on such conditions as **[he]**the Authority thinks fit, exempt any **[boat]**vessel from **[an]**any of the requirements of this Part, if **[he]**the Authority considers such requirements to be unreasonable or impracticable in the circumstances.".

Repeal of Annex 2, Annex 3, Annex 4, Annex 5, Annex 7, Annex 8 and Annex 9 to the Regulations

203. Annex 2, Annex 3, Annex 4, Annex 5, Annex 7, Annex 8 and Annex 9 to the Regulations are hereby repealed.

Amendment of Annex 1 of the Regulations

204. Annex 1 of the Regulations is hereby amended—

(a) by the substitution for paragraph *Plans* (14) of the following paragraph:

"(14) Any other plans required by the **[Secretary]**Authority.";

(b) by the substitution for paragraph *Particulars* (1) of the following paragraph:

"(1) Subdivision co-efficients and particulars to enable calculations of permeability **[to be made in terms of Annex 2]**.";

(c) by the substitution for paragraph *Particulars* (2) of the following paragraph:

"(2) Calculations of the stability and angle of heel in the damaged condition **[for compliance with Annex 3]**;"; and

(d) by the substitution for paragraph *Particulars* (7) of the following paragraph:

"(7) Any other particulars required by the **[Secretary]**Authority.".

Amendment of Annex 6 of the Regulations

205. Annex 6 of the Regulations is hereby amended by the substitution for the heading of Annex 6 of the following heading:

"(Regulation 149)

ANNEX 6

CONSTRUCTION OF [BOATS]VESSELS: PLANS AND PARTICULARS".

Short title and commencement

206. These regulations are called The Construction Amendment Regulations, 2023 and are hereby published for comments.