

NAVIGATION.

No. 96 of 1953.

An Act to amend the *Navigation Act* 1912-1952
to give effect to the International Convention
for the Safety of Life at Sea, 1948, and
for other purposes.

[Assented to 24th December, 1953.]

BE it enacted by the Queen's Most Excellent Majesty, the Senate,
and the House of Representatives of the Commonwealth of
Australia, as follows :—

Short title
and citation.

1.—(1.) This Act may be cited as the *Navigation Act* 1953.

(2.) The *Navigation Act* 1912-1952* is in this Act referred to as the Principal Act.

(3.) The Principal Act, as amended by this Act, may be cited as the *Navigation Act* 1912-1953.

Commencement.

2.—(1.) Subject to the next succeeding sub-section, this Act shall come into operation on a date to be fixed by Proclamation.

(2.) Sections one and two, and sub-section (2.) of section thirty, of this Act shall come into operation on the day on which this Act receives the Royal Assent.

(3.) Each Division, section or schedule inserted in the Principal Act by a section of this Act shall come into operation on the date on which the last-mentioned section comes into operation.

Definitions.

3. Section six of the Principal Act is amended—

(a) by inserting in the definition of “Equipment”, after the words “signals of distress,”, the words “radio equipment,”;

(b) by inserting after the definition of “Equipment” the following definition :—

“ ‘Radio equipment’ includes radio navigational aid equipment ; ” ;

(c) by omitting the definition of “Passenger” and inserting in its stead the following definition :—

“ ‘Passenger’ means a person carried on board a ship with the knowledge or consent of the owner, charterer, agent or master of the ship, being a person other than—

(a) a person employed or engaged in any capacity on board the ship ;

* Act No. 4, 1913, as amended by No. 32, 1919 ; No. 1, 1921 ; No. 8, 1925 ; No. 8, 1926 ; No. 49, 1934 ; No. 30, 1935 ; No. 1, 1943 ; No. 80, 1950 ; and No. 109, 1952.

(b) a person on board the ship in pursuance of the obligation imposed on the master by this Act to carry shipwrecked, distressed or other persons or by reason of circumstances that could not have been prevented or forestalled by the owner, charterer, agent or master of the ship; and

(c) a child under the age of one year;” ; and
(d) by omitting the definition of “Territory under the authority of the Commonwealth”.

4. Section seven of the Principal Act is amended by omitting paragraph (d) of the first proviso and inserting in its stead the following paragraph :—

Definition of
coasting trade.

“ (d) as a passenger—

- (i) the owner of the ship or a person who is a servant, or a member of the family, of the owner of the ship; or
- (ii) a pilot who is proceeding from his home station for the purpose of meeting a vessel requiring his services or is returning to his home station after piloting a vessel : ”.

5. Section thirty-nine of the Principal Act is amended by omitting sub-section (6.) and inserting in its stead the following sub-sections :—

Rating of
seamen.

“ (6.) Subject to the next succeeding sub-section, a person shall not engage a seaman in any capacity unless the seaman satisfies the superintendent that he can pull an oar and handle a boat.

“ (6A.) The last preceding sub-section does not apply in relation to the engagement of a stewardess or in relation to the engagement of a seaman who—

- (a) has not previously served at sea; or
- (b) is a member of a prescribed class of seaman.”.

6. Section one hundred and sixty-eight of the Principal Act is amended by adding at the end thereof the following sub-section :—

Documents to
be handed over
to master's
successor.

“ (3.) For the purposes of this section, the papers containing the information required to be on board a ship under section one hundred and ninety-two B of this Act shall be deemed to be a document relating to the navigation of the ship.”.

7. Part IV. of the Principal Act is amended by omitting the list of Division Headings appearing before Division 1 of that Part and inserting in its stead the following list :—

Division
headings—
Part IV.

“ Division 1.—General (Sections 187–192B).

Division 2.—Surveys of Steamships and Survey Certificates
(Sections 193–206).

Division 2A.—Sailing Ships (Section 206B).

Division 2B.—Safety Convention Certificates (Sections 206C–
206S).

- Division 3.—Unseaworthy Ships (Sections 207–214).
- Division 4.—Life-saving Appliances and Fire Protection (Sections 215–217).
- Division 5.—Deck and Load Lines (Sections 218–227).
- Division 6.—Signals of Distress (Sections 228–230).
- Division 6A.—Radio Equipment (Sections 231–231F).
- Division 7.—Adjustment of Compasses (Sections 232–234).
- Division 8.—Collision, Boat, and Fire Drills (Section 235).
- Division 9.—Anchors, Chain Cables, and Gear (Sections 236–247).
- Division 10.—Dangerous Goods, Livestock, Grain, Deck and other Cargoes (Sections 248–257A).
- Division 11.—Lights, Signals, and Sailing Regulations (Sections 258–265A).
- Division 12.—Private Signals (Sections 266–267).
- Division 13.—Report of Accidents and of Dangers to Navigation (Sections 268–269A).’.

8. Sections one hundred and eighty-seven A and one hundred and eighty-eight of the Principal Act are repealed and the following sections inserted in their stead :—

Interpretation.

- “ 187A.—(1.) In this Part, unless the contrary intention appears—
- ‘ cargo ship ’ means a ship other than a passenger ship ;
 - ‘ cargo steamship ’ means a steamship other than a passenger steamship ;
 - ‘ certificate of equipment ’ means a certificate of equipment issued under sub-section (4.) of section one hundred and ninety-four of this Act ;
 - ‘ certificate of survey ’ means a certificate of survey issued under sub-section (4.) of section one hundred and ninety-four of this Act ;
 - ‘ classification certificate ’ means a classification certificate of a prescribed standard issued by a prescribed corporation or association for the survey and registry of ships ;
 - ‘ country to which the Load Line Convention applies ’ means a country or territory which—
 - (a) has been declared by the Minister, by notice published in the *Gazette*, to be a country or territory to which the Load Line Convention applies ; and
 - (b) has not been so declared to have ceased to be a country or territory to which the Load Line Convention applies ;
 - ‘ country to which the Safety Convention applies ’ means a country or territory which—
 - (a) has been declared by the Minister, by notice published in the *Gazette*, to be a country or territory to which the Safety Convention applies ; and
 - (b) has not been so declared to have ceased to be a country or territory to which the Safety Convention applies ;

‘declaration of survey’ means a declaration made by a surveyor under this Act ;

‘exemption certificate’ means a certificate issued under sub-section (2.) of section two hundred and six F of this Act ;

‘international voyage’ means—

(a) for the purposes of Division 5 of this Part, a voyage—

(i) from a port in Australia to a port outside Australia ;

(ii) to a port in Australia from a port outside Australia ;

(iii) from a port in a country to which the Load Line Convention applies to a port outside that country ; or

(iv) to a port in a country to which the Load Line Convention applies from a port outside that country ; and

(b) for the purposes of the provisions of this Part other than Division 5, a voyage—

(i) from a port in Australia to a port outside Australia ;

(ii) to a port in Australia from a port outside Australia ;

(iii) from a port in a country to which the Safety Convention applies to a port outside that country ; or

(iv) to a port in a country to which the Safety Convention applies from a port outside that country ;

‘passenger ship’ means a ship carrying more than twelve passengers ;

‘passenger steamship’ means a steamship carrying more than twelve passengers ;

‘qualified safety certificate’ means a certificate issued under sub-section (2.) of section two hundred and six c of this Act ;

‘qualified safety equipment certificate’ means a certificate issued under sub-section (2.) of section two hundred and six D of this Act ;

‘qualified safety radiotelegraphy certificate’ means a qualified safety radiotelegraphy certificate issued under sub-section (2.) of section two hundred and six E of this Act ;

‘qualified safety radiotelephony certificate’ means a qualified safety radiotelephony certificate issued under sub-section (2.) of section two hundred and six E of this Act ;

‘qualified short voyage safety certificate’ means a certificate issued under sub-section (4.) of section two hundred and six c of this Act ;

- ‘radio installation’ means a radiotelegraphy or radiotelephony installation, but does not include a radio navigational aid ;
- ‘safety certificate’ means a certificate issued under sub-section (1.) of section two hundred and six c of this Act ;
- ‘Safety Convention certificate’ means a certificate issued in respect of a steamship, not being a ship registered in Australia, by or with the authority of the Government of a country to which the Safety Convention applies in accordance with the Safety Convention or a law of that country giving effect to that Convention ;
- ‘Safety Convention passenger steamship’ means a passenger steamship registered in a country to which the Safety Convention applies ;
- ‘Safety Convention ship’ means a ship registered in a country to which the Safety Convention applies ;
- ‘safety equipment certificate’ means a certificate issued under sub-section (1.) of section two hundred and six d of this Act ;
- ‘safety radiotelegraphy certificate’ means a safety radiotelegraphy certificate issued under sub-section (1.) of section two hundred and six e of this Act ;
- ‘safety radiotelephony certificate’ means a safety radiotelephony certificate issued under sub-section (1.) of section two hundred and six e of this Act ;
- ‘short international voyage’ means an international voyage—
- (a) in the course of which a ship is not at any time more than two hundred nautical miles from a port or place in which the passengers and crew could be placed in safety ; and
 - (b) which does not exceed six hundred nautical miles in length between the last port of call in the country in which the voyage begins and the final port of destination ;
- ‘short voyage safety certificate’ means a certificate issued under sub-section (3.) of section two hundred and six c of this Act ;
- ‘sub-division load line’ means the load line indicating the depth to which a passenger steamship may be loaded having regard to the extent to which she is sub-divided and to the space for the time being allotted to passengers ;
- ‘surveyor’ means a person who is appointed to be a surveyor under section one hundred and ninety of this Act ;
- ‘the Load Line Convention’ means the International Load Line Convention signed in London on the fifth day of July, One thousand nine hundred and thirty (a copy of which is set forth in Schedule VII. to this Act), as affected by any modification made under Article 20 of the Convention ;

‘ the Safety Convention ’ means the International Convention for the Safety of Life at Sea, 1948 (a copy of the articles and regulations of which is set forth in Schedule VI. to this Act), as affected by any amendment, other than an amendment not accepted by Australia, made under Article IX. of the Convention ;

‘ valid Safety Convention certificate ’ means a Safety Convention certificate which complies with such requirements as are prescribed.

“(2.) A reference in this Part to a ship constructed before or after a particular date shall be read as a reference to a ship the keel of which was laid before or after that date, as the case may be.

“(3.) For the purpose of determining whether a voyage is an international voyage—

(a) account shall not be taken of a deviation by a ship from an intended voyage if the deviation is due only to stress of weather or any other circumstance which neither the master nor the owner, nor the charterer, if any, of the ship could have prevented or forestalled ; and

(b) a colony, overseas territory or protectorate, or a territory for which the United Nations are the administering authority, or for the international relations of which the Government of the Commonwealth or of any other country is responsible, shall be deemed to be a separate country.

“188. Where a ship which is not ordinarily engaged on international voyages undertakes, in exceptional circumstances, a single international voyage, the Minister may, if he is satisfied that the ship complies with safety requirements which, in his opinion, are adequate for the voyage, exempt a person, in respect of that voyage, from compliance with any requirement of this Act.”.

Exemption
from safety
requirements
for a single
international
voyage. ~~243~~

9. Sections one hundred and ninety and one hundred and ninety-one of the Principal Act are repealed and the following sections inserted in their stead :—

“190. The Minister may appoint a person who is skilled with regard to—

Appointment
of surveyors.

(a) wooden hulls and equipment, other than radio equipment ;

(b) metal hulls and equipment, other than radio equipment ;

(c) engines, boilers and machinery ;

(d) radio installations ; or

(e) radio navigational aids.

to be a surveyor.

“190A.—(1.) Where the hull, equipment or machinery, or a part of the hull, equipment or machinery, of a ship in respect of which a certificate has been issued under Division 2 or Division 2B of this Part is altered, replaced or damaged in a manner which affects her efficiency or seaworthiness or otherwise becomes inefficient, notice

Alteration of
ships and
cancellation of
certificates.

in writing of the alteration, replacement or damage shall be given forthwith to such person and in such form as are prescribed and, if notice is not so given, the master and the owner of the ship are each guilty of an offence punishable upon conviction by a fine not exceeding Fifty pounds.

“(2.) Where the Minister has reason to believe that—

- (a) the report of a surveyor in respect of a ship was fraudulently or erroneously made or obtained ;
- (b) a certificate has been issued under Division 2 or Division 2B of this Part in respect of a ship upon false or erroneous information ; or
- (c) since the last declaration of survey was made in respect of a ship, the hull, equipment or machinery, or a part of the hull, equipment or machinery, of the ship has been altered, replaced or damaged in a manner which affects her efficiency or seaworthiness or has become otherwise inefficient,

he may cancel any certificate issued in respect of the ship under Division 2 or Division 2B of this Part or detain the ship until he is satisfied that she can proceed to sea without danger to her crew or passengers.

“(3.) Where the Minister cancels a certificate issued in respect of a ship under this Part, the certificate is of no force or effect after the Minister has given notice in writing of the cancellation to the owner, agent or master of the ship.

“191. The regulations may—

- (a) make provision for or in relation to the survey and inspection of ships and the furnishing of reports and declarations of survey, and the issue of certificates, under this Part ;
- (b) specify requirements with which the construction, hull, equipment and machinery of ships shall comply ; and
- (c) make such provision as appears necessary for giving effect to such of the provisions of the Safety Convention as relate to the construction, hull, equipment and machinery of ships, subdivision load lines and surveys.”.

Regulations may make provision in relation to surveys and requirements as to hulls, equipment and machinery.

Regulations—Discretion of Governor-General and Minister.

10. Section one hundred and ninety-one A of the Principal Act is amended—

- (a) by omitting from sub-section (2.) the word “ Division ” and inserting in its stead the word “ Part ” ; and
- (b) by omitting sub-section (3.).

11. Sections one hundred and ninety-one B, one hundred and ninety-two and one hundred and ninety-two A of the Principal Act are repealed and the following sections inserted in their stead :—

“191B. The master or owner of a ship registered in Australia, being a ship of one hundred and fifty tons or more gross registered tonnage, shall not take that ship to sea, or permit that ship to be

Signalling lamps.

taken to sea, on an international voyage unless the ship is provided with a daylight signalling lamp of a type approved by the Director.

Penalty : Twenty pounds.

“ 192.—(1.) Where the issue of a certificate in respect of a ship under this Part is refused, the owner of the ship may appeal to a Court of Marine Inquiry. Appeal from refusal to issue certificate.

“ (2.) The Court of Marine Inquiry may, on the hearing of the appeal, make such order as it thinks fit.

“ 192A.—(1.) Where, under this Part, a foreign ship is detained or proceedings are taken against the owner or master of such a ship, the Director shall forthwith give notice in writing, specifying the grounds on which the ship has been detained or the proceedings have been taken, to the consul for the country in which the ship is registered at or nearest to the port where, for the time being, the ship is. Detention of ships not registered in Australia.

“ (2.) Where notice of the detention of a ship is given to a consul under the last preceding sub-section, a person named by the consul may accompany any person directed to survey the ship while he is carrying out the survey.

“ 192B.—(1.) The master or owner of a ship registered in Australia, being a ship the keel of which is laid after this section comes into operation, shall not take that ship to sea, or permit that ship to be taken to sea, unless there is on board the ship such written or diagrammatic information as to the stability of the ship as is necessary for the guidance of the master in loading and ballasting the ship, being information complying with the next succeeding sub-section. Stability information.

Penalty : One hundred pounds.

“ (2.) The information specified in the last preceding sub-section shall be in such form as is approved by the Director and shall be based on a determination of the stability of the ship made by means of an inclining test of the ship, or, with the approval of the Director, of a sister ship, carried out by the builders of the ship, or of the sister ship, as the case may be.”

12. The heading to Division 2 of Part IV. of the Principal Act is omitted and the following heading inserted in its stead :— Division heading.

“ DIVISION 2.—SURVEYS OF STEAMSHIPS AND SURVEY CERTIFICATES.”

13. Sections one hundred and ninety-three and one hundred and ninety-four of the Principal Act are repealed and the following sections inserted in their stead :—

“ 193. Subject to this Part, a steamship shall be surveyed at least once in each period of twelve months. Annual surveys.

“ 194.—(1.) When a surveyor has made a survey of a steamship, in whole or in part, he shall furnish a report on the survey to the Minister. Surveyors' reports and declarations, and certificates of survey and equipment.

“(2.) If the surveyor is satisfied that it is proper for him so to do, he shall furnish to the Minister a declaration in the prescribed form in respect of the survey.

“(3.) The surveyor shall state in the declaration—

- (a) the voyages or class of voyages on which, in the opinion of the surveyor, having regard to the construction, equipment and machinery of the ship, so far as surveyed by him, the ship is fit to ply; and
- (b) in the case of a passenger steamship which, in the opinion of the surveyor, is, so far as surveyed by him, fit to ply on international voyages while engaged in a special trade only, that the ship is so fit only while so engaged.

“(4.) The Minister may, on receipt of the report or reports of a surveyor or surveyors in respect of a ship, issue in respect of the ship, in the prescribed form, a certificate of survey or a certificate of equipment.

“(5.) The Minister may refuse to issue a certificate in respect of a ship under the last preceding sub-section if he is not satisfied that the ship complies with any relevant requirement of this Act which relates to the construction, hull, equipment or machinery of ships.”.

Certificates of
survey and
equipment.

14. Section one hundred and ninety-five of the Principal Act is amended by inserting in sub-sections (1.) and (2.), after the words “certificate of survey” (wherever occurring), the words “or certificate of equipment”.

Posting up of
certificates.

15. Section one hundred and ninety-six of the Principal Act is amended by inserting after the words “certificate of survey” the words “or certificate of equipment”.

16. Sections one hundred and ninety-seven, one hundred and ninety-seven A, one hundred and ninety-eight and one hundred and ninety-eight A of the Principal Act are repealed and the following sections inserted in their stead :—

Uncertificated
steamships not
to proceed to
sea.

“197. The master or owner of a steamship shall not take the ship to sea, or permit the ship to be taken to sea, unless there is in force in respect of the ship—

- (a) a certificate of survey appropriate to the purpose for which the ship is taken to sea; or
- (b) in the case of a cargo steamship—a certificate of equipment appropriate to the purpose for which the ship is taken to sea and a classification certificate.

Penalty : Two hundred and fifty pounds.

Certificates of
survey or
equipment not
required when
Convention
certificates in
force.

“198.—(1.) The last preceding section does not apply to or in relation to the taking of a ship to sea on an international voyage if the master of the ship complies with section two hundred and six Q or two hundred and six R of this Act.

“(2.) The last preceding section does not apply to or in relation to the taking of a ship to sea otherwise than on an international

voyage if there is in force in respect of the ship such certificate or certificates (being a certificate or certificates appropriate to the purpose for which the ship is taken to sea) as would be required, under section two hundred and six Q or two hundred and six R of this Act, to be produced to a Collector from whom was demanded a certificate of clearance for the ship for an international voyage.”.

17. Section two hundred and two of the Principal Act is repealed and the following section inserted in its stead :—

“ 202.—(1.) The owner or master of a steamship shall not receive or have on board the ship a number of passengers in excess of the number specified in the certificate of the ship as the number of passengers which the ship is authorized to carry. Overcrowding
steamships.

Penalty : One hundred pounds and an amount of Five shilling. for each person on board in excess of the number authorized by the certificate of the ship.

“ (2.) The owner, master or agent of a steamship shall not take payment of passage money from a number of persons in excess of the number specified in the certificate of the ship as the number of passengers which the ship is authorized to carry.

Penalty : One hundred pounds.

“ (3.) This section does not apply in relation to a voyage upon which, with the consent of the Minister, persons are carried for the purpose of enabling them to be moved from a place in consequence of a threat to their lives.

“ (4.) For the purposes of this section, ‘ the certificate of the ship ’ means a certificate issued in respect of the ship under this Part or, if the ship is a Safety Convention ship, a valid Safety Convention certificate issued in respect of the ship.”.

18. Section two hundred and four of the Principal Act is repealed and the following section inserted in its stead :—

“ 204.—(1.) Subject to this section—

(a) a ship in respect of which a certificate is in force under Division 2 or Division 2B of this Part ; or

(b) a ship in respect of which a valid Safety Convention certificate is in force,

is exempt from survey under this Division. Exemption
from survey
when certificate
is in force.

“ (2.) Subject to this section, a cargo steamship in respect of which there is in force a classification certificate is exempt from survey, other than survey for a certificate of equipment, under this Division.

“ (3.) A person authorized in writing by the Minister to make inspections under this section may, at any time, inspect a ship which is wholly or partly exempt from survey under this Division and shall, upon making such an inspection, forthwith report the result of the inspection to the Minister.

“(4.) Upon the receipt by the Minister of a report under the last preceding sub-section, he may, subject to the next succeeding sub-section, cancel the exemption of the ship from survey or suspend the operation, for the purposes of this Act, of a certificate in force in respect of the ship, and thereupon the ship becomes liable to survey.

“(5.) The Minister shall not cancel the exemption from survey of a ship in respect of which a valid Safety Convention certificate is in force, or suspend the operation, for the purposes of this Act, of a valid Safety Convention certificate in force in respect of a ship, unless the Minister has reason to believe—

- (a) that the condition of the ship does not substantially correspond with the certificate; and
- (b) that the ship cannot proceed to sea without danger to her crew or passengers.”.

19. Sections two hundred and six and two hundred and six A of the Principal Act are repealed and the following section is inserted in their stead:—

Watertight
compartments,
&c., backing
power and
steering
apparatus.

“206.—(1.) A steamship of a prescribed class which—

- (a) is registered in Australia or engaged in the coasting trade ;
or
- (b) carries more than twelve passengers and proceeds from a port in Australia to a port outside Australia or comes into a port in Australia from a port outside Australia,

shall—

- (c) in accordance with the regulations, be subdivided into watertight compartments and fitted with fireproof bulkheads and a double bottom ;
- (d) be provided with such power for going astern as is sufficient to secure proper control of the ship when under way ; and
- (e) be provided with efficient main and auxiliary steering apparatus.

“(2.) Where a ship to which the last preceding sub-section applies does not comply with that sub-section, the owner and master of the ship are each guilty of an offence punishable upon conviction by a fine not exceeding One hundred pounds.

“(3.) The regulations may make provision—

- (a) for or in relation to the subdividing of ships into watertight compartments and the closing and periodical trial and operation of watertight doors, side scuttles, valves and similar contrivances in ships divided into watertight compartments ; and
- (b) for giving effect to regulations 19 and 20 of Chapter II. of the Safety Convention.”.

20. Division 2B of Part IV. of the Principal Act is repealed and the following Division inserted in its stead :—

“ DIVISION 2B.—SAFETY CONVENTION CERTIFICATES.

“ 206c.—(1.) Where, on receipt of declarations of survey in respect of a passenger steamship registered in Australia, the Minister is satisfied that the ship complies with the requirements of this Act which relate to the construction, equipment and machinery of passenger steamships engaged on international voyages, other than short international voyages, he may issue in respect of the ship, in the prescribed form, a safety certificate.

Passenger
ships—safety
certificates and
short voyage
safety
certificates.

“ (2.) Where, on receipt of declarations of survey in respect of a passenger steamship registered in Australia, being a ship in respect of which an exemption certificate is in force, the Minister is satisfied that the ship complies with the requirements of this Act, other than requirements from which the ship is exempt under the exemption certificate, which relate to the construction, equipment and machinery of passenger steamships engaged on international voyages, other than short international voyages, he may issue in respect of the ship, in the prescribed form, a qualified safety certificate.

“ (3.) Where, on receipt of declarations of survey in respect of a passenger steamship registered in Australia, the Minister is satisfied that the ship complies with the requirements of this Act which relate to the construction, equipment and machinery of passenger steamships engaged on short international voyages, he may issue in respect of the ship, in the prescribed form, a short voyage safety certificate.

“ (4.) Where, on receipt of declarations of survey in respect of a passenger steamship registered in Australia, being a ship in respect of which an exemption certificate has been issued and is in force, the Minister is satisfied that the ship complies with the requirements of this Act, other than requirements from which the ship is exempt under the exemption certificate, which relate to the construction, equipment and machinery of passenger steamships engaged on short international voyages, he may issue in respect of the ship, in the prescribed form, a qualified short voyage safety certificate.

“ 206d.—(1.) Where, on receipt of declarations of survey in respect of a cargo steamship registered in Australia, the Minister is satisfied that the ship complies with the requirements of this Act which relate to the equipment (other than radiotelegraphy or radiotelephony equipment) of cargo steamships engaged on international voyages, he may issue in respect of the ship, in the prescribed form, a safety equipment certificate.

Cargo ships—
safety
equipment
certificates.

“ (2.) Where, on receipt of declarations of survey in respect of a cargo steamship registered in Australia, being a ship in respect of which an exemption certificate has been issued and is in force, the Minister is satisfied that the ship complies with the requirements of this Act, other than requirements from which the ship is exempt

under the exemption certificate, which relate to the equipment (other than radiotelegraphy or radiotelephony equipment) of cargo steamships engaged on international voyages, he may issue in respect of the ship, in the prescribed form, a qualified safety equipment certificate.

Cargo ships—
radio
installation
certificates.

“206E.—(1.) Where, on receipt of declarations of survey in respect of a cargo steamship registered in Australia, the Minister is satisfied that the ship complies with the requirements of this Act which relate to the radiotelegraphy or radiotelephony equipment of cargo steamships engaged on international voyages, he may issue in respect of the ship, in the prescribed form, a safety radiotelegraphy certificate or a safety radiotelephony certificate, as the case requires.

“(2.) Where, on receipt of declarations of survey in respect of a cargo steamship registered in Australia, being a ship in respect of which an exemption certificate has been issued and is in force, the Minister is satisfied that the ship complies with the requirements of this Act, other than requirements from which the ship is exempt under the exemption certificate, which relate to the radiotelegraphy or radiotelephony equipment of cargo steamships engaged on international voyages, he may issue in respect of the ship, in the prescribed form, a qualified safety radiotelegraphy certificate or a qualified safety radiotelephony certificate, as the case requires.

Exemptions.

“206F.—(1.) The regulations may make provision for or in relation to the exemption by the Minister of ships from all or any of the requirements of this Act which relate to the construction, equipment or machinery of ships engaged on international voyages.

“(2.) Where, under the regulations, the Minister exempts a ship from a requirement of this Act which relates to the construction, equipment or machinery of ships engaged on international voyages, he may issue in respect of the ship, in the prescribed form, an exemption certificate specifying the requirement from which the ship is exempt and the conditions, if any, subject to which the ship is exempt.

“(3.) Where an exemption certificate specifies conditions subject to which the ship is exempt from a requirement specified in the certificate and the conditions are not complied with, the master and owner of the ship are each guilty of an offence punishable upon conviction by a fine not exceeding One hundred pounds.

Minister may
request Safety
Convention
countries to
issue
certificates

“206G.—(1.) The Minister may request the Government of a country to which the Safety Convention applies to issue, in respect of a ship registered in Australia, a certificate—

- (a) which, by virtue of the Safety Convention or a law of that country which gives effect to that Convention, the Government of that country may issue in respect of a ship registered in that country; and
- (b) which corresponds, or substantially corresponds, with a certificate which the Minister is empowered under this Division to issue in respect of that ship.

“(2.) A certificate issued in pursuance of such a request, and containing a statement that it has been so issued, has effect, for the purposes of this Act, as if it were a certificate of the kind to which it corresponds issued under this Division.

“206H.—(1.) The Minister may, at the request of the Government of a country to which the Safety Convention applies, issue in respect of a ship registered in that country a certificate which, under this Division, he could issue in respect of that ship if it were registered in Australia.

Safety
Convention
countries may
request Minister
to issue
certificates.

“(2.) A certificate issued under this section—

(a) shall contain a statement to the effect that it has been issued at the request of the Government of the country in which the ship is registered ; and

(b) has effect, for the purposes of this Act, as if it had been issued by the Government which requested its issue.

“206J.—(1.) Subject to the next succeeding sub-section, a certificate, other than a safety equipment certificate or a qualified safety equipment certificate, issued under this Division remains in force for a period of one year after the date of issue or for such shorter period as is specified in the certificate, and a safety equipment certificate or a qualified safety equipment certificate remains in force for a period of two years after the date of issue or for such shorter period as is specified in the certificate.

Duration of
certificates.

“(2.) An exemption certificate issued in respect of a ship shall not remain in force after a qualified certificate issued in respect of the ship has ceased to be in force.

“206K.—(1.) Where a ship registered in Australia is not in an Australian port at the time when a certificate issued in respect of the ship under this Division expires or is about to expire, the Minister may, if it appears proper and reasonable for him so to do, extend the certificate, for a period not exceeding five months from the date of expiration of the certificate, for the purpose of allowing the ship to return to an Australian port specified by the Minister.

Extension of
certificates.

“(2.) An extension of a certificate under the last preceding sub-section is of no further effect upon the return of the ship to the Australian port so specified.

“(3.) The Minister may extend a certificate in respect of a ship registered in Australia, being a certificate which has not been extended under sub-section (1.) of this section, for a period of grace not exceeding one month from the date of expiration of the certificate.

“206L. The master of a ship in respect of which a certificate has been issued under this Division shall, while the certificate remains in force, cause a copy of the certificate to be kept displayed in a prominent and accessible place in the ship, where it may be read by all persons on board.

Certificates
to be
exhibited.

Certificate
required by
passenger
steamship on
international
voyage.

“ 206M. The master or owner of a passenger steamship registered in Australia shall not take the ship to sea, or permit the ship to be taken to sea, on an international voyage from a port in Australia unless there is in force in respect of the ship a safety certificate or a qualified safety certificate or, where the voyage is a short international voyage, a short voyage safety certificate or a qualified short voyage safety certificate.

Penalty : Five hundred pounds.

Certificates
required by
cargo
steamships on
international
voyages.

“ 206N. The master or owner of a cargo steamship registered in Australia, being a ship of five hundred tons or more gross registered tonnage, shall not take the ship to sea, or permit the ship to be taken to sea, on an international voyage from a port in Australia unless there is in force in respect of the ship a safety certificate or a qualified safety certificate or—

- (a) a safety equipment certificate or a qualified safety equipment certificate ;
- (b) a certificate of survey or a classification certificate ; and
- (c) a safety radiotelegraphy certificate, a qualified safety radiotelegraphy certificate, a safety radiotelephony certificate, a qualified safety radiotelephony certificate or an exemption certificate which wholly exempts the ship from the requirements of this Act which relate to the radiotelegraphy or radiotelephony equipment of cargo steamships engaged on international voyages.

Penalty : Two hundred and fifty pounds.

Qualified
certificates have
no force
without
corresponding
exemption
certificates.

“ 206P. For the purposes of the last two preceding sections, a qualified certificate of any kind shall, in relation to a particular voyage, be deemed not to be in force in respect of a ship unless—

- (a) the certificate is appropriate to the voyage ; and
- (b) there is also in force in respect of the ship an exemption certificate which—
 - (i) is appropriate to the voyage ; and
 - (ii) exempts the ship from such of the requirements of this Act which apply to the ship as appear from the qualified certificate to be requirements with which the ship does not comply.

Certificates to
be produced
to Collector.

“ 206Q.—(1.) The master of a steamship registered in Australia, being a passenger ship or a cargo ship of five hundred tons or more gross registered tonnage, shall produce to the Collector from whom is demanded a certificate of clearance for the ship for an international voyage from a port in Australia a certificate or certificates by virtue of which the ship may be taken to sea on that voyage without contravention of the preceding provisions of this Division.

“(2.) The certificate of clearance shall not be granted, and the ship may be detained by the Collector, until the certificate or certificates under this Division is or are produced to the Collector.

“206R.—(1.) The master of a Safety Convention ship shall produce to the Collector from whom is demanded a certificate of clearance for the ship for an international voyage from a port in Australia such valid Safety Convention certificate or certificates as corresponds, or respectively correspond, with a certificate or certificates the production of which would, if the ship were registered in Australia and proceeding on that voyage, be sufficient for the purposes of the last preceding section.

Non-Australian ships—
certificates
required for
international
voyages.

“(2.) The certificate of clearance shall not be granted, and the ship may be detained by the Collector, until the Safety Convention certificate or certificates is or are produced to the Collector.

“(3.) Sub-section (1.) of this section shall not be construed as requiring the master of a Safety Convention ship to produce to the Collector a Safety Convention certificate which corresponds with a certificate of a kind referred to in paragraph (b) of section two hundred and six N of this Act.

“206S. Where there is attached to a valid Safety Convention certificate issued in respect of a ship a memorandum which—

Modification of
certificates.

- (a) has been issued by or under the authority of the Government of the country in which the ship is registered ; and
- (b) modifies, for the purpose of a particular voyage, by reason of the number of persons carried on that voyage, the particulars stated in the certificate with respect to life-saving appliances,

the certificate has effect for the purpose of that voyage as if it were modified in accordance with the memorandum.”.

21. Section two hundred and ten of the Principal Act is amended by omitting sub-section (3.).

Detention of
unseaworthy
ships.

22. Section two hundred and eleven of the Principal Act is amended by omitting sub-section (2.) and inserting in its stead the following sub-section :—

Costs of
detention.

“(2.) If—

- (a) a ship is finally detained under this Division ;
- (b) a ship is provisionally detained under this Division and the ship was, at the time of detention, unseaworthy ; or
- (c) a ship is detained in pursuance of a provision of this Part which provides for the detention of a ship until a certain event occurs,

the owner of the ship is liable to pay to the Minister, or to such person as the Minister directs, the costs of and incidental to the detention and survey of the ship and those costs are recoverable by the Minister, or by a person authorized by the Minister to sue for them, in a Court of summary jurisdiction.”.

23. Sections two hundred and fifteen and two hundred and sixteen of the Principal Act are repealed and the following section is inserted in their stead :—

Regulations may make provision in relation to life-saving and fire prevention.

“ 215.—(1.) The regulations may make provision for or in relation to the saving of life at sea and the prevention, detection and extinction of fire on ships.

“(2.) Without limiting the generality of the last preceding subsection, the regulations which may be made by virtue of that subsection include regulations—

(a) providing for or in relation to the appliances to be carried, and the measures to be observed, on ships for the saving of life at sea and the prevention, detection and extinction of fire ; and

(b) for giving effect to the provisions of Chapter III. of the Safety Convention.”.

Modification of certificate in respect of life-saving appliances.

24. Section two hundred and sixteen A of the Principal Act is amended by inserting in sub-section (1.), after the words “ safety certificate ”, the words “, qualified safety certificate, short voyage safety certificate or qualified short voyage safety certificate ”.

Modification of provisions of Act for exemption of ships not registered in Australia.

25. Section two hundred and twenty-four of the Principal Act is repealed.

26. Section two hundred and twenty-nine of the Principal Act is repealed and the following section inserted in its stead :—

Signals of distress and urgency.

“ 229.—(1.) The regulations may make provision for or in relation to signals of distress and urgency and the use of signals of distress and urgency.

“(2.) A person shall not use or display, or cause or permit a person under his authority to use or display—

(a) a private signal, whether registered or not, which could be mistaken for a prescribed signal of distress or urgency ; or

(b) except in accordance with the regulations, a prescribed signal of distress or urgency.

Penalty : Fifty pounds.”.

27. Division 6A of Part IV. of the Principal Act is repealed and the following Division inserted in its stead :—

“ DIVISION 6A.—RADIO EQUIPMENT.

Application of Division.

“ 231. Unless the contrary intention appears, this Division, and the regulations made by virtue of this Division, do not apply to or in relation to—

(a) a river and bay ship ; or

- (b) a Safety Convention ship in respect of which there is in force a valid Safety Convention certificate showing that the ship—
- (i) complies with such of the requirements of the Safety Convention as relate to radio installations and radio navigational aids; or
 - (ii) is wholly exempt from those requirements or is partly exempt and complies with those requirements to the extent to which she is not exempt.

“ 231A. The master or owner of a ship shall not take the ship to sea, or permit the ship to be taken to sea, unless the ship complies with the requirements of the regulations with respect to radio installations and radio navigational aids.

Ships to be equipped with radio installations and radio navigational aids.

Penalty : Two hundred and fifty pounds.

“ 231B. The master or owner of a ship equipped with a radio installation shall not take the ship to sea, or permit the ship to be taken to sea, unless the ship carries, as part of her crew, such person or persons qualified to operate the radio installation as is or are prescribed.

Radio operators.

Penalty : Two hundred and fifty pounds.

“ 231C.—(1.) The master of a ship equipped with a radio installation—

Maintenance and use of radio equipment and radio services.

- (a) shall maintain that radio installation, or cause that radio installation to be maintained, in accordance with the regulations;
- (b) shall not use that radio installation, or permit that radio installation to be used, otherwise than in accordance with the regulations; and
- (c) shall maintain, or cause to be maintained, on the ship a radio service in accordance with the regulations.

“(2.) The master of a ship equipped with a radio navigational aid shall maintain that radio navigational aid, or cause that radio navigational aid to be maintained, in accordance with the regulations.

Penalty : Two hundred and fifty pounds.

“ 231D. Where—

Deficiency in number of operators on Safety Convention ships.

- (a) a ship, including a Safety Convention ship specified in paragraph (b) of section two hundred and thirty-one of this Act, does not carry, as part of her crew, such person or persons qualified to operate any radio installation on the ship as is or are required to be carried on the ship under any certificate in force in respect of the ship; and
 - (b) the Minister is satisfied that, in consequence, the ship cannot proceed to sea without danger to her crew or passengers,
- the Minister may detain the ship until he is satisfied that the ship can proceed to sea without danger to her crew or passengers.

Log-books.

“ 231E. The master of a ship equipped with a radio installation—

- (a) shall keep, or cause to be kept, a radio log-book in such form as is prescribed and shall make, or cause to be made, such entries in that log-book as are prescribed ; and
- (b) shall make, or cause to be made, in accordance with the regulations, entries in the official log-book of the ship with respect to the operation of the radio installation and the maintenance of a radio service on the ship.

Penalty : Fifty pounds.

Regulations.

“ 231F.—(1.) The regulations may make provision for or in relation to the equipping of ships with radio installations and radio navigational aids and the operation, maintenance and use on ships of radio installations and radio navigational aids.

“ (2.) Without limiting the generality of the last preceding subsection, the regulations which may be made by virtue of that subsection include regulations for or in relation to—

- (a) specifying the requirements with which radio installations and radio navigational aids on ships shall comply ;
- (b) the means of communication between a radio installation on a ship and the bridge of the ship ;
- (c) the survey, inspection and testing of radio installations and radio navigational aids on ships ;
- (d) the exemption of ships from any requirement of this Act which relates to radio installations or radio navigational aids ;
- (e) the issue of certificates in respect of ships which comply with, or are exempt (either in whole or in part) from, the requirements of this Act which relate to radio installations and radio navigational aids ;
- (f) the number of operators, and the grades and qualifications of operators, to be carried on ships to operate radio installations ;
- (g) the radio services to be maintained on ships ; and
- (h) giving effect to the provisions of Chapter IV. and regulation 12 of Chapter V. of the Safety Convention. ”.

Division heading.

28. The heading to Division 10 of Part IV. of the Principal Act is omitted and the following heading inserted in its stead :—

“ DIVISION 10.—DANGEROUS GOODS, LIVESTOCK, GRAIN, DECK AND OTHER CARGOES. ”.

29. Section two hundred and forty-nine of the Principal Act is repealed and the following section inserted in its stead :—

Shipping of dangerous goods.

“ 249.—(1.) A person shall not carry dangerous goods in a ship or place dangerous goods, or cause dangerous goods to be placed, on board a ship for carriage in the ship unless—

- (a) the outside of the package containing the goods is distinctly marked with a description of the goods ; and

“(2.) The penalty for an offence against the regulations made by virtue of the last preceding sub-section is a fine not exceeding One hundred pounds.

“(3.) The conviction of a person for an offence against the regulations made by virtue of sub-section (1.) of this section does not relieve that person from civil liability for damage occasioned by a default of that person.

“(4.) Where an offence against the regulations made by virtue of sub-section (1.) of this section is caused by the wilful default of a person, he is guilty of an indictable offence.

“(5.) The Court before which proceedings against a person for an offence against the regulations made by virtue of sub-section (1.) of this section are heard shall be assisted by not less than two assessors of nautical experience appointed under Part IX. who shall advise the Court but shall not adjudicate on the matter before the Court.

“(6.) An assessor who assists a Court shall be paid such fees and travelling expenses as are paid to an assessor engaged in attendance on a Court of Marine Inquiry.”.

**Method of
giving helm
orders.**

33. Section two hundred and fifty-eight B of the Principal Act is repealed.

**Master to
render
assistance.**

34. Section two hundred and sixty-four of the Principal Act is amended by omitting from sub-section (2.) the word “master” and inserting in its stead the words “person in charge”.

35. Section two hundred and sixty-five of the Principal Act is repealed and the following section inserted in its stead :—

**Obligation
to render
assistance.**

“265.—(1.) Where the master of a ship registered in Australia has reason to believe that persons on or from a vessel or aircraft are in distress at a place which is a place which could be reached by his ship within a reasonable time, he shall, unless he is unable so to do or, in the special circumstances of the case, considers it unreasonable or unnecessary so to do, cause his ship to proceed with all practicable speed to the assistance of those persons and, if possible, inform them that he is so doing.

“(2.) The master of a vessel or aircraft in distress may, after consultation so far as possible with the masters of ships which answer his call for assistance, requisition such of those ships as he considers best able to render assistance and the master of a ship registered in Australia so requisitioned shall comply with the requisition by causing his ship to proceed with all practicable speed to the assistance of persons in distress on or from the vessel or aircraft in distress.

“(3.) When the master of a ship which has not been requisitioned is informed of the requisition of another ship and that the requisition is being complied with by that other ship, he is released from the obligation imposed on him by sub-section (1.) of this section.

- (b) a description in writing of the goods (not being a description contained in the ordinary shipping documents) is given to the owner or master of the ship at or before the time the goods are placed on board the ship.

Penalty : One hundred pounds.

“(2.) The last preceding sub-section does not apply to the owner or master of the ship.”.

30.—(1.) Section two hundred and fifty-three A of the Principal Act is amended by inserting after sub-section (1.) the following sub-section :—

Carriage of dangerous goods.

“(1A.) The regulations which may be made by virtue of the last preceding sub-section include regulations making provision for giving effect to regulation 3 of Chapter VI. of the Safety Convention.”.

(2.) Section two hundred and fifty-three A of the Principal Act is amended by omitting sub-section (2.) and inserting in its stead the following sub-section :—

“(2.) A person shall not send by, or carry in, a ship any dangerous goods which do not, or the packing, stowing or carriage of which does not, comply with such requirements as are prescribed or are determined by the Minister in accordance with the regulations.

Penalty : Three hundred pounds.”.

31. Section two hundred and fifty-seven of the Principal Act is repealed and the following sections are inserted in its stead :—

“257.—(1.) Where a ship is carrying ballast, or a bulk cargo such as grain, seed, coal or pig iron, or other cargo that may shift, the master, owner or agent of the ship shall not take the ship to sea, or permit the ship to be taken to sea, unless provision is made, in accordance with the regulations, to prevent the ballast or cargo from shifting.

Carriage of shifting cargoes.

Penalty : Three hundred pounds.

“(2.) The regulations may make provision for giving effect to regulation 2 of Chapter VI. of the Safety Convention.

“257A. Where a ship is carrying a cargo of coal, the master, owner or agent of the ship shall not take the ship to sea, or permit the ship to be taken to sea, unless provision is made, in accordance with the regulations, for the ventilation of any hold in which the coal is carried.

Carriage of coal.

Penalty : Three hundred pounds.”.

32. Section two hundred and fifty-eight of the Principal Act is repealed and the following section inserted in its stead :—

“258.—(1.) The regulations may prescribe measures to be observed for the prevention of collisions and may make provision for or in relation to the provision and use on ships of lights and signals.

Collisions, lights and signals.

“(4.) If the master of a ship is informed by persons in distress, or by the master of another ship which has reached those persons, that assistance is no longer necessary, he is released from any obligation imposed on him by sub-section (1.) or (2.) of this section in relation to those persons.

“(5.) A person who fails to comply with sub-section (1.) or (2.) of this section is guilty of an indictable offence.

“(6.) The master of a ship registered in Australia shall make a record, or cause a record to be made—

(a) of any information received by him that a vessel or aircraft is in distress at sea ; and

(b) if, on receipt of any such information, the master does not proceed to the assistance of persons on or from that vessel or aircraft—of his reasons for not so proceeding.

Penalty : One hundred pounds.

“(7.) A record required to be made by the master of a ship under the last preceding sub-section shall, if the ship has an official log-book, be made in that log-book.

“(8.) This section does not affect the operation of section three hundred and seventeen A of this Act.

“(9.) Compliance by the master of a ship with the provisions of this section does not affect his right, or the right of any other person, to salvage.”.

36. Section two hundred and sixty-nine A of the Principal Act is amended—

Report of
dangers to
navigation.

(a) by omitting from paragraph (a) of sub-section (1.) the words “wireless telegraph” and inserting in their stead the word “radio” ;

(b) by omitting sub-section (4.) and inserting in its stead the following sub-section :—

“(4.) This section does not apply where compliance with this section would interfere with the transmission of a signal of distress.” ; and

(c) by omitting sub-section (6.) and inserting in its stead the following sub-section :—

“(6.) The regulations may make provision for giving effect to that part of Chapter V. of the Safety Convention which relates to danger messages.”.

37. Section two hundred and seventy of the Principal Act is amended by omitting the words “or engaged in the coasting trade” and inserting in their stead the words “, ships engaged in the coasting trade or ships regularly employed in trading to and from ports in Australia and owned by a person, firm or company resident, or having his or its principal place of business, in Australia”.

Regulations as
to passenger
trade.

Regulations.

38. Section four hundred and twenty-five of the Principal Act is amended—

(a) by omitting paragraph (e) and inserting in its stead the following paragraph :—

“(e) the safety of persons, including pilots, going on or coming from, or on board, ships ; ” ; and

(b) by omitting from paragraph (h) the words “ Fifty pounds ” and inserting in their stead the words “ One hundred pounds ”.

Sixth
Schedule.

39. Schedule VI. to the Principal Act is repealed and the following Schedule inserted in its stead :—

SCHEDULE VI.

Section 187A (1.).

ARTICLES AND REGULATIONS OF THE INTERNATIONAL CONVENTION FOR THE
SAFETY OF LIFE AT SEA, 1948.

ARTICLE I

(a) The Contracting Governments undertake to give effect to the provisions of the present Convention and of the Regulations annexed thereto, which shall be deemed to constitute an integral part of the present Convention. Every reference to the present Convention implies at the same time a reference to these Regulations.

(b) The Contracting Governments undertake to promulgate all laws, decrees, orders and regulations and to take all other steps which may be necessary to give the present Convention full and complete effect, so as to ensure that, from the point of view of safety of life, a ship is fit for the service for which it is intended.

ARTICLE II

The ships to which the present Convention applies are ships registered in countries the Governments of which are Contracting Governments, and ships registered in territories to which the present Convention is extended under Article XIII.

ARTICLE III

Laws, Regulations, Reports

The Contracting Governments undertake to communicate to the Inter-governmental Maritime Consultative Organisation (hereinafter called the Organisation)—

- (a) the text of laws, decrees, orders and regulations which shall have been promulgated on the various matters within the scope of the present Convention;
- (b) all available official reports or official summaries of reports in so far as they show the results of the provisions of the present Convention, provided always that such reports or summaries are not of a confidential nature; and
- (c) a sufficient number of specimens of their Certificates issued under the provisions of the present Convention for circulation to the Contracting Governments for the information of their officers.

ARTICLE IV

Cases of Force Majeure

(a) No ship, which is not subject to the provisions of the present Convention at the time of its departure on any voyage, shall become subject to the provisions of the present Convention on account of any deviation from its intended voyage due to stress of weather or any other cause of *force majeure*.

SCHEDULE VI.—*continued.*

(b) Persons who are on board a ship by reason of *force majeure* or in consequence of the obligation laid upon the master to carry shipwrecked or other persons shall not be taken into account for the purpose of ascertaining the application to a ship of any provisions of the present Convention.

ARTICLE V

Carriage of Persons in Emergency

(a) For the purpose of moving persons from any territory in order to avoid a threat to the security of their lives a Contracting Government may permit the carriage of a larger number of persons in its ships than is otherwise permissible under the present Convention.

(b) Such permission shall not deprive other Contracting Governments of any right of control under the present Convention over such ships which come within their ports.

(c) Notice of any such permission, together with a statement of the circumstances, shall be sent to the Organisation by the Contracting Government granting such permission.

ARTICLE VI

Suspension in Case of War

(a) In case of war, Contracting Governments which consider that they are affected, whether as belligerents or as neutrals, may suspend the whole or any part of the Regulations annexed hereto. The suspending Government shall immediately give notice of such suspension to the Organisation.

(b) Such suspension shall not deprive other Contracting Governments of any right of control under the present Convention over the ships of the suspending Government when such ships are within their ports.

(c) The suspending Government may at any time terminate such suspension and shall immediately give notice of such termination to the Organisation.

(d) The Organisation shall notify all Contracting Governments of any suspension or termination of suspension under this Article.

ARTICLE VII

Prior Treaties and Conventions

(a) As between the Contracting Governments the present Convention replaces and abrogates the International Convention for the Safety of Life at Sea which was signed in London on the 31st May, 1929.

(b) All other treaties, conventions and arrangements relating to safety of life at sea, or matters appertaining thereto, at present in force between Governments parties to the present Convention, shall continue to have full and complete effect during the terms thereof as regards:—

(i) ships to which the present Convention does not apply;

(ii) ships to which the present Convention applies, in respect of matters for which it has not expressly provided.

(c) To the extent, however, that such treaties, conventions or arrangements conflict with the provisions of the present Convention, the provisions of the present Convention shall prevail.

(d) All matters which are not expressly provided for in the present Convention remain subject to the legislation of the Contracting Governments.

ARTICLE VIII

Special Rules Drawn up by Agreement

When in accordance with the present Convention special rules are drawn up by agreement between all or some of the Contracting Governments, such rules shall be communicated to the Organisation for circulation to all Contracting Governments.

SCHEDULE VI.—*continued.*

ARTICLE IX

Amendments

(a) (i) The present Convention may be amended by unanimous agreement between the Contracting Governments.

(ii) Upon the request of any Contracting Government a proposed amendment shall be communicated by the Organisation to all Contracting Governments for consideration and acceptance under this paragraph.

(b) (i) An amendment to the present Convention may be proposed to the Organisation at any time by any Contracting Government, and such proposal if adopted by a two-thirds majority of the Assembly of the Organisation (hereinafter called the Assembly), upon recommendation adopted by a two-thirds majority of the Maritime Safety Committee of the Organisation (hereinafter called the Maritime Safety Committee), shall be communicated by the Organisation to all Contracting Governments for their acceptance.

(ii) Any such recommendation by the Maritime Safety Committee shall be communicated by the Organisation to all Contracting Governments for their consideration at least six months before it is considered by the Assembly.

(c) (i) A conference of Governments to consider amendments to the present Convention proposed by any Contracting Government shall at any time be convened by the Organisation upon the request of one-third of the Contracting Governments.

(ii) Every amendment adopted by such conference by a two-thirds majority of the Contracting Governments shall be communicated by the Organisation to all Contracting Governments for their acceptance.

(d) Any amendment communicated to Contracting Governments for their acceptance under paragraph (b) or (c) of this Article shall come into force for all Contracting Governments, except those which before it comes into force make a declaration that they do not accept the amendment, twelve months after the date on which the amendment is accepted by two-thirds of the Contracting Governments including two-thirds of the Governments represented on the Maritime Safety Committee.

(e) The Assembly, by a two-thirds majority vote, including two-thirds of the Governments represented on the Maritime Safety Committee, and subject to the concurrence of two-thirds of the Contracting Governments to the present Convention, or a conference convened under paragraph (c) of this Article by a two-thirds majority vote, may determine at the time of its adoption that the amendment is of such an important nature that any Contracting Government which makes a declaration under paragraph (d) of this Article and which does not accept the amendment within a period of twelve months after the amendment comes into force, shall, upon the expiry of this period, cease to be a party to the present Convention.

(f) Any amendment to the present Convention made under this Article which relates to the structure of a ship shall apply only to ships the keels of which are laid after the date on which the amendment comes into force.

(g) The Organisation shall inform all Contracting Governments of any amendments which come into force under this Article, together with the date on which such amendments shall come into force.

(h) Any acceptance or declaration under this Article shall be made by a notification in writing to the Organisation, which shall notify all Contracting Governments of the receipt of the acceptance or declaration.

ARTICLE X

Signature and Acceptance

(a) The present Convention shall remain open for signature for one month from this day's date and shall thereafter remain open for acceptance. Governments of States may become parties to the Convention by:—

- (i) signature without reservation as to acceptance;
- (ii) signature subject to acceptance followed by acceptance; or
- (iii) acceptance.

SCHEDULE VI.—*continued.*

(b) Acceptance shall be effected by the deposit of an instrument with the Organisation, which shall inform all Governments that have already accepted the Convention of each acceptance received and of the date of its receipt.

ARTICLE XI

Coming into Force

(a) The present Convention shall come into force on the 1st January, 1951, provided that, at least 12 months before that date, not less than 15 acceptances, including 7 by countries each with not less than one million gross tons of shipping, have been deposited in accordance with Articles X and XV.

(b) Should 15 acceptances in accordance with paragraph (a) of this Article not have been deposited 12 months before the 1st January, 1951, the present Convention shall come into force 12 months after the date on which the last of such acceptances is deposited. The Organisation shall inform all Governments which have signed or accepted the present Convention of the date on which it comes into force.

(c) Acceptances deposited after the date on which the present Convention comes into force shall take effect three months after the date of their deposit.

ARTICLE XII

Denunciation

(a) The present Convention may be denounced by any Contracting Government at any time after the expiry of five years from the date on which the Convention comes into force for that Government.

(b) Denunciation shall be effected by a notification in writing addressed to the Organisation which shall notify all the other Contracting Governments of any denunciation received and of the date of its receipt.

(c) A denunciation shall take effect one year, or such longer period as may be specified in the notification, after its receipt by the Organisation.

ARTICLE XIII

Territories

(a) (i) The United Nations in cases where they are the administering authority for a territory, or any Contracting Government responsible for the international relations of a territory, may at any time by notification in writing given to the Organisation declare that the present Convention shall extend to such territory.

(ii) The present Convention shall from the date of the receipt of the notification or from such other date as may be specified in the notification extend to the territory named therein.

(b) (i) The United Nations or any Contracting Government which has made a declaration under paragraph (a) of this Article, at any time after the expiry of a period of five years from the date on which the Convention has been so extended to any territory, may by a notification in writing given to the Organisation declare that the present Convention shall cease to extend to any such territory named in the notification.

(ii) The present Convention shall cease to extend to any territory mentioned in such notification one year, or such longer period as may be specified therein, after the date of receipt of the notification by the Organisation.

(c) The Organisation shall inform all the Contracting Governments of the extension of the present Convention to any territories under paragraph (a) of this Article, and of the termination of any such extension under the provisions of paragraph (b), stating in each case the date from which the present Convention has been or will cease to be so extended.

ARTICLE XIV

Registration

As soon as the present Convention comes into force it shall be registered by the Organisation with the Secretary-General of the United Nations.

SCHEDULE VI.—*continued.*

ARTICLE XV

Interim Arrangements

(a) Unless and until the Organisation, in accordance with the Convention on the Intergovernmental Maritime Consultative Organisation signed at Geneva on the 6th March, 1948, takes over the duties assigned to it under the present Convention, the following provisions shall apply:—

- (i) All duties which are assigned to the Organisation, other than those set forth in Article IX, shall be carried out by the Government of the United Kingdom of Great Britain and Northern Ireland (hereinafter called the Government of the United Kingdom).
- (ii) Amendments to the present Convention may be proposed at any time by any Contracting Government to the Government of the United Kingdom and such proposals shall be communicated by the latter to the other Contracting Governments for their consideration and acceptance. If any such amendment is unanimously accepted by the Contracting Governments, the present Convention shall be amended accordingly.
- (iii) A Conference for the purpose of revising the present Convention shall be convened by the Government of the United Kingdom whenever, after the present Convention has been in force for five years, one-third of the Contracting Governments express a desire to that effect.
- (iv) The present Convention shall be deposited in the archives of the Government of the United Kingdom, which shall transmit certified true copies thereof to all Signatory Governments.

(b) When the Organisation takes over the duties assigned to it under the present Convention, the Government of the United Kingdom will transmit to the Organisation any documents which have been deposited with or received by the Government of the United Kingdom under the present Convention.

CHAPTER I.—GENERAL PROVISIONS

PART A.—APPLICATION, DEFINITIONS, &c.

REGULATION 1

Application

(a) Unless expressly provided otherwise, the present Regulations apply only to ships engaged on international voyages.

(b) The classes of ships to which each Chapter applies are more precisely defined, and the extent of the application is shown, in each Chapter.

REGULATION 2

Definitions

For the purpose of the present Regulations, unless expressly provided otherwise:—

- (a) “Regulations” means the Regulations referred to in Article I (a) of the present Convention.
- (b) “Administration” means the Government of the country in which the ship is registered.
- (c) “Approved” means approved by an Administration.
- (d) “International voyage” means a voyage from a country to which the present Convention applies to a port outside such country, or conversely; and for this purpose every territory for the international relations of which a Contracting Government is responsible or for which the United Nations are the administering authority is regarded as a separate country.
- (e) A passenger is every person other than:—
 - (i) the master and the members of the crew or other persons employed on engaged in any capacity on board a ship on the business of that ship; and
 - (ii) a child under one year of age.

SCHEDULE VI.—*continued.*

- (f) A passenger ship is a ship which carries more than 12 passengers.
- (g) A cargo ship is any ship which is not a passenger ship.
- (h) A tanker is a cargo ship constructed or adapted for the carriage in bulk of liquid cargoes of an inflammable nature.
- (i) "New ship" means a ship the keel of which is laid on or after the date of coming into force of the present Convention.
- (j) "Existing ship" means a ship which is not a new ship.
- (k) A mile is 6,080 feet or 1,852 metres.

REGULATION 3

Exceptions

(a) The present Regulations, unless expressly provided otherwise, do not apply to:—

- (i) Ships of war and troopships.
- (ii) Cargo ships of less than 500 tons gross tonnage.
- (iii) Ships not propelled by mechanical means.
- (iv) Wooden ships of primitive build, such as dhows, junks, &c.
- (v) Pleasure yachts not engaged in trade.
- (vi) Fishing vessels.

(b) Notwithstanding any provisions of the present Regulations, nothing herein shall apply to ships solely navigating the Great Lakes of North America and their connecting and tributary waters as far east as the lower exit of the Lachine Canal at Montreal in the Province of Quebec, Canada.

REGULATION 4

Exemptions

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

(b) Each Administration shall submit to the Organisation as soon as possible after the 1st of January each year a report showing the number of voyages of this nature for which exemptions have been granted in the previous calendar year.

REGULATION 5

Equivalents

(a) Where in the present Regulations it is provided that a particular fitting, appliance or apparatus, or type thereof, shall be fitted or carried in a ship, or that any particular arrangement shall be adopted, an Administration may accept in substitution therefor any other fitting, appliance or apparatus, or type thereof, or any other arrangement, provided that the Administration shall have been satisfied by suitable trials that the fitting, appliance or apparatus, or type thereof, or the arrangement substituted is at least as effective as that specified in the present Regulations.

(b) Any Administration which so accepts, in substitution, a fitting, appliance or apparatus, or type thereof, or other arrangement, shall inform the Organisation, and, upon request, shall communicate to the Organisation particulars thereof together with a report on the trials made.

PART B.—SURVEYS AND CERTIFICATES

REGULATION 6

Inspection and Survey

The inspection and survey of ships, so far as regards the enforcement of the provisions of the present Regulations and the granting of exemptions therefrom, shall be carried out by officers of the country in which the ship is registered, provided that the Government of each country may entrust the inspection and survey either to surveyors nominated for the purpose or to organisations recognised by it. In every case the Government concerned fully guarantees the completeness and efficiency of the inspection and survey.

SCHEDULE VI.—*continued.*

REGULATION 7

Initial and Subsequent Surveys of Passenger Ships

(a) A passenger ship shall be subjected to the surveys specified below:—

- (i) A survey before the ship is put in service.
- (ii) A periodical survey once every 12 months.
- (iii) Additional surveys, as occasion arises.

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

(i) *The survey before the ship is put in service* shall include a complete inspection of its structure, machinery and equipments, including the outside of the ship's bottom and the inside and outside of the boilers. This survey shall be such as to ensure that the arrangements, material, and scantlings of the structure, boilers and their appurtenances, main and auxiliary machinery, electrical installation, radio installation, life saving appliances, fire detecting and extinguishing appliances, and other equipments, fully comply with the requirements of the present Convention, and of the laws, decrees, orders and regulations promulgated as a result thereof by the Administration for ships of the service for which it is intended. The survey shall also be such as to ensure that the workmanship of all parts of the ship and its equipments is in all respects satisfactory.

(ii) *The periodical survey* shall include an inspection of the structure, boilers, machinery and equipments, including the outside of the ship's bottom. The survey shall be such as to ensure that the ship, as regards the structure, boilers and their appurtenances, main and auxiliary machinery, electrical installation, radio installation, life saving appliances, fire detecting and extinguishing appliances, and other equipments, is in satisfactory condition and fit for the service for which it is intended, and that it complies with the requirements of the present Convention, and of the laws, decrees, orders and regulations promulgated as a result thereof by the Administration.

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

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

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

(d) The main and auxiliary boilers, connections, tanks and receivers, also steam-piping of more than 3 inches (or 76 millimetres) internal diameter shall be satisfactorily tested by hydraulic pressure when new. Steam pipes of more than 3 inches (or 76 millimetres) internal diameter shall be tested by hydraulic pressure periodically.

REGULATION 8

Surveys of Life Saving Appliances and other Equipments of Cargo Ships

The life saving and fire extinguishing appliances of cargo ships to which Chapters II and III of the present Regulations apply shall be subject to

SCHEDULE VI.—*continued.*

initial and subsequent surveys as provided for passenger ships in paragraph (a) of Regulation 7 with the substitution of 24 months for 12 months in subparagraph (a) (ii), and in paragraph (b) of that Regulation so far as it relates to life saving and fire extinguishing appliances. The lights and means of making sound signals and distress signals carried by the ship shall also be included in the surveys for the purpose of ensuring that they comply fully with the requirements of the present Convention and the International Collision Regulations.

REGULATION 9

Surveys of Radio Installations of Cargo Ships

The radio installations of cargo ships to which Chapter IV of the present Regulations applies shall be subject to initial and subsequent surveys as provided for passenger ships in paragraph (a) of Regulation 7 and in paragraph (b) of that Regulation so far as it relates to radio installations.

REGULATION 10

Maintenance of Conditions after Survey

After any survey of the ship under Regulation 7, 8 or 9 has been completed, no change shall be made in the structural arrangements, machinery, equipments, &c., covered by the survey, without the sanction of the Administration.

REGULATION 11

Issue of Certificates

- (a) (i) A certificate called a Safety Certificate shall be issued after inspection and survey to a passenger ship which complies in an efficient manner with the requirements of Chapters II, III, and IV and any other relevant requirements of the present Regulations.
- (ii) A certificate called a Safety Equipment Certificate shall be issued after inspection to a cargo ship which complies in an efficient manner with the relevant requirements of Chapters II and III and any other relevant requirements of the present Regulations.
- (iii) A certificate called a Safety Radiotelegraphy Certificate shall be issued after inspection to a cargo ship, fitted with a radiotelegraph installation, which complies in an efficient manner with the requirements of Chapter IV and any other relevant requirements of the present Regulations.
- (iv) A certificate called a Safety Radiotelephony Certificate shall be issued after inspection to a cargo ship, fitted with a radiotelephone installation, which complies in an efficient manner with the requirements of Chapter IV and any other relevant requirements of the present Regulations.
- (v) A certificate called an Exemption Certificate shall be issued to every ship to which exemption is granted by a Contracting Government under, and in accordance with, any of the provisions of the present Regulations.
- (vi) Safety Certificates, Safety Equipment Certificates, Safety Radiotelegraphy Certificates, Safety Radiotelephony Certificates and Exemption Certificates shall be issued either by the Government of the country in which the ship is registered or by any person or organisation duly authorised by that Government. In every case that Government assumes full responsibility for the certificate.

(b) Notwithstanding any other provision of the present Convention, any certificate issued under, and in accordance with, the provisions of the International Convention for the Safety of Life at Sea, 1929, which is current when the present Convention comes into force in respect of the Administration by which the certificate is issued, shall remain valid until it expires under the terms of Article 52 of the Convention of 1929.

REGULATION 12

Issue of Certificate by another Government

A Contracting Government may, at the request of the Administration, cause a ship to be surveyed, and, if satisfied that the requirements of the

SCHEDULE VI.—*continued.*

present Regulations are complied with, issue certificates to the ship in accordance with the present Regulations. Any certificate so issued must contain a statement to the effect that it has been issued at the request of the Government of the country in which the ship is registered, and it shall have the same force and receive the same recognition as a certificate issued under Regulation 11.

REGULATION 13

Duration of Certificates

(a) Certificates shall be issued for a period of not more than 12 months, except Safety Equipment Certificates which shall be issued for a period of not more than 24 months.

(b) If a ship at the time when its certificate expires is not in a port of the country in which it is registered, the certificate may be extended by a duly authorised officer of that country; but such extension shall be granted only for the purpose of allowing the ship to complete its return voyage to the country in which it is registered, and then only in cases where it appears proper and reasonable so to do.

(c) No certificate shall be thus extended for a longer period than five months, and a ship to which such extension is granted shall not, on returning to the country in which it is registered, be entitled by virtue of such extension to leave that country again without having obtained a new certificate.

(d) A certificate which has not been extended under the foregoing provisions of this Regulation may be extended by the Administration for a period of grace of up to one month from the date of expiry stated on it.

REGULATION 14

Form of Certificates

(a) All certificates shall be drawn up in the official language or languages of the country by which they are issued.

(b) The form of the certificates shall be that of the models given in the Appendix to the present Regulations. The arrangement of the printed part of the model certificates shall be exactly reproduced in the certificates issued, or in certified copies thereof, and the particulars inserted in the certificates issued, or in certified copies thereof, shall be in Roman characters and Arabic figures.

REGULATION 15

Posting up of Certificates

All certificates or certified copies thereof issued under the present Regulations, except Exemption Certificates or certified copies thereof, shall be posted up in a prominent and accessible place in the ship.

REGULATION 16

Acceptance of Certificates

Certificates issued under the authority of a Contracting Government shall be accepted by the other Contracting Governments for all purposes covered by the present Convention. They shall be regarded by the other Contracting Governments as having the same force as the certificates issued by them to their own ships.

REGULATION 17

Qualification of Certificates

(a) If in the course of a particular voyage a ship has on board a number of persons less than the total number stated in the Safety Certificate and is in consequence, in accordance with the provisions of the present Regulations, free to carry a smaller number of lifeboats and other life saving appliances than that stated in the certificate, a memorandum may be issued by the Government, officer, person, or organisation, referred to in Regulation 11 and Regulation 13.

(b) This memorandum shall state that in the circumstances there is no infringement of the provisions of the present Regulations. It shall be annexed to the certificate and shall be substituted for it in so far as the life saving appliances are concerned. It shall be valid only for the particular voyage for which it is issued.

SCHEDULE VI.—*continued.*

REGULATION 18

Control

Every ship holding a certificate issued under Regulation 11 or Regulation 12 is subject in the ports of the other Contracting Governments to control by officers duly authorised by such Governments in so far as this control is directed towards verifying that there is on board a valid certificate and, if necessary, that the conditions of the ship's seaworthiness correspond substantially with the particulars of that certificate. Such certificate shall be accepted unless, in the opinion of the officer carrying out the control, the conditions of the ship's seaworthiness do not correspond substantially with the particulars of that certificate and the ship cannot proceed to sea without danger to the passengers or the crew, when he shall take such steps as will ensure that the ship shall not sail until it can proceed to sea without danger to the passengers or the crew. In the event of this control giving rise to intervention of any kind, the officer carrying out the control shall inform the Consul of the country in which the ship is registered in writing forthwith of all the circumstances in which intervention was deemed to be necessary, and the facts shall be reported to the Organisation.

REGULATION 19

Privileges

The privileges of the present Convention may not be claimed in favour of any ship unless it holds appropriate valid certificates.

PART C.—CASUALTIES

REGULATION 20

Casualties

(a) Each Administration undertakes to conduct an investigation of any major marine casualty occurring to any of its ships subject to the provisions of the present Convention. Such investigation, in addition to any other purpose, shall have the object of determining whether any changes in the present Regulations are desirable.

(b) Each Contracting Government undertakes to supply the Organisation with pertinent information concerning such casualties. No reports or recommendations of the Organisation based upon such information shall disclose the identity or nationality of the ships concerned or in any manner fix or imply responsibility upon any ship or person.

CHAPTER II.—CONSTRUCTION

PART A.—GENERAL

REGULATION 1

Application

(a) (i) Unless expressly provided otherwise, this Chapter applies to new ships.

(ii) In the case of existing passenger ships and cargo ships which do not already comply with the provisions of this Chapter relating to new ships, the arrangements on each ship shall be considered by the Administration, with a view to improvements being made to provide increased safety where practicable and reasonable.

(b) For the purpose of this Chapter:—

(i) A new passenger ship is a passenger ship the keel of which is laid on or after the date of coming into force of the present Convention, or a cargo ship which is converted to a passenger ship on or after that date, all other passenger ships being described as existing passenger ships.

(ii) A new cargo ship is a cargo ship the keel of which is laid on or after the date of coming into force of the present Convention.

SCHEDULE VI.—*continued.*

(c) Each Administration may, if it considers that the sheltered nature and conditions of the voyage are such as to render the application of any specific requirements of this Chapter unreasonable or unnecessary, exempt from those requirements individual ships or classes of ships belonging to its country which, in the course of their voyage, do not proceed more than 20 miles from the nearest land.

(d) In the case of a passenger ship which is permitted under Regulation 22 of Chapter III to carry a number of persons on board in excess of the life-boat capacity provided, it shall comply with the special standards of subdivision set out in Regulation 5 (e), and the associated special provisions regarding permeability in Regulation 4 (d), unless the Administration is satisfied that, having regard to the nature and conditions of the voyage, compliance with the other provisions of the Regulations of this Chapter is sufficient.

(e) In the case of passenger ships which are employed in the carriage of large numbers of unberthed passengers in special trades, such, for example, as the pilgrim trade, the Administration, if satisfied that it is impracticable to enforce compliance with the requirements of this Chapter, may exempt such ships, when they belong to its country, from those requirements on the following conditions:—

- (i) That the fullest provision which the circumstances of the trade will permit shall be made in the matter of construction;
- (ii) That steps shall be taken to formulate general rules which shall be applicable to the particular circumstances of these trades. Such rules shall be formulated in concert with such other Contracting Governments, if any, as may be directly interested in the carriage of such passengers in such trades.

Notwithstanding any provisions of the present Convention, the Simla Rules, 1931, shall continue in force as between the parties to those Rules until the rules formulated under sub-paragraph (e) (ii) of this Regulation shall come into force.

REGULATION 2

Definitions

For the purpose of this Chapter, unless expressly provided otherwise—

(a) (i) The *subdivision loadline* is the waterline used in determining the subdivision of the ship.

(ii) The *deepest subdivision loadline* is the waterline which corresponds to the greatest draught.

(b) The *length of the ship* is the length measured between perpendiculars taken at the extremities of the deepest subdivision loadline.

(c) The *breadth of the ship* is the extreme width from outside of frame to outside of frame at or below the deepest subdivision loadline.

(d) The *bulkhead deck* is the uppermost deck up to which the transverse watertight bulkheads are carried.

(e) The *margin line* is a line drawn at least 3 inches (or 76 millimetres) below the upper surface of the bulkhead deck at side.

(f) The *draught* is the vertical distance from the moulded base line amidships to the subdivision loadline in question.

(g) The *permeability* of a space is the percentage of that space which can be occupied by water.

The volume of a space which extends above the margin line shall be measured only to the height of that line.

(h) The *machinery space* is to be taken as extending from the moulded base line to the margin line and between the extreme main transverse watertight bulkheads bounding the spaces devoted to the main and auxiliary propelling machinery, boilers when installed, and all permanent coal bunkers.

In the case of unusual arrangements, the Administration may define the limits of the machinery spaces.

(i) *Passenger spaces* are those which are provided for the accommodation and use of passengers, excluding baggage, store, provision and mail rooms.

SCHEDULE VI.—*continued.*

For the purposes of Regulations 4 and 5, spaces provided below the margin line for the accommodation and use of the crew shall be regarded as passenger spaces.

(j) In all cases *volumes* shall be calculated to moulded lines.

PART B.—SUBDIVISION AND STABILITY

(Part B applies to passenger ships only except that Regulation 18 also applies to cargo ships)

REGULATION 3

Floodable Length

(a) The floodable length at any point of the length of a ship shall be determined by a method of calculation which takes into consideration the form, draught and other characteristics of the ship in question.

(b) In a ship with a continuous bulkhead deck, the floodable length at a given point is the maximum portion of the length of the ship, having its centre at the point in question, which can be flooded under the definite assumptions hereafter set forth in Regulation 4 without the ship being submerged beyond the margin line.

(c) (i) In the case of a ship not having a continuous bulkhead deck, the floodable length at any point may be determined to an assumed continuous margin line which at no point is less than 3 inches (or 76 millimetres) below the top of the deck (at side) to which the bulkheads concerned and the shell are carried watertight.

(ii) Where a portion of an assumed margin line is appreciably below the deck to which bulkheads are carried, the Administration may permit a limited relaxation in the watertightness of those portions of the bulkheads which are above the margin line and immediately under the higher deck.

REGULATION 4

Permeability

(a) The definite assumptions referred to in Regulation 3 relate to the permeabilities of the spaces below the margin line.

In determining the floodable length, a uniform average permeability shall be used throughout the whole length of each of the following portions of the ship below the margin line:—

- (i) the machinery space as defined in Regulation 2;
- (ii) the portion forward of the machinery space; and
- (iii) the portion abaft the machinery space.

(b) (i) For steamships the uniform average permeability throughout the machinery space shall be determined from the formula—

$$80 + 12.5 \left(\frac{a - c}{v} \right), \text{ where}$$

a = volume of the passenger spaces, as defined in Regulation 2, which are situated below the margin line within the limits of the machinery space.

c = volume of between deck spaces below the margin line within the limits of the machinery space which are appropriated to cargo, coal or stores.

v = whole volume of the machinery space below the margin line.

(ii) For ships propelled by internal combustion engines, the uniform average permeability shall be taken as 5 greater than that given by the above formula.

(iii) Where it is shown to the satisfaction of the Administration that the average permeability as determined by detailed calculation, is less than that given by the formula, the detailed calculated value may be used. For the purpose of such calculation, the permeabilities of passenger spaces, as defined in Regulation 2, shall be taken as 95, that of all cargo, coal and store spaces as 60, and that of double bottom, oil fuel and other tanks at such values as may be approved in each case by the Administration.

SCHEDULE VI.—*continued.*

(c) Except as provided in paragraph (d) below, the uniform average permeability throughout the portion of the ship before (or abaft) the machinery space shall be determined from the formula—

$$63 + 35 \frac{a}{v}$$

where:—

a = volume of the passenger spaces, as defined in Regulation 2, which are situated below the margin line, before (or abaft) the machinery space, and

v = whole volume of the portion of the ship below the margin line before (or abaft) the machinery space.

(d) In the case of a ship which is permitted under Regulation 22 of Chapter III to carry a number of persons on board in excess of the lifeboat capacity provided, and is required under paragraph (d) of Regulation 1 in this Chapter to comply with special provisions, the uniform average permeability throughout the portion of the ship before (or abaft) the machinery space shall be determined from the formula—

$$95 - 35 \frac{b}{v}$$

where:—

b = the volume of the spaces below the margin line and above the tops of floors, inner bottom, or peak tanks, as the case may be, which are appropriated to and used as cargo spaces, coal or oil fuel bunkers, store rooms, baggage and mail rooms, chain lockers and fresh water tanks, before (or abaft) the machinery space; and

v = whole volume of the portion of the ship below the margin line before (or abaft) the machinery space.

In the case of ships engaged on services where the cargo holds are not generally occupied by any substantial quantities of cargo, no part of the cargo spaces is to be included in calculating "b."

(e) In the case of unusual arrangements the Administration may allow, or require, a detailed calculation of average permeability for the portions before or abaft the machinery spaces. For the purpose of such calculation the permeability of passenger spaces as defined in Regulation 2 shall be taken as 95, that of spaces containing machinery as 80, that of all cargo, coal and store spaces as 60, and that of double bottom, oil fuel and other tanks at such value as may be approved in each case by the Administration.

(f) If a between deck compartment between two watertight transverse bulkheads contains any passenger or crew space, the whole of that compartment, less any space completely enclosed within permanent steel bulkheads and appropriated to other purposes, shall be regarded as passenger space. If, however, the passenger or crew space in question is completely enclosed within permanent steel bulkheads, only the space so enclosed need be considered as passenger space.

REGULATION 5

Permissible Length of Compartments

(a) Ships shall be as efficiently subdivided as is possible having regard to the nature of the service for which they are intended. The degree of subdivision shall vary with the length of the ship and with the service, in such manner that the highest degree of subdivision corresponds with the ships of greatest length, primarily engaged in the carriage of passengers.

(b) *Factor of Subdivision.*—The maximum permissible length of a compartment having its centre at any point in the ship's length is obtained from the floodable length by multiplying the latter by an appropriate factor called the *factor of subdivision*.

The factor of subdivision shall depend on the length of the ship, and for a given length shall vary according to the nature of the service for which the ship is intended. It shall decrease in a regular and continuous manner—

- (i) as the length of the ship increases, and
- (ii) from a factor A, applicable to ships primarily engaged in the carriage of cargo, to a factor B, applicable to ships primarily engaged in the carriage of passengers.

SCHEDULE VI.—*continued*.

The variations of the factors A and B shall be expressed by the following formulæ (I) and (II) where L is the length of the ship as defined in Regulation 2:—

$$A = \frac{L \text{ in feet}}{L - 190} + .18 \quad (L = 430 \text{ and upwards})$$

$$A = \frac{L \text{ in metres}}{L - 58.2} + .18 \quad (L = 131 \text{ and upwards}) \quad \dots \dots \dots (I)$$

$$B = \frac{L \text{ in feet}}{L - 100} + .18 \quad (L = 260 \text{ and upwards})$$

$$B = \frac{L \text{ in metres}}{L - 30.3} + .18 \quad (L = 79 \text{ and upwards}) \quad \dots \dots \dots (II)$$

(c) *Criterion of Service*.—For a ship of given length the appropriate factor of subdivision shall be determined by the Criterion of Service Numeral (hereinafter called the Criterion Numeral) as given by the following formulæ (III) and (IV) where:—

C_s = the Criterion Numeral;

L = length of the ship, as defined in Regulation 2;

M = the volume of the machinery space, as defined in Regulation 2; with the addition thereto of the volume of any permanent oil fuel bunkers which may be situated above the inner bottom and before or abaft the machinery space;

P = The whole volume of the passenger spaces below the margin line, as defined in Regulation 2;

V = the whole volume of the ship below the margin line;

P_1 = KN where:—

N = number of passengers for which the ship is to be certified, and

K has the following values:—

	Value of K .
Length in feet and volumes in cubic feet ..	.6 L .
Length in metres and volumes in cubic metres ..	.056 L .

Where the value of KN is greater than the sum of P and the whole volume of the actual passenger spaces above the margin line, the figure to be taken as P_1 is that sum or $\frac{2}{3} KN$, whichever is the greater.

When P_1 is greater than P —

$$C_s = 72 \frac{M + 2P_1}{V + P_1 - P} \quad \dots \dots \dots (III)$$

and in other cases—

$$C_s = 72 \frac{M + 2P}{V} \quad \dots \dots \dots (IV)$$

For ships not having a continuous bulkhead deck the volumes are to be taken up to the actual margin lines used in determining the floodable lengths.

(d) *Rules for Subdivision of Ships other than those covered by paragraph (e) of this Regulation*.—(i) *The subdivision abaft the forepeak* of ships 430 feet (or 131 metres) in length and upwards having a criterion numeral of 23 or less shall be governed by the factor A given by formula (I); of those having a criterion numeral of 123 or more by the factor B given by formula (II); and of those having a criterion numeral between 23 and 123 by the factor F obtained by linear interpolation between the factors A and B, using the formula:—

$$F = A - \frac{(A - B)(C_s - 23)}{100} \quad \dots \dots \dots (V)$$

Where the factor F is less than .40 and it is shown to the satisfaction of the Administration to be impracticable to comply with the factor F in a machinery compartment of the ship, the subdivision of such compartment may be governed by an increased factor, which, however, shall not exceed .40.

SCHEDULE VI.—continued.

(ii) *The subdivision abaft the forepeak of ships less than 430 feet (or 131 metres) but not less than 260 feet (or 79 metres) in length having a criterion numeral equal to S, where—*

$$S = \frac{9,382 - 20L}{34} \text{ (L in feet)} = \frac{3,574 - 25L}{13} \text{ (L in metres)}$$

shall be governed by the factor unity; of those having a criterion numeral of 123 or more by the factor B given by the formula (II); of those having a criterion numeral between S and 123 by the factor F obtained by linear interpolation between unity and the factor B using the formula:—

$$F = 1 - \frac{(1 - B)(C_s - S)}{123 - S} \dots\dots\dots \text{(VI)}$$

(iii) *The subdivision abaft the forepeak of ships less than 430 feet (or 131 metres) but not less than 260 feet (or 79 metres) in length and having a criterion numeral less than S, and of all ships less than 260 feet (or 79 metres) in length shall be governed by the factor unity, unless, in either case, it is shown to the satisfaction of the Administration to be impracticable to comply with this factor in any part of the ship, in which case the Administration may allow such relaxation as may appear to be justified, having regard to all the circumstances.*

(iv) *The provisions of sub-paragraph (d) (iii) shall apply also to ships of whatever length, which are to be certified to carry a number of passengers exceeding 12 but not exceeding—*

$$\frac{L^2 \text{ (in feet)}}{7,000} = \frac{L^2 \text{ (in metres)}}{650} \text{ or } 50, \text{ whichever is the less.}$$

(e) *Special Standards of Subdivision for Ships which are permitted under Regulation 22 of Chapter III to carry a number of persons on board in excess of the lifeboat capacity provided and are required under paragraph (d) of Regulation 1 in this Chapter to comply with special provisions.*

(i) (a) *In the case of ships primarily engaged in the carriage of passengers, the subdivision abaft the forepeak shall be governed by a factor of .50 or by the factor determined according to paragraphs (c) and (d) of this Regulation, if less than .50.*

(b) *In the case of such ships less than 300 feet (or 91.5 metres) in length, if the Administration is satisfied that compliance with such factor would be impracticable in a compartment, it may allow the length of that compartment to be governed by a higher factor provided the factor used is the lowest that is practicable and reasonable in the circumstances.*

(ii) *If, in the case of any ship whether less than 300 feet (or 91.5 metres) or not, the necessity of carrying appreciable quantities of cargo makes it impracticable to require the subdivision abaft the forepeak to be governed by a factor not exceeding .50 the standard of subdivision to be applied shall be determined in accordance with the following sub-paragraphs (a) to (e), subject to the condition that where the Administration is satisfied that insistence on strict compliance in any respect would be unreasonable, it may allow such alternative arrangement of the watertight bulkheads as appears to be justified on merits and will not diminish the general effectiveness of the subdivision.*

(a) *The provisions of paragraph (c) of this Regulation relating to the criterion numeral shall apply with the exception that in calculating the value of P₁ for berthed passengers K is to have the value defined in paragraph (c) of this Regulation or 125 cubic feet (or 3.55 cubic metres), whichever is the greater, and for unberthed passengers K is to have the value 125 cubic feet (or 3.55 cubic metres).*

(b) *The factor B in paragraph (b) of this Regulation shall be replaced by the factor BB determined by the following formula:—*

$$BB = \frac{L \text{ in feet}}{57.6} + .20 \text{ (L = 180 and upwards)}$$

$$BB = \frac{L \text{ in metres}}{17.6} + .20 \text{ (L = 55 and upwards)}$$

SCHEDULE VI.—*continued.*

- (c) *The subdivision abaft the fore peak* of ships 430 feet (or 131 metres) in length and upwards having a criterion numeral of 23 or less shall be governed by the factor A given by formula (I) in paragraph (b) of this Regulation: of those having a criterion numeral of 123 or more by the factor BB given by the formula in sub-paragraph (ii) (b) of this paragraph; and of those having a criterion numeral between 23 and 123 by the factor F obtained by linear interpolation between the factors A and BB, using the formula:—

$$F = A - \frac{(A - BB)(C_a - 23)}{100}$$

except that if the factor F so obtained is less than .50 the factor to be used shall be either .50 or the factor calculated according to the provisions of paragraph (d) (i) of this Regulation, whichever is the smaller.

- (d) *The subdivision abaft the fore peak* of ships less than 430 feet (or 131 metres) but not less than 180 feet (or 55 metres) in length having a criterion numeral equal to S_1 where—

$$S_1 = \frac{1,950 - 4L}{10} \quad (L \text{ in feet})$$

$$S_1 = \frac{3,712 - 25L}{19} \quad (L \text{ in metres})$$

shall be governed by the factor unity; of those having a criterion numeral of 123 or more by the factor BB given by the formula in sub-paragraph (ii) (b) of this paragraph; of those having a criterion numeral between S_1 and 123 by the factor F obtained by linear interpolation between unity and the factor BB, using the formula:—

$$F = 1 - \frac{(1 - BB)(C_a - S_1)}{123 - S_1}$$

except that in either of the two latter cases if the factor so obtained is less than .50 the subdivision may be governed by a factor not exceeding .50.

- (e) *The subdivision abaft the fore peak* of ships less than 430 feet (or 131 metres) but not less than 180 feet (or 55 metres) in length and having a criterion numeral less than S_1 , and of all ships less than 180 feet (or 55 metres) in length shall be governed by the factor unity, unless it is shown to the satisfaction of the Administration to be impracticable to comply with this factor in particular compartments, in which event the Administration may allow such relaxations in respect of those compartments as appear to be justified, having regard to all the circumstances, provided that the aftermost compartment and as many as possible of the forward compartments (between the forepeak and the after end of the machinery space) shall be kept within the floodable length.

REGULATION 6

Special Rules concerning Subdivision

(a) Where in a portion or portions of a ship the watertight bulkheads are carried to a higher deck than in the remainder of the ship, and it is desired to take advantage of this higher extension of the bulkheads in calculating the floodable length, separate margin lines may be used for each such portion of the ship provided that—

- (i) the sides of the ship are extended throughout the ship's length to the deck corresponding to the upper margin line and all openings in the shell plating below this deck throughout the length of the ship are treated as being below a margin line, for the purposes of Regulation 13; and
- (ii) the two compartments adjacent to the "step" in the bulkhead deck are each within the permissible length corresponding to their respective margin lines and, in addition, their combined length does not exceed twice the permissible length based on the lower margin line.

SCHEDULE VI.—*continued*.

(b) (i) A compartment may exceed the permissible length determined by the rules of Regulation 5 provided the combined length of each pair of adjacent compartments to which the compartment in question is common does not exceed either the floodable length or twice the permissible length, whichever is the less.

(ii) If one of the two adjacent compartments is situated inside the machinery space, and the second is situated outside the machinery space, and the average permeability of the portion of the ship in which the second is situated differs from that of the machinery space, the combined length of the two compartments shall be adjusted to the mean average permeability of the two portions of the ship in which the compartments are situated.

(iii) Where the two adjacent compartments have different factors of subdivision, the combined length of the two compartments shall be determined proportionately.

(c) In ships 430 feet (or 131 metres) in length and upwards, one of the main transverse bulkheads abaft the fore peak shall be fitted at a distance from the forward perpendicular which is not greater than the permissible length.

(d) A main transverse bulkhead may be recessed provided that all parts of the recess lie inboard of vertical surfaces on both sides of the ship, situated at a distance from the shell plating equal to one-fifth the breadth of the ship, as defined in Regulation 2, and measured at right angles to the centre line at the level of the deepest subdivision loadline.

Any part of a recess which lies outside these limits shall be dealt with as a step in accordance with the following paragraph.

(e) A main transverse bulkhead may be stepped provided that it meets one of the following conditions:—

(i) The combined length of the two compartments, separated by the bulkhead in question, does not exceed either 90 per cent. of the floodable length or twice the permissible length, except that in ships having a factor of subdivision greater than .9, the combined length of the two compartments in question shall not exceed the permissible length.

(ii) Additional subdivision is provided in way of the step to maintain the same measure of safety as that secured by a plane bulkhead.

(iii) The compartment over which the step extends does not exceed the permissible length corresponding to a margin line taken 3 inches (or 76 millimetres) below the step.

(f) Where a main transverse bulkhead is recessed or stepped, an equivalent plane bulkhead shall be used in determining the subdivision.

(g) If the distance between two adjacent main transverse bulkheads, or their equivalent plane bulkheads, or the distance between the transverse planes passing through the nearest stepped portions of the bulkheads, is less than 10 feet (or 3.05 metres) plus 3 per cent. of the length of the ship, or 35 feet (or 10.67 metres) whichever is the less, only one of these bulkheads shall be regarded as forming part of the subdivision of the ship in accordance with the provisions of Regulation 5.

(h) Where a main transverse watertight compartment contains local subdivision and it can be shown to the satisfaction of the Administration that, after any assumed side damage extending over a length of 10 feet (or 3.05 metres) plus 3 per cent. of the length of the ship, or 35 feet (or 10.67 metres) whichever is the less, the whole volume of the main compartment will not be flooded, a proportionate allowance may be made in the permissible length otherwise required for such compartment. In such a case the volume of effective buoyancy assumed on the undamaged side shall not be greater than that assumed on the damaged side.

REGULATION 7

Stability of Ships in Damaged Condition

(a) Sufficient intact stability shall be provided in all service conditions so as to enable the ship to withstand the final stage of flooding of any one main compartment which is required to be within the floodable length.

SCHEDULE VI.—*continued.*

Where two adjacent main compartments are separated by a bulkhead which is stepped under the conditions of subparagraph (e) (i) of Regulation 6, the intact stability shall be adequate to withstand the flooding of those two adjacent main compartments.

Where the required factor of subdivision is .50 or less the intact stability shall be adequate to withstand the flooding of any two adjacent main compartments.

(b) (i) The requirements of paragraph (a) of this Regulation shall be determined by calculations which are in accordance with paragraphs (c), (d) and (f), following, and which take into consideration the proportions and design characteristics of the ship and the arrangement and configuration of the damaged compartments. In making these calculations the ship is to be assumed in the worst anticipated service condition as regards stability.

(ii) Where it is proposed to fit decks, inner skins or longitudinal bulkheads of sufficient tightness to seriously restrict the flow of water, the Administration shall be satisfied that proper consideration is given to such restrictions in the calculations.

(c) For the purpose of making damage stability calculations the volume and surface permeabilities shall be as follows:—

<i>Spaces</i>	<i>Permeability</i>
Occupied by Cargo, Coal or Stores	60
Occupied by Accommodations	95
Occupied by Machinery	85
Intended for Liquids	0 or 95*

* Whichever results in the more severe requirements.

(d) Minimum assumed extent of damage shall be as follows:—

- (i) *Longitudinal extent*: 10 ft. (or 3.05 metres) plus 3 per cent. of the length of the ship, or 35 feet (or 10.67 metres) whichever is the less.
- (ii) *Transverse extent* (measured inboard from the ship's side, at right angles to the centre line at the level of the deepest sub-division load line): a distance of one-fifth of the breadth of the ship, as defined in Regulation 2.
- (iii) *Vertical extent*: From top of double bottom up to the margin line.
- (iv) If any damage of lesser extent than that indicated in the foregoing sub-paragraphs (i), (ii) and (iii), would result in a more severe condition regarding heel or loss of metacentric height such damage shall be assumed in the calculations.

(e) Unsymmetrical flooding is to be kept to a minimum consistent with efficient arrangements. Where special cross-flooding fittings are provided these, together with the maximum heel before equalisation, shall be acceptable to the Administration. Suitable information concerning the use of such fittings shall be supplied to the master of the ship.

(f) The final conditions of the ship after damage and after equalisation measures have been taken shall be as follows:—

- (i) In the case of symmetrical flooding the residual metacentric height shall be positive, except that, in special cases, the Administration may accept a negative metacentric height (upright) provided the resulting heel is not more than seven degrees.
- (ii) In the case of unsymmetrical flooding the total heel shall not exceed seven degrees, except that, in special cases, the Administration may allow additional heel due to the unsymmetrical moment, but in no case shall the final heel exceed fifteen degrees.
- (iii) In no case shall the margin line be submerged in the final stage of flooding. If it is considered that the margin line may become submerged during an intermediate stage of flooding, the Administration may require such investigations and arrangements as it shall consider necessary for the safety of the ship.

(g) The master of the ship shall be supplied with the data necessary to maintain sufficient intact stability under service conditions to enable the ship to withstand the critical damage. In the case of ships requiring cross-flooding the master of the ship shall be informed of the conditions of

SCHEDULE VI.—*continued.*

stability on which the calculations of heel are based and be warned that excessive heeling might result should the ship sustain damage when in a less favourable condition.

(h) (i) No relaxation from the requirements for damage stability may be considered by an Administration unless it is shown that the intact meta-centric height in any service condition necessary to meet these requirements is excessive for the service intended.

(ii) Relaxations from the requirements for damage stability shall be permitted only in exceptional cases and subject to the condition that the Administration is to be satisfied that the proportions, arrangements and other characteristics of the ship are the most favorable to stability after damage which can practically and reasonably be adopted in the particular circumstances.

REGULATION 8

Peak and Machinery Space Bulkheads, Shaft Tunnels, &c.

(a) (i) A ship shall have a forepeak or collision bulkhead, which shall be watertight up to the bulkhead deck. This bulkhead shall be fitted not less than 5 per cent. of the length of the ship, and not more than 10 feet (or 3.05 metres) plus 5 per cent. of the length of the ship from the forward perpendicular.

(ii) If the ship has a long forward superstructure, the forepeak bulkhead shall be extended weathertight to the deck next above the bulkhead deck. The extension need not be fitted directly over the bulkhead below, provided 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.

(b) An afterpeak bulkhead, and bulkheads dividing the machinery space, as defined in Regulation 2, from the cargo and passenger spaces forward and aft, shall also be fitted and made watertight up to the bulkhead deck. The afterpeak bulkhead may, however, be stopped below the bulkhead deck, provided the degree of safety of the ship as regards subdivision is not thereby diminished.

(c) In all cases stern tubes shall be enclosed in watertight spaces of moderate volume. The stern gland shall be situated in a watertight shaft tunnel or other watertight space separate from the stern tube compartment and of such volume that, if flooded by leakage through the stern gland, the margin line will not be submerged.

REGULATION 9

Double Bottoms

(a) A double bottom should be fitted extending from the forepeak bulkhead to the afterpeak bulkhead as far as this is practicable and compatible with the design and proper working of the ship.

(i) In ships 200 feet (or 61 metres) and under 249 feet (or 76 metres) in length a double bottom shall be fitted at least from the machinery space to the forepeak bulkhead, or as near thereto as practicable.

(ii) In ships 249 feet (or 76 metres) and under 330 feet (or 100 metres) in length a double bottom shall be fitted at least outside the machinery space, and shall extend to the fore and after peak bulkheads, or as near thereto as practicable.

(iii) In ships 330 feet (or 100 metres) in length and upwards a double bottom shall be fitted amidships, and shall extend to the fore and after peak bulkheads, or as near thereto as practicable.

(b) Where a double bottom is required to be fitted the inner bottom shall be continued out to the ship's sides in such a manner as to protect the bottom to the turn of the bilge. Such protection will be deemed satisfactory if the line of intersection of the outer edge of the margin plate with the bilge plating is not lower at any part than a horizontal plane passing through the point of intersection with the frame line amidships of a transverse diagonal line inclined at 25 degrees to the base line and cutting it at a point one-half the ship's moulded breadth from the middle line.

SCHEDULE VI.—*continued.*

(c) Small wells constructed in the double bottom in connection with drainage arrangements of holds, &c., shall not extend downwards more than necessary, nor shall they be less than 18 inches (or 457 millimetres) from the outer bottom or from the inner edge of the margin plate. A well extending to the outer bottom is, however, permitted at the after end of the shaft tunnel of screw ships. Other wells (e.g., for lubricating oil under main engines) may be permitted by the Administration, if satisfied that the arrangements give protection equivalent to that afforded by a double bottom complying with this Regulation.

(d) A double bottom need not be fitted in way of watertight compartments of moderate size used exclusively for the carriage of liquids, provided the safety of the ship, in the event of bottom or side damage, is not, in the opinion of the Administration, thereby impaired.

(e) In the case of ships to which the provisions of paragraph (d) of Regulation 1 of this Chapter apply and which are engaged on regular service within the limits of a short international voyage as defined in Regulation 2 of Chapter III, the Administration may permit a double bottom to be dispensed with in any part of the ship which is subdivided by a factor not exceeding .50, if satisfied that the fitting of a double bottom in that part would not be compatible with the design and proper working of the ship.

REGULATION 10

Assigning, Marking and Recording of Subdivision Load Lines

(a) In order that the required degree of subdivision shall be maintained, a loadline corresponding to the approved subdivision draught shall be assigned and marked on the ship's sides. A ship having spaces which are specially adapted for the accommodation of passengers and the carriage of cargo alternatively may, if the owners desire, have one or more additional loadlines assigned and marked to correspond with the subdivision draughts which the Administration may approve for the alternative service conditions.

(b) The subdivision loadlines assigned and marked shall be recorded in the Safety Certificate, and shall be distinguished by the notation C.1 for the principal passenger condition, and C.2, C.3, &c., for the alternative conditions.

(c) The freeboard corresponding to each of these loadlines shall be measured at the same position and from the same deck line as the freeboards determined in accordance with the International Convention respecting Load Lines, 1930.

(d) The freeboard corresponding to each approved subdivision loadline and the conditions of service for which it is approved, shall be clearly indicated on the Safety Certificate.

(e) In no case shall any subdivision loadline mark be placed above the deepest loadline in salt water as determined by the strength of the ship and/or the International Convention respecting Load Lines, 1930.

(f) Whatever may be the position of the subdivision loadline marks, a ship shall in no case be loaded so as to submerge the load line mark appropriate to the season and locality as determined in accordance with the International Convention respecting Load Lines, 1930.

(g) A ship shall in no case be so loaded that when she is in salt water the subdivision loadline mark appropriate to the particular voyage and condition of service is submerged.

REGULATION 11

Construction and Initial Testing of Watertight Bulkheads, &c.

(a) Watertight subdivision bulkheads, whether transverse or longitudinal, shall be constructed in such a manner that they shall be capable of supporting, with a proper margin of resistance, the pressure due to a head of water up to the margin line in way of each bulkhead. The construction of these bulkheads shall be to the satisfaction of the Administration.

SCHEDULE VI.—*continued.*

(b) (i) Steps and recesses in bulkheads shall be watertight and as strong as the bulkhead at the place where each occurs.

(ii) Where frames or beams pass through a watertight deck or bulkhead, such deck or bulkhead shall be made structurally watertight without the use of wood or cement.

(c) Testing main compartments by filling them with water is not compulsory. A complete examination of the bulkheads shall be made by a surveyor; and, in addition, a hose test shall be made in all cases.

(d) The forepeak, double bottoms (including duct keels) and inner skins shall be tested with water to a head up to the margin line.

(e) Tanks which are intended to hold liquids, and which form part of the subdivision of the ship, shall be tested for tightness with water to a head up to the deepest subdivision loadline or to a head corresponding to two-thirds of the depth from the top of keel to the margin line in way of the tanks, whichever is the greater; provided that in no case shall the test head be less than 3 feet (or 0.92 metres) above the top of the tank.

(f) The tests referred to in paragraphs (d) and (e) are for the purpose of ensuring that the subdivision structural arrangements are watertight and are not to be regarded as a test of the fitness of any compartment for the storage of oil fuel or for other special purposes for which a test of a superior character may be required depending on the height to which the liquid has access in the tank or its connections.

REGULATION 12

Openings in Watertight Bulkheads

(a) The number of openings in watertight bulkheads shall be reduced to the minimum compatible with the design and proper working of the ship; satisfactory means shall be provided for closing these openings.

(b) (i) Where pipes, scuppers, electric cables, &c., are carried through watertight subdivision bulkheads, arrangements shall be made to ensure the integrity of the watertightness of the bulkheads.

(ii) Valves and cocks not forming part of a piping system shall not be permitted in watertight subdivision bulkheads.

(c) (i) No doors, manholes, or access openings are permitted—

(a) in the collision bulkhead below the margin line;

(b) in watertight transverse bulkheads dividing a cargo space from an adjoining cargo space or from a permanent or reserve bunker, except as provided in paragraph (g) of this Regulation.

(ii) Except as provided in sub-paragraph (c) (iii) below, the collision bulkhead may be pierced below the margin line by not more than one pipe for dealing with fluid in the forepeak tank, provided that the pipe is fitted with a screwdown valve capable of being operated from above the bulkhead deck, the valve chest being secured inside the forepeak to the collision bulkhead.

(iii) If the forepeak is divided to hold two different kinds of liquids, the Administration may allow the collision bulkhead to be pierced below the margin line by two pipes, each of which is fitted as required by the preceding clause, provided the Administration is satisfied that there is no practical alternative to the fitting of such second pipe and that, having regard to the additional subdivision provided in the forepeak, the safety of the ship is maintained.

(d) (i) Watertight doors fitted in bulkheads between permanent and reserve bunkers, shall be always accessible, except as provided in sub-paragraph (i) (ii) for between deck bunker doors.

(ii) Satisfactory arrangements shall be made by means of screens or otherwise, to prevent the coal from interfering with the closing of watertight bunker doors.

(e) Within the machinery space and apart from bunker and shaft tunnel doors, not more than one door may be fitted in each main transverse bulkhead for intercommunication. These doors shall be of the sliding type and shall be located so as to have the sills as high as practicable. The hand gear for operating these doors from above the bulkhead deck shall be situated outside the machinery space if this is consistent with a satisfactory arrangement of the necessary gearing.

SCHEDULE VI.—*continued.*

(f) (i) The only types of watertight doors permissible are hinged doors, sliding doors, and doors of other equivalent patterns, excluding plate doors secured only by bolts and doors required to be closed by dropping or by the action of a dropping weight.

(ii) A hinged door shall be fitted with catches workable from each side of the bulkhead.

(iii) A sliding door may have a horizontal or vertical motion. If required to be hand operated only, the gearing shall be operated with an all round crank motion, both at the door and at an accessible position above the bulkhead deck.

(iv) If a door is required to be power operated from a central control, the gearing shall be so arranged that the door can be operated by power also at the door itself. The arrangement shall be such that the door will close automatically if opened by the local control after being closed from the central control and also such that any door can be kept closed by local arrangements which will prevent that door from being opened from the central control. Local control handles in connection with the power gear shall be provided at each side of the bulkhead and shall be so arranged as to enable persons passing through the doorway to hold both handles in the open position. Such power operated doors shall be provided with hand gear, workable both at the door itself and from an accessible position above the bulkhead deck. At the latter position the hand gear shall be operated with an all round crank motion. Provision shall be made to give warning by sound signal when the door is about to be closed; the signal shall precede the movement of the door by a safe interval.

(v) In all classes of doors indicators shall be fitted at all operating stations other than at the door itself, showing whether the door is opened or closed.

(g) (i) Hinged watertight doors in passenger, crew, and working spaces are only permitted above a deck the underside of which, at its lowest point at side, is at least 7 feet (or 2.13 metres) above the deepest subdivision loadline, and they are not permitted in those spaces below such deck.

(ii) Hinged watertight doors of satisfactory construction may be fitted in bulkheads dividing cargo between deck spaces, at the highest level consistent with practicability. The outboard vertical edges of such doors shall be situated at a distance from the shell plating which is not less than one-fifth the breadth of the ship, as defined in Regulation 2, such distance being measured at right angles to the centre line of the ship at the level of the deepest sub-division load line. These doors shall be closed before the voyage commences and shall be kept closed during navigation, and the time of opening such doors in port and of closing them before the ship leaves port shall be entered in such log book as may be prescribed by the Administration. Where it is proposed to fit such doors, the number and arrangements shall receive the special consideration of the Administration, and a statement shall be required from the owners certifying as to the absolute necessity of such doors.

(h) All other watertight doors shall be sliding doors.

(i) (i) When any watertight doors which may be sometimes opened at sea, excluding those at the entrances of tunnels, are fitted in the main transverse watertight bulkheads at such a height that their sills are below the deepest subdivision loadline, the following rules shall apply:—

(I) When the number of such doors exceeds 5 all the watertight sliding doors shall be power operated and shall be capable of being simultaneously closed from a station situated on the bridge.

(II) When the number of such doors does not exceed 5—

(a) if the criterion numeral does not exceed 30 all the watertight sliding doors may be operated by hand only;

(b) if the criterion numeral exceeds 30 all the watertight sliding doors shall be operated by power;

(c) in any ship, of whatever criterion numeral, if there is only one watertight door apart from the tunnel door, and it is in the machinery space the Administration may allow these two doors to be operated by hand only.

SCHEDULE VI.—*continued.*

(ii) If watertight doors which have sometimes to be open at sea for the purpose of trimming coal are fitted between bunkers in the between-decks below the bulkhead deck, these doors shall be operated by power. The opening and closing of these doors shall be recorded in such log book as may be prescribed by the Administration.

(iii) When trunkways in connection with refrigerated cargo are carried through more than one main transverse watertight bulkhead and the sills of the openings are less than 7 feet (or 2.13 metres) above the deepest subdivision loadline, the watertight doors at such openings shall be operated by power.

(j) Portable plates on bulkheads shall not be permitted except in machinery spaces. Such plates shall always be in place before the ship leaves port, and shall not be removed during navigation except in case of urgent necessity. The necessary precautions shall be taken in replacing them to ensure that the joints shall be watertight.

(k) All watertight doors shall be kept closed during navigation except when necessarily opened for the working of the ship, and shall always be ready to be immediately closed.

(l) (i) Where trunkways or tunnels for access from crew's accommodation to the stokehold, for piping, or for any other purpose are carried through main transverse watertight bulkheads, they shall be watertight and in accordance with the requirements of Regulation 15. The access to at least one end of each such tunnel or trunkway, if used as a passage at sea, shall be through a trunk extending watertight to a height sufficient to permit access above the margin line. The access to the other end of the trunkway or tunnel may be through a watertight door of the type required by its location in the ship. Such trunkways or tunnels shall not extend through the first subdivision bulkhead abaft the collision bulkhead.

(ii) Where it is proposed to fit tunnels or trunkways for forced draft, piercing main transverse watertight bulkheads, these shall receive the special consideration of the Administration.

REGULATION 13

Openings in the Shell Plating below the Margin Line

(a) The number of openings in the shell plating shall be reduced to the minimum compatible with the design and proper working of the ship.

(b) The arrangement and efficiency of the means for closing any opening in the shell plating shall be consistent with its intended purpose and the position in which it is fitted and generally to the satisfaction of the Administration.

(c) (i) If in a between decks, the sills of any sidescuttles are below a line drawn parallel to the bulkhead deck at side and having its lowest point $2\frac{1}{2}$ per cent. of the breadth of the ship above the deepest subdivision loadline, all sidescuttles in that between deck shall be of a non-opening type.

(ii) All sidescuttles the sills of which are below the margin line, other than those required to be of a non-opening type by sub-paragraph (c) (i), shall be of such construction as will effectively prevent any person opening them without the consent of the master of the ship.

(iii) (a) If in a between decks, the sills of any of the sidescuttles referred to in sub-paragraph (c) (ii) are below a line drawn parallel to the bulkhead deck at side and having its lowest point $4\frac{1}{2}$ feet (or 1.37 metres) plus $2\frac{1}{2}$ per cent. of the breadth of the ship above the water when the ship departs from any port, all the sidescuttles in that between decks shall be closed watertight and locked before the ship leaves port, and they shall not be opened before the ship arrives at the next port. In the application of this sub-paragraph the appropriate allowance for fresh water may be made when applicable.

(b) The time of opening such sidescuttles in port and of closing and locking them before the ship leaves port shall be entered in such log book as may be prescribed by the Administration.

SCHEDULE VI.—*continued.*

- (c) For any ship that has one or more sidescuttles so placed that the requirements of the first clause of this sub-paragraph would apply when she was floating at her deepest subdivision load line, the Administration may indicate the limiting mean draught at which these sidescuttles will have their sills above the line drawn parallel to the bulkhead deck at side, and having its lowest point $4\frac{1}{2}$ feet (or 1.37 metres) plus $2\frac{1}{2}$ per cent. of the breadth of the ship above the waterline corresponding to the limiting mean draught, and at which it will therefore be permissible to depart from port without previously closing and locking them and to open them at sea on the responsibility of the master during the voyage to the next port. In tropical zones as defined in the International Convention respecting Load Lines, 1930, this limiting draught may be increased by 1 foot (or 0.305 metres).
- (d) Efficient hinged inside deadlights arranged so that they can be easily and effectively closed and secured watertight shall be fitted to all sidescuttles, except that abaft one-eighth of the ship's length from the forward perpendicular and above a line drawn parallel to the bulkhead deck at side and having its lowest point at a height of 12 feet (or 3.66 metres) plus $2\frac{1}{2}$ per cent. of the breadth of the ship above the deepest subdivision load line, the deadlights may be portable in passenger accommodation other than that for steerage passengers, unless the deadlights are required by the International Convention respecting Load Lines, 1930, to be permanently attached in their proper positions. Such portable deadlights shall be stowed adjacent to the sidescuttles they serve.
- (e) Sidescuttles and their deadlights, which will not be accessible during navigation, shall be closed and secured before the ship leaves port.
- (f) (i) No sidescuttles shall be fitted in any spaces which are appropriated exclusively to the carriage of cargo or coal.
- (ii) Sidescuttles may, however, be fitted in spaces appropriated alternatively to the carriage of cargo or passengers, but they shall be of such construction as will effectively prevent any person opening them or their deadlights without the consent of the master of the ship.
- (iii) If cargo is carried in such spaces, the sidescuttles and their deadlights shall be closed watertight and locked before the cargo is shipped and such closing and locking shall be recorded in such logbook as may be prescribed by the Administration.
- (g) Automatic ventilating sidescuttles shall not be fitted in the shell plating below the margin line without the special sanction of the Administration.
- (h) The number of scuppers, sanitary discharges and other similar openings in the shell plating shall be reduced to the minimum either by making each discharge serve for as many as possible of the sanitary and other pipes, or in any other satisfactory manner.
- (i) (i) All inlets and discharges in the shell plating shall be fitted with efficient and accessible arrangements for preventing the accidental admission of water into the ship.
- (ii) (a) Except as provided in sub-paragraph (i) (iii), each separate discharge led through the shell plating from spaces below the margin line shall be provided either with one automatic non-return valve fitted with a positive means of closing it from above the bulkhead deck, or, alternatively, with two automatic non-return valves without such means, the upper of which is so situated above the deepest subdivision load line as to be always accessible for examination under service conditions, and is of a type which is normally closed.
- (b) Where a valve with positive means of closing is fitted, the operating position above the bulkhead deck shall always be readily accessible, and means shall be provided for indicating whether the valve is open or closed.

SCHEDULE VI.—*continued.*

(iii) Main and auxiliary sea inlets and discharges in connection with machinery shall be fitted with readily accessible cocks or valves between the pipes and shell plating or between the pipes and fabricated boxes attached to the shell plating.

(j) (i) Gangway, cargo and coaling ports fitted below the margin line shall be of sufficient strength. They shall be effectively closed and secured water-tight before the ship leaves port, and shall be kept closed during navigation.

(ii) Such ports shall be in no case fitted so as to have their lowest point below the deepest subdivision load line.

(k) (i) The inboard opening of each ash-shoot, rubbish-shoot, &c., shall be fitted with an efficient cover.

(ii) If the inboard opening is situated below the margin line, the cover shall be watertight, and in addition an automatic non-return valve shall be fitted in the shoot in an easily accessible position above the deepest subdivision loadline. When the shoot is not in use both the cover and the valve shall be kept closed and secured.

REGULATION 14

Construction and Initial Tests of Watertight Doors, Sidescuttles, &c.

(a) (i) The design, materials and construction of all watertight doors, sidescuttles, gangway, cargo and coaling ports, valves, pipes, ash-shoots and rubbish-shoots referred to in these Regulations shall be to the satisfaction of the Administration.

(ii) The frames of vertical watertight doors shall have no groove at the bottom in which dirt might lodge and prevent the door closing properly.

(iii) Watertight doors giving direct access to any space containing bunker coal shall, together with the frames, be made of cast or wrought steel.

(iv) Cocks or valves of more than 3 inches bore (or 76 millimetres) for main and auxiliary sea inlets and discharges in connection with machinery shall be of steel or bronze as applicable, or other approved ductile material.

(v) Ordinary cast iron shall not be used for the other cocks and valves of any size, which are fitted to the shell plating below the bulkhead deck or which affect the subdivision arrangements of the ship.

(b) Each watertight door shall be tested by water pressure to a head up to the margin line. The test shall be made before the ship is put in service, either before or after the door is fitted.

REGULATION 15

Construction and Initial Tests of Watertight Decks, Trunks, &c.

(a) Watertight decks, trunks, tunnels, duct keels and ventilators shall be of the same strength as watertight bulkheads at corresponding levels. The means used for making them watertight, and the arrangements adopted for closing openings in them, shall be to the satisfaction of the Administration. Watertight ventilators and trunks shall be carried at least up to the bulkhead deck.

(b) After completion, a hose or flooding test shall be applied to watertight decks and a hose test to watertight trunks, tunnels and ventilators.

REGULATION 16

Side and other Openings, &c., above the Margin Line

(a) Sidescuttles, gangway, cargo and coaling ports, and other means for closing openings in the shell plating above the margin line shall be of efficient design and construction and of sufficient strength having regard to the spaces in which they are fitted and their positions relative to the deepest subdivision loadline.

(b) The bulkhead deck or a deck above it shall be weathertight in the sense that in ordinary sea conditions water will not penetrate in a downward direction. All openings in the exposed weather deck shall have coamings of ample height and strength and shall be provided with efficient means for expeditiously closing them weathertight.

(c) Freeing ports and/or scuppers shall be fitted as necessary for rapidly clearing the weather deck of water under all weather conditions.

SCHEDULE VI.—*continued.*

REGULATION 17

Pumping Arrangements

(a) Ships shall be provided with an efficient pumping plant, capable of pumping from and draining any watertight compartment under all practicable conditions after a casualty whether the ship is upright or listed. For this purpose wing suction will generally be necessary except in narrow compartments at the ends of the ship, where one suction may be sufficient. In compartments of unusual form, additional suction may be required. Arrangements shall be made whereby water in the compartment may find its way to the suction pipes. Efficient means shall be provided for draining water from insulated holds.

(b) (i) Except as provided elsewhere in this Regulation, ships shall have at least three power pumps connected to the bilge main, one of which may be attached to the propelling unit. Where the criterion numeral is 30 or more, one additional independent power pump shall be provided. In ships less than 300 feet (or 91.5 metres) in length and having a criterion numeral less than 30, two efficient hand-pumps of the crank type, fitted one forward and one aft, may be substituted for one of the independent power pumps.

(ii) The requirements are summarized in the following table:—

Length of ship	Less than 300 feet (or 91.5 metres)		300 feet (or 91.5 metres) and over	
	Less than 30	30 and over	Less than 30	30 and over
Hand pumps (may be replaced by one independent pump) ..	2
Main engine pump (may be replaced by one independent pump) ..	1	1	1	1
Independent pumps ..	1	3	2	3

(iii) Sanitary, ballast and general service pumps may be accepted as independent power bilge pumps if fitted with the necessary connections to the bilge pumping system.

(c) Where practicable, the power bilge pumps shall be placed in separate watertight compartments so arranged or situated that these compartments will not readily be flooded by the same damage. If the engines and boilers are in two or more watertight compartments, the pumps available for bilge service shall be distributed through these compartments as far as is possible.

(d) On ships 300 feet (or 91.5 metres) or more in length or having a criterion numeral of 30 or more, the arrangements shall be such that at least one power pump will be available for use in all ordinary circumstances in which a ship may be flooded at sea. This requirement will be satisfied if—

(i) One of the required pumps is an emergency pump of a reliable submersible type having a source of power situated above the bulkhead deck, or

(ii) The pumps and their sources of power are so disposed throughout the length of the ship that under any condition of flooding which the ship is required to withstand, at least one pump in an undamaged compartment will be available.

(e) With the exception of pumps which may be provided for peak compartments only, each bilge pump, whether operated by hand or by power shall be arranged to draw water from any hold or machinery compartment in the ship.

(f) (i) Each independent power bilge pump shall be capable of giving a speed of water through the main bilge pipe of not less than 400 feet (or 122 metres), per minute. Independent power bilge pumps situated in machinery spaces shall have direct suction from these spaces, except that not more than two such suction shall be required in any one space. The Administration may require independent power bilge pumps situated in other spaces to have

SCHEDULE VI.—*continued.*

separate direct suction. Direct suction shall be suitably arranged and those in a machinery space shall be of a diameter not less than that of the bilge main.

(ii) In coal-burning ships there shall be provided in the stokehold, in addition to the other suction required by this Regulation, a flexible suction hose of suitable diameter and sufficient length, capable of being connected to the suction side of an independent power pump.

(g) Main circulating pumps shall have direct suction connections, provided with non-return valves, to the lowest drainage level in the machinery space, and of a diameter at least two-thirds that of the main sea inlet. Where the fuel is, or may be, coal and there is no watertight bulkhead between the engines and the boilers, a direct discharge overboard shall be fitted from at least one circulating pump, or, alternatively, a by-pass may be fitted to the circulating discharge. The spindles of the sea inlet and direct suction valves shall extend well above the engine room platform.

(h) (i) All pipes from the pumps which are required for draining cargo or machinery spaces shall be entirely distinct from pipes which may be used for filling or emptying spaces where water or oil is carried.

(ii) Lead pipes shall not be used in or under coal bunkers or oil fuel storage tanks, or in boiler or machinery spaces, including motor rooms in which oil settling tanks or oil fuel pumping units are situated.

(i) The Administration shall make rules relating to the diameters of the bilge main and branch pipes. The diameter of the bilge main may be determined approximately from the following formulæ:—

$$d = \sqrt{\frac{L(B + D)}{2,500}} + 1$$

where d = internal diameter of the bilge main in inches

L = length of ship in feet

B = breadth of ship in feet

D = moulded depth of ship at bulkhead deck in feet;

or

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

where d = internal diameter of the bilge main in millimetres

L = length of ship in metres

B = breadth of ship in metres

D = moulded depth of ship at bulkhead deck in metres.

(j) The arrangement of the bilge and ballast pumping system shall be such as to prevent the possibility of water passing from the sea and from water ballast spaces into the cargo and machinery spaces, or from one compartment to another. Special provision shall be made to prevent any deep tank having bilge and ballast connections being inadvertently run up from the sea when containing cargo, or pumped out through a bilge pipe when containing water ballast.

(k) Provision shall be made to prevent the compartment served by any bilge suction pipe being flooded in the event of the pipe being severed, or otherwise damaged by collision or grounding, in any other compartment. For this purpose, where the pipe is at any part situated nearer the side of the ship than one-fifth the breadth of the ship (measured at right angles to the centre line at the level of the deepest sub-division load line), or in a duct keel, a non-return valve shall be fitted to the pipe in the compartment containing the open end.

(l) All the distribution boxes, cocks, and valves in connexion with the bilge pumping arrangements shall be in positions which are accessible at all times under ordinary circumstances. They shall be so arranged that, in the event of flooding, one of the bilge pumps may be operative on any compartment. If there is only one system of pipes common to all the pumps, the necessary cocks or valves for controlling the bilge suction must be workable from above the bulkhead deck. If, in addition to the main bilge pumping system an emergency bilge pumping system is provided, it shall be independent of the main system and so arranged that a pump is capable of operating on any compartment under flooding conditions.

SCHEDULE VI.—*continued.*

REGULATION 18

Stability Tests for Passenger Ships and Cargo Ships

(a) Passenger ships and cargo ships shall be inclined upon their completion and the elements of their stability determined. The master shall be supplied with such information on this subject as is necessary to permit efficient handling of the ship, and a copy shall be furnished to the Administration concerned.

(b) The Administration may allow the inclining test of an individual ship to be dispensed with provided basic stability data are available from the inclining test of a sister ship and it is shown to the satisfaction of the Administration that reliable stability information for the exempted ship can be obtained from such basic data.

REGULATION 19

Periodical Operation and Inspection of Watertight Doors, &c.

(a) In new and existing ships drills for the operating of watertight doors, sidescuttles, valves and closing mechanisms of scuppers, ash-shoots and rubbish-shoots, shall take place weekly. In ships in which the voyage exceeds one week in duration a complete drill shall be held before leaving port, and others thereafter at least once a week during the voyage, provided that all watertight power doors and hinged doors, in main transverse bulkheads, in use at sea, shall be operated daily.

(b) The watertight doors and all mechanisms and indicators connected therewith, all valves the closing of which is necessary to make a compartment watertight and all valves the operation of which is necessary for damage control cross connections shall be periodically inspected at sea, at least once a week.

REGULATION 20

Entries in Log

(a) In new and existing ships hinged doors, portable plates, sidescuttles, gangway, cargo and coaling ports and other openings, which are required by these Regulations to be kept closed during navigation, shall be closed before the ship leaves port. The time of closing and the time of opening (if permissible under these Regulations), shall be recorded in such log book as may be prescribed by the Administration.

(b) A record of all drills and inspections required by Regulation 19 shall be entered in the log book with an explicit record of any defects which may be disclosed.

PART C.—ELECTRICAL INSTALLATIONS

(Part C applies to passenger ships only)

REGULATION 21

General

(a) Electrical installations in ships shall be such that:—

- (i) services essential for safety will be maintained under various emergency conditions; and
- (ii) the safety of passengers, crew and ship from electrical hazards will be assured.

(b) Every ship, the electrical power of which constitutes the only means of maintaining the auxiliary services indispensable for the propulsion and the safety of the ship, shall be provided with at least two main generating sets. The power of these sets shall be such that it shall still be possible to ensure the functioning of the said services in the event of any one of these generating sets being stopped.

REGULATION 22

Emergency Source of Power

(a) There shall be above the bulkhead deck a self-contained emergency source of electrical power. It shall be situated outside the machinery casings. The power available shall be sufficient to supply all those services that are, in

SCHEDULE VI.—*continued.*

the opinion of the Administration, necessary for the safety of the passengers and the crew in an emergency, due regard being paid to such services as may have to be operated simultaneously. Special consideration shall be given to emergency lighting at every boat station on deck and oversides, in all alleyways, stairways and exits, in the machinery spaces and in the control stations as defined in Regulation 26, and to navigation lights if solely electric. The power shall be adequate for a period of 36 hours, except that, in the case of ships engaged regularly on voyages of short duration, the Administration may accept a lesser supply if satisfied that the same standard of safety would be attained. The source of emergency power may be either—

- (i) an accumulator (storage) battery capable of carrying the emergency load without recharging or excessive voltage drop; or
- (ii) a generator driven by a suitable type of compression ignition engine, with an independent fuel supply and with starting arrangements approved by the Administration. The fuel used shall have a flash point of not less than 110° F. (or 43.3° C.).

(b) Arrangements shall be such that the emergency plant will function efficiently when the ship is inclined 22½° and/or when the trim of the ship is 10° from an even keel.

(c) (i) Where the emergency power is derived from an accumulator battery, arrangements shall be made to ensure that emergency lighting will automatically come into operation in the event of failure of the main lighting supply.

(ii) Where the emergency source of power is a generator, there shall be provided a temporary source of emergency power from an accumulator battery of sufficient capacity—

- (a) to supply emergency lighting continuously for half-an-hour; and
- (b) to close the watertight doors (if electrically operated) but not necessarily to close them all simultaneously.

The arrangements shall be such that the temporary source of emergency power will come into operation automatically in the event of failure of the main supply.

(iii) Provision shall be made for the periodic testing of automatic arrangements.

(d) Electrically operated steering gears shall be served by two sets of feeder cables from the main switchboard. Each feeder shall have adequate capacity for serving all motors which may operate simultaneously, and these feeders shall be separated throughout their length as widely as is practicable. Short circuit protection only shall be provided for these circuits and motors.

REGULATION 23

Precautions for Safety of Passengers and Crew

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

(ii) Metal frames of all portable lamps, tools, and similar apparatus supplied as ship's equipment and rated 100 volts or more shall be earthed (grounded) through a suitable conductor in the supply cable.

(b) Open type switchboards shall be arranged to give easy access back and front without danger to attendants. The sides and backs of switchboards shall be suitably guarded and there shall be a non-conducting mat or grating. Exposed current-carrying parts at voltages to earth (ground) in excess of 250 volts direct current or 150 volts alternating current shall not be installed on the face of any switchboard or control panel.

REGULATION 24

Precautions against Fire

(a) Hull return shall not be used for power, heat and light distribution systems.

SCHEDULE VI.—*continued.*

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

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

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

(iii) Metal sheathed or armoured cables may be required by the Administration in certain compartments or sections of the ship, with a view to the prevention of fire.

(d) (i) Joints in all conductors except for low voltage communication circuits shall be made only in junction or outlet boxes. All such boxes or wiring devices shall be so constructed as to prevent the spread of fire from the box or device.

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

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

(f) Except as provided in paragraph (d) of Regulation 22, each separate circuit shall be protected against overload. The current-carrying capacity of each circuit shall be permanently indicated, together with the rating or setting of the appropriate overload protective device.

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

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

PART D.—FIRE PROTECTION IN ACCOMMODATION AND SERVICE SPACES

(Part D applies to passenger ships only)

REGULATION 25

Application and General

(a) The application of this Part of this Chapter is subject to the condition that a ship carrying not more than 36 passengers need comply only with Regulations 28 and 29 provided that, in addition to complying with paragraph (b) of Regulation 50, it is fitted with a fire detection system of a type approved by the Administration, which will automatically indicate at one or more points or stations, where it can be most quickly observed by officers and crew, the presence or indication and location of fire in all enclosed spaces appropriated to the use or service of passengers and crew, except spaces which afford no substantial fire risk.

(b) The main structure, including decks and deck houses, shall be of steel except where the Administration may sanction the use of other suitable material in special cases. It shall be divided into main vertical zones by "A" class bulkheads (as defined later) and further divided by similar bulkheads forming the boundaries protecting spaces which provide vertical access, and the boundaries separating the accommodation spaces from the machinery, cargo and service spaces and others. In addition, and supplementary to the patrol systems, alarm systems and fire extinguishing apparatus required by Part E of this Chapter, either of the following methods of protection, or a combination of these methods to the satisfaction of the Administration, shall be adopted in accommodation and service spaces with a view to preventing the spread of incipient fires from the spaces of their origin:—

Method I.—The construction of internal divisional bulkheading of "B" class divisions (as defined later) generally without the installation of a detection or sprinkler system in the accommodation and service spaces; or

SCHEDULE VI.—*continued.*

Method II.—The fitting of an automatic sprinkler and fire alarm system for the detection and extinction of fire in all spaces in which a fire might be expected to originate generally with no restriction on the type of internal divisional bulkheading in spaces so protected; or
 Method III.—A system of subdivision within each main vertical zone using “A” and “B” class divisions distributed according to the importance, size, and nature of the various compartments, with an automatic fire detection system in all spaces in which a fire might be expected to originate, and with restricted use of combustible and highly inflammable materials and furnishings; but generally without the installation of a sprinkler system.

The detailed requirements are set out in Regulations 27 to 44. The heading of each indicates under which method or methods the Regulation is a requirement.

REGULATION 26

Definitions

Wherever the phrases defined below occur throughout this Part of this Chapter they shall be interpreted in accordance with the following definitions:—

- (a) “Incombustible Material” means a material which neither burns nor gives off inflammable vapours in sufficient quantity to ignite at a pilot flame when heated to approximately 1382° F. (or 750° C.). Any other material is a “Combustible Material.”
- (b) “A Standard Fire Test” is one which develops in the test furnace a series of time temperature relationships approximately as follows:—

At the end of the first	5 minutes—	1,000° F.	(or	538° C.)
” ” ” ” ” ”	10	”	1,300° F.	(or 704° C.)
” ” ” ” ” ”	30	”	1,550° F.	(or 843° C.)
” ” ” ” ” ”	60	”	1,700° F.	(or 927° C.)
- (c) “‘A’ Class or Fire-resisting Divisions” are those divisions formed by bulkheads and decks which comply with the following:—
 - (i) They shall be constructed of steel or other equivalent material.
 - (ii) They shall be suitably stiffened.
 - (iii) They shall be so constructed as to be capable of preventing the passage of smoke and flame up to the end of the one-hour standard fire test.
 - (iv) They shall have an insulating value to the satisfaction of the Administration, having regard to the nature of the adjacent spaces. In general, where such bulkheads and decks are required to form fire-resisting divisions between spaces either of which contains adjacent woodwork, wood lining, or other combustible material, they shall be so insulated that, if either face is exposed to the standard fire test for one hour, the average temperature on the unexposed face will not increase at any time during the test by more than 250° F. (or 139° C.) above the initial temperature nor shall the temperature at any one point rise more than 325° F. (or 180° C.) above the initial temperature. Reduced amounts of insulation or none at all may be provided where in the opinion of the Administration a reduced fire hazard is present.
- (d) “‘B’ Class or Fire-retarding Divisions” are those divisions formed by bulkheads which are so constructed that they will be capable of preventing the passage of flame up to the end of the first one-half hour of the standard fire test. In addition they shall have an insulating value to the satisfaction of the Administration, having regard to the nature of the adjacent spaces. In general, where such bulkheads are required to form fire-retarding divisions between cabins, they shall be of material which, if either face is exposed for the first one-half hour period of the standard fire test, will prevent the temperature on the unexposed side from increasing during the test by more than 250° F. (or 139° C.) above the initial temperature. For panels which are of incombustible materials it will only be necessary to comply with the above temperature rise limitation during the first 15-minute period of the standard fire test, but the test shall be continued to the end of the one-half hour to

SCHEDULE VI.—*continued.*

test the panel's integrity in the usual manner. Reduced amounts of insulation or none at all may be provided where in the opinion of the Administration a reduced fire hazard is present.

(e) "Main Vertical Zones" are those sections into which the hull, superstructure, and deck houses are divided by main fire-resisting bulkheads, the mean length of which above the bulkhead deck does not, in general, exceed 131 feet (or 40 metres).

(f) "Control Stations" are those spaces in which radio, main navigating or central fire-recording equipment or the emergency generator is located.

(g) "Accommodation" spaces are those used for public spaces, corridors, lavatories, cabins, offices, crew quarters, barber shops, isolated pantries and lockers, and similar spaces.

(h) "Public Spaces" are those portions of the accommodation which are used for halls, dining rooms, lounges, and similar permanently enclosed spaces.

(i) "Service Spaces" are those used for galleys, main pantries, stores (except isolated pantries and lockers), mail and specie rooms, and similar spaces and trunks to such spaces.

(j) "Cargo Spaces" are all spaces used for cargo (including cargo oil tanks) and trunks to such spaces.

(k) "Machinery Spaces" include all spaces used for propelling, auxiliary or refrigerating machinery, boilers, pumps, workshops, generators, ventilation and air conditioning machinery, oil filling stations, and similar spaces and trunks to such spaces.

(l) "Steel or Other Equivalent Material."—Where the words "steel or other equivalent material" occur, "equivalent material" means any material which, by itself or due to insulation provided, has integrity properties equivalent to steel at the end of the applicable fire exposure (*e.g.*, aluminium with appropriate insulation).

REGULATION 27

Structure (Methods I, II and III)

The hull, superstructure, structural bulkheads, decks and deckhouses shall be constructed of steel, except where the Administration may sanction the use of other suitable material in special cases.

REGULATION 28

Main Vertical Zones (Methods I, II and III)

(a) The hull, superstructure and deck houses shall be subdivided by "A" Class divisions into main vertical zones, the mean length of which above the bulkhead deck shall not in general exceed 131 feet (or 40 metres). Where steps are necessary they shall be of "A" Class divisions.

(b) As far as practicable the portions of such bulkheads above the bulkhead deck shall be in line with watertight subdivision bulkheads situated immediately below the bulkhead deck.

(c) Such bulkheads shall extend from deck to deck and to the shell or other boundaries.

(d) On ships designed for special purposes, such as automobile or railroad car ferries, where installation of such bulkheads would defeat the purpose for which the ship is intended, equivalent means for controlling and limiting a fire shall be substituted and specifically approved by the Administration.

REGULATION 29

Openings in Main Vertical Zone Bulkheads (Methods I, II and III)

(a) Where main vertical zone bulkheads are pierced for the passage of electric cables, pipes, trunks, &c., or for girders, beams or other structures, arrangements shall be made to ensure that the fire-resistance of the bulkheads is not impaired.

(b) Dampers are to be fitted in trunks passing through main vertical zone bulkheads and shall be fitted with suitable local control capable of

SCHEDULE VI.—*continued*.

being operated from both sides of the bulkhead. The operating positions shall be readily accessible and marked in red. Indicators shall be fitted to show whether the dampers are open or shut.

(c) All openings shall be provided with permanently attached means of closing which shall be at least as effective for resisting fires as the bulkheads in which they are fitted.

(d) The construction of all doors and doorways in main vertical zone bulkheads, with the means of securing them when closed, shall provide fire-resistance at least as effective as the bulkheads in which the doors are situated and must be capable of resisting the passage of smoke and flame. Watertight doors need not be insulated.

(e) It shall be possible to open each door from either side of the bulkhead by one person only. Fire doors other than watertight doors shall be of the self-closing type with simple and easy means of release from the open position. These doors shall be of types and designs approved by the Administration.

REGULATION 30

*Bulkheads within Main Vertical Zones (not required for Method II)**(a) Method I*

(i) Within the accommodation spaces, all enclosure bulkheads, other than those required to be of "A" class divisions, shall be constructed of "B" class divisions and assembled in such a manner as to ensure the integrity of the unit. The Administration may require an assembly test. On ships which carry more than 100 passengers the "B" class divisions shall be of incombustible materials which may, however, be faced with combustible materials in accordance with Regulation 39.

(ii) All corridor bulkheads shall extend from deck to deck. Ventilation openings will be permitted in the corridor bulkheads, preferably in the lower portion. All other enclosure bulkheads shall extend from deck to deck vertically, and to the shell or other boundaries transversely, unless incombustible ceilings or linings are fitted, in which case the bulkheads may terminate at the ceilings or linings.

(b) Method III

(i) Within the accommodation spaces enclosure bulkheads other than those required to be of "A" class divisions shall be constructed of "B" class divisions so as to form a continuous network of fire retarding bulkheads within which the area of any one compartment shall not in general exceed 1,300 square feet (or 120 square metres) with a maximum of 1,600 square feet (or 150 square metres).

(ii) All public spaces without interior subdivisions shall be surrounded by "B" class bulkheads. The insulation of "A" class and "B" class divisions except those constituting the separation of the main vertical zones, the control stations, the stairway enclosures, and the corridors, may be omitted where the divisions constitute the outside part of the ship or when the adjoining compartment does not contain fire hazard.

(iii) All corridor bulkheads shall be of "B" class divisions and shall extend from deck to deck. When no ceilings are fitted or when the ceilings are of incombustible materials ventilation openings having grilles of incombustible material will be permitted. All other enclosure bulkheads shall also extend intact from deck to deck.

(iv) The "B" class divisions shall be of a type having incombustible cores or of an assembled type having internal layers of sheet asbestos or similar incombustible material, and the temperature rise limitation referred to in the definition of "B" class divisions in Regulation 26 shall apply at the end of the half hour test.

REGULATION 31

Separation of Accommodation Spaces from Machinery, Cargo and Service Spaces (Methods I, II and III)

The boundary bulkheads and decks separating accommodation spaces from machinery, cargo and service spaces shall be constructed as "A" class divisions, and these bulkheads and decks shall have an insulation value to the satisfaction of the Administration having regard to the nature of the adjacent spaces.

SCHEDULE VI.—*continued.*

REGULATION 32

Deck Coverings (Methods I, II and III)

Primary deck coverings within accommodation spaces, control stations, stairways and corridors shall be of material which will not readily ignite and as approved by the Administration.

REGULATION 33

*Protection of Vertical Stairways**(a) Methods I and III*

(i) All stairways shall be of steel frame construction and shall be within enclosures formed of "A" class divisions, with positive means of closure at all openings from the lowest accommodation deck at least to a level which is directly accessible to the open deck, except that:—

(a) A stairway serving only two decks need not be enclosed provided the integrity of the deck is maintained by proper bulkheads or doors at one level.

(b) Stairways may be fitted in the open in a public space provided they lie wholly within such public space.

(ii) Stairway enclosures shall have direct communication with the corridors and be of sufficient area to prevent congestion having in view the number of persons likely to use them in an emergency, and shall contain as little accommodation or other enclosed space in which a fire may originate as practicable.

(iii) Stairway enclosure bulkheads shall have an insulation value to the satisfaction of the Administration, having regard to the nature of the adjacent spaces. The means for closure at openings in stairway enclosures shall be at least as effective for resisting fire as the bulkheads in which they are fitted. Doors other than watertight doors shall be of the self-closing type, as required for the main vertical zone bulkheads.

(b) Method II

(i) Main stairways shall be of steel frame construction and shall be within enclosures formed of "A" class divisions with positive means of closure at all openings from the lowest accommodation deck at least to a level which is directly accessible to the open deck except that:—

(a) A stairway serving only two decks need not be enclosed provided the integrity of the deck is maintained by proper bulkheads or doors at one level;

(b) Stairways may be fitted in the open in a public space provided they lie wholly within such public space.

(ii) Stairway enclosures shall have direct communication with the corridors and be of sufficient area to prevent congestion having in view the number of persons likely to use them in an emergency, and shall contain as little accommodation or other enclosed space in which a fire may originate as practicable.

(iii) Stairway enclosure bulkheads shall have an insulation value to the satisfaction of the Administration, having regard to the nature of the adjacent spaces. The means for closure at openings in stairway enclosures shall be at least as effective for resisting fire as the bulkheads in which they are fitted. Doors other than watertight doors shall be of the self-closing type, as required for the main vertical zone bulkheads.

(iv) Auxiliary stairways shall be of steel frame construction but need not be within enclosures provided the integrity of the deck is maintained by the fitting of sprinklers at the auxiliary stairways.

REGULATION 34

Protection of Lifts (Passenger and Service), Vertical Trunks for Light and Air, &c. (Methods I, II and III)

(a) Passenger and service lift trunks, vertical trunks for light and air to passenger spaces, &c., shall be of "A" class divisions. Doors shall be of steel or other incombustible material and when closed shall provide fire resistance at least as effective as the trunks in which they are fitted.

SCHEDULE VI.—*continued.*

(b) Lift trunks shall be so fitted as to prevent the passage of smoke and flame from one between deck to another and shall be provided with means of closing so as to permit of draught and smoke control. The insulation of lift trunks which are within stairway enclosures shall not be compulsory.

(c) Where a trunk for light and air communicates with more than one between deck space, and in the opinion of the Administration, smoke and flame are likely to be conducted from one between deck to another, smoke shutters, suitably placed, shall be fitted so that each space can be isolated in case of fire.

(d) Any other trunks (*e.g.*, for electric cables) shall be so constructed as not to afford passage for fire from one between deck or compartment to another.

REGULATION 35

Protection of Control Stations (Methods I, II and III)

Control stations shall be separated from the remainder of the ship by "A" class bulkheads and decks.

REGULATION 36

Protection of Store Rooms, &c. (Methods I, II and III)

The boundary bulkheads of baggage rooms, mail rooms, store rooms, paint and lamp lockers, galleys, and similar spaces shall be of "A" class divisions. Spaces containing highly inflammable stores shall be so situated as to minimize the danger to passengers or crew in the event of fire.

REGULATION 37

*Windows and Sidescuttles**(a) Methods I and III*

All windows and sidescuttles within accommodation spaces shall be constructed with metal frames or equivalent material. The glass shall be retained by a metal glazing bead or equivalent means. All windows or sidescuttles opening on to corridors or stairways shall conform to the integrity requirements of the type of bulkheads in which they are fitted.

(b) Method II

All windows or sidescuttles opening on to corridors or stairways shall conform to the integrity requirements of the type of bulkhead in which they are fitted.

REGULATION 38

Ventilation Systems (Methods I, II and III)

(a) The main inlets and outlets of all ventilation systems shall have accessible means of closure which can be shut in the event of fire. In general, the ventilating fans shall be so disposed that the ducts reaching the various quarters shall remain within the same main vertical zone.

(b) All power ventilation, except machinery space ventilation, shall be fitted with master controls so that all fans may be stopped from either of two control stations which should be situated as far apart as practicable. One of the master controls of the power ventilation serving machinery spaces shall be operable from a position outside the machinery space. Efficient insulation shall be provided for exhaust ducts from galley ranges where the ducts pass through accommodation spaces.

REGULATION 39

*Details of Construction (not required for Method II)**(a) Method I*

Except in cargo spaces, mail rooms, baggage rooms or refrigerated compartments of service spaces, all linings, grounds, ceilings, and insulations, shall be of incombustible materials, but in ships carrying not more than 100 passengers the linings, grounds and ceilings need not be of incombustible materials provided they conform to the conditions applicable to the bulkheads of the spaces in which they are situated. The total volume of combustible facings,

SCHEDULE VI.—*continued.*

mouldings, decorations, and veneers in any accommodation or public space shall not exceed a volume equivalent to one-tenth inch (or 2.54 millimetres) veneer on the combined area of the walls and ceiling. Combustible facings, mouldings, decorations or veneers shall not be used in corridors or stairway enclosures.

(b) Method III

The use of combustible materials of all kinds such as untreated wood, veneers, ceilings, curtains, carpets, &c., shall be reduced in so far as it is reasonable and practicable. In large public spaces the grounds and supports to the linings and ceilings, shall be of steel or equivalent material.

REGULATION 40

Miscellaneous Items (Methods I, II and III)

(a) (i) Air spaces enclosed behind ceilings, panellings or linings shall be suitably divided by close-fitting draught stops not more than 45 feet (or 13.73 metres) apart in the fore and after direction.

(ii) In the vertical direction, such spaces, including those behind linings of stairways, trunks, &c., shall be closed at each deck.

(b) The construction of ceiling and bulkheading shall be such that it will be possible for the fire patrols to detect any smoke originating in concealed and inaccessible spaces without impairing the efficiency of the fire protection.

(c) The concealed surfaces of all bulkheads, linings, panellings, stairways, wood grounds, &c., in accommodation spaces shall be such as will, in the opinion of the Administration, restrict the spread of flame to a satisfactory degree.

(d) Paints, varnishes and similar preparations having a nitro-cellulose base shall not be used.

(e) Lead shall not be used for overboard scuppers, sanitary discharges and other outlets which are close to the water line nor where the fusing of the lead in the event of fire would give rise to danger of flooding.

(f) Electric radiators, if used, must be fixed in position and so constructed as to reduce fire risks to a minimum. Electric radiators of the exposed element type shall not be used.

Required only for Method III

(g) All exposed surfaces and their coatings in accommodation spaces shall be of limited flame-spreading power to the satisfaction of the Administration.

REGULATION 41

Cinematograph Apparatus (Methods I, II and III)

Except where only "non-inflammable" film is used the installation and use of cinematograph apparatus on ships shall be subject to special fire precautions to be prescribed by the Administration. Lockers for the storage of highly inflammable film shall have an outlet to the open air with a total area of 1 square inch for each 5 lbs. (10 square centimetres for each 3.5 kilogrammes) reel of film or equivalent stored therein.

REGULATION 42

Automatic Sprinkler and Fire Alarm and Detection Systems (Method II)

In ships in which method II is adopted, an automatic sprinkler and fire alarm system of a type approved by the Administration and complying with the requirements of Regulation 48 shall be installed and so arranged as to protect all enclosed spaces appropriated to the use or service of passengers or crew, except spaces which afford no substantial fire risk.

REGULATION 43

Automatic Fire Alarm and Fire Detection Systems (Method III)

In ships in which method III is adopted a fire detecting system of a type approved by the Administration shall be installed and so arranged as to detect the presence of fire in all enclosed spaces appropriated to the use or service of

SCHEDULE VI.—*continued.*

passengers or crew (except spaces which afford no substantial fire hazard) and automatically to indicate at one or more points or stations, where it can be most quickly observed by officers and crew, the presence or indication and location of fire.

REGULATION 44

Plans (Methods I, II and III)

There shall be permanently exhibited, for the guidance of the officer in charge of the ship, general arrangement plans showing for each deck the various fire sections enclosed by fire-resisting bulkheads, the sections enclosed by fire-retarding bulkheads (if any), together with particulars of the fire alarms, detecting systems, the sprinkler installation (if any), the fire-extinguishing appliances, means of ingress to and egress from different compartments, decks, &c., and the ventilating system including the positions of dampers and identification numbers of the ventilating fans serving each section.

PART E.—FIRE DETECTION AND EXTINCTION IN PASSENGER SHIPS
AND CARGO SHIPS

(Part E applies to passenger ships and cargo ships except that Regulation 50 applies only to passenger ships and Regulation 51 applies only to cargo ships)

NOTE.—*Regulations 45 to 49 inclusive set forth the conditions with which the appliances mentioned in Regulations 50 and 51 are required to comply*

REGULATION 45

Pumps, Water Service Pipes, Hydrants and Hoses

(a) Fire pumps shall be independently driven. Sanitary, ballast, bilge or general service pumps may be accepted as fire pumps. In any ship the capacity of the pumps designated for fire-fighting purposes shall be at least two-thirds the capacity of the bilge pumps required for the particular ship. Each pump shall be capable of producing at least the two powerful jets to which reference is made in these Regulations. The throw at any nozzle shall be about 40 feet (or 12 metres).

(b) Relief valves shall be provided in connection with all fire pumps. These valves shall be so placed and adjusted as to prevent excessive pressure in any part of the fire main system.

(c) The diameter of the water service pipes shall be sufficient to ensure an adequate supply of water for the simultaneous operation of at least two fire hoses, and shall be based on the required capacity of the pumps designated for fire-fighting purposes.

(d) The number and position of the hydrants shall be such that at least two streams of water, one of which shall be from a single length of hose, may be directed into any part of the ship.

(e) The pipes and hydrants shall be so placed that the fire hoses may be easily coupled to them. In ships where deck cargo may be carried, the positions of the hydrants shall be such that they are always readily accessible and the pipes shall be arranged as far as practicable to avoid risk of damage by such cargo.

(f) Cocks or valves shall be fitted in such positions on the pipes that any of the fire hoses may be removed while the fire pumps are at work.

(g) Fire hoses shall be of material approved by the Administration, and sufficient in length to project a jet of water to any of the spaces in which they may be required to be used. They shall be provided with the necessary fittings. The internal diameter of the nozzle shall be not less than $\frac{1}{2}$ inch (or 12 millimetres).

(h) Hoses specified in these Regulations as "fire hoses" shall, together with any necessary fittings and tools, be kept ready for use in conspicuous positions near the water service hydrants or connections.

SCHEDULE VI.—*continued.*

REGULATION 46

Fire Extinguishers

(a) All fire extinguishers shall be of types and designs approved by the Administration. The capacity of portable extinguishers shall be not more than 3 gallons (or 13½ litres) and not less than 2 gallons (or 9 litres).

(b) Spare charges shall be provided in accordance with requirements to be specified by the Administration.

(c) Extinguishers in which the medium is stored under pressure shall not be kept in passenger or crew accommodation.

(d) Portable fire extinguishers shall be periodically examined and subjected to such tests as the Administration may require.

(e) One of the portable fire extinguishers intended for use in any space shall be stowed near the entrance to that space.

(f) The control valves for fixed extinguishing apparatus shall be so placed that they will be easily accessible and not readily cut off from use by an outbreak of fire.

REGULATION 47

Fire-smothering Gas or Steam for Cargo Spaces and Boiler Rooms

(a) Where provision is made for the injection of gas or steam into cargo spaces or boiler rooms for fire extinguishing purposes, the necessary pipes for conveying the gas or steam shall be provided with control valves or cocks which shall be readily accessible from the deck in any circumstances, and so marked as to indicate clearly the compartments to which the pipes are led. Suitable provision shall be made to prevent inadvertent admission of the gas or steam to any compartment. If any pipe is led to a space to which passengers may have access, it shall be furnished with an additional stop valve or cock suitably protected.

(b) The piping shall be arranged so as to provide effective distribution of the fire smothering gas or steam. In large holds there shall be at least two pipes, one of which shall be fitted at the forward part and one at the after part. Where steam is used, the pipes shall be led well down into the space.

(c) (i) When carbon dioxide is supplied as the extinguishing medium in cargo spaces, the quantity of gas available shall be sufficient to give a minimum volume of free gas equal to 30 per cent. of the gross volume of the largest cargo compartment in the ship which is capable of being sealed.

(ii) When carbon dioxide is supplied as an extinguishing medium for boiler rooms, the quantity of gas carried shall be sufficient to give a minimum quantity of free gas equal to 30 per cent. of the gross volume of the largest boiler room measured to the top of the boilers. If the engine and boiler rooms are not entirely separate and fuel oil can drain from the boiler room into the engine room bilges, the combined engine and boiler rooms shall be considered as one compartment.

(iii) When carbon dioxide is supplied as the extinguishing medium both for cargo spaces and for boiler rooms, the quantity of gas need not be more than that required for the largest compartment protected in this way, whether cargo compartment or boiler room.

(iv) For the purpose of this paragraph (c), the volume of gas shall be calculated at 9 cubic feet to the pound (or 0.56 cubic metres to the kilogramme).

(d) When steam is the extinguishing medium in holds, the boiler or boilers available for supplying steam shall have an evaporation of at least 1 lb. of steam per hour for each 12 cubic feet (or 1 kilogramme for each 0.75 cubic metres) of the gross volume of the largest cargo compartment in the ship.

(e) Means shall be provided for stopping ventilating fans from outside the space and for closing all doorways, ventilators, annular spaces around funnels and other openings to spaces in which fire smothering gas or steam may be used as a fire extinguishing medium.

(f) Means shall be provided for giving audible warning of the release of carbon dioxide to any working space.

SCHEDULE VI.—*continued.*

REGULATION 48

Automatic Sprinkler Systems

(a) Water sprinkler systems automatic in operation may be accepted as satisfactory means for fire extinguishing. Where such a system is fitted it shall be kept charged at the necessary pressure and shall have provision for a continuous supply of water.

(b) The system shall be subdivided into a number of sections to be decided by the Administration, and automatic alarms shall be provided to indicate at one or more suitable points or stations the occurrence or indication of fire, and its location.

(c) The pump or pumps to provide the discharge from sprinkler heads shall be so connected as to be brought into action automatically by a pressure drop in the system.

(d) Each pump shall be capable of maintaining a sufficient supply of water at the appropriate pressure, at the sprinkler heads, while such number of sprinkler heads as will be decided by the Administration are in operation.

(e) There shall be not less than two sources of power supply for sea-water pumps, air compressors and automatic alarms. Where the power is electrical the supply shall be taken through the emergency switchboard by a feeder reserved solely for that purpose. There shall be no switch in the circuit other than that at the switchboard. The switch shall be clearly labelled and shall normally be kept closed.

(f) Sprinkler heads shall be required to operate at temperatures that will be decided by the Administration. Suitable means for the periodic testing of all automatic arrangements shall be provided.

REGULATION 49

Breathing Apparatus, Smoke Helmets and Safety Lamps

(a) A breathing apparatus or smoke helmet shall be of a type approved by the Administration.

(b) In order to avoid smoke being breathed by the wearer of a smoke helmet or mask fitted with an air hose, the length of air hose supplied shall be sufficient to reach from the open deck, well clear of hatch or doorway, to any part of the holds or machinery spaces.

(c) Safety lamps shall have a minimum burning period of three hours and be of a type approved by the Administration.

REGULATION 50

*Requirements for Passenger Ships**Patrols and Detection*

(a) An efficient patrol system shall be maintained in all passenger ships so that any outbreak of fire may be promptly detected. Manual fire alarms are to be fitted throughout the passenger and crew accommodation to enable the fire patrol to give an alarm immediately to the bridge or fire control station.

(b) An approved fire alarm or fire-detecting system shall be provided which will automatically indicate at one or more suitable points or stations, where it can be most quickly observed by officers and crew, the presence or indication and location of fire in any part of the ship which, in the opinion of the Administration, is not accessible to the patrol system; except where it is shown to the satisfaction of the Administration that the ship is engaged on voyages of such short duration that it would be unreasonable to apply this requirement.

Spaces used by Passengers and Crew

(c) A passenger ship shall be provided with appliances whereby at least two powerful jets of water can be rapidly and simultaneously directed on any part of each deck or space used by passengers or crew when all watertight doors and all doors in the main fire-resisting bulkheads are closed. Doors in intermediate bulkheads may be provided with suitable apertures fitted with covers.

SCHEDULE VI.—*continued.*

(d) A passenger ship shall be provided with such approved portable fire extinguishers as the Administration may deem to be appropriate and sufficient.

Cargo Spaces

(e) A passenger ship shall be provided with appliances whereby at least two powerful jets of water can be rapidly and simultaneously directed into any cargo space.

(f) (i) A passenger ship of 1,000 tons gross tonnage or over shall be provided with appliances whereby fire smothering gas, sufficient to give a minimum volume of free gas equal to 30 per cent. of the gross volume of the largest hold in the ship which is capable of being sealed, can be promptly conveyed by a permanent piping system into any compartment in which cargo may be carried. The Administration may allow the use of steam in lieu of smothering gas in steamships and in ships propelled by internal combustion machinery if the arrangements comply with paragraph (d) of Regulation 47.

(ii) Where it is shown to the satisfaction of an Administration that a ship is engaged on voyages of such short duration that it would be unreasonable to apply the above requirement and also in passenger ships of less than 1,000 tons gross tonnage, the arrangements in cargo spaces shall be to the satisfaction of the Administration.

Machinery and Bunker Spaces

(g) A passenger ship shall be provided with appliances whereby at least two powerful jets of water can be rapidly and simultaneously directed into any part of the coal bunker spaces, boiler rooms and engine rooms.

(h) A passenger ship fitted with oil-fired boilers or internal combustion propelling machinery shall be provided in the machinery spaces with at least two fire hydrants, one port and one starboard, and fire hoses for each hydrant complete with couplings and conductors, together with nozzles suitable for spraying water on oil.

(i) A passenger ship in which the main or auxiliary boilers are oil fired shall comply with paragraphs (g) and (h) of this Regulation and with the following:—

- (i) In each firing space there shall be a receptacle containing sand, sawdust impregnated with soda or other approved dry material, in such quantity as may be required by the Administration.
- (ii) There shall be at least two approved portable extinguishers discharging froth or other approved medium suitable for quenching oil fires, in each firing space in each boiler room and each space in which a part of the oil fuel installation is situated.
- (iii) There shall be approved appliances whereby froth can be rapidly discharged and distributed over the boiler room or rooms and any space in which oil fuel units or settling tanks are situated. The quantity of froth available for discharge shall be sufficient to cover to a depth of 6 inches (or 15 centimetres) the largest area over which oil fuel is liable to spread in the event of an accidental leakage. Alternatively, smothering gas or a fixed high-pressure water spraying system may be employed. If the engine and boiler rooms are not entirely separate, and fuel oil can drain from the boiler room into the engine room bilges, the combined engine and boiler rooms shall be considered as one compartment. Apparatus shall be controlled from an easily accessible position or positions, which will not be readily cut off by an outbreak of fire.
- (iv) There shall be one approved froth extinguisher of at least 30 gallons (or 136 litres) capacity in the case of ships having one boiler room, and two such extinguishers in the case of ships with more than one boiler room. These extinguishers shall be provided with hoses on reels suitable for reaching any part of the boiler rooms and spaces containing any part of the oil fuel installations. A 100 lbs. (or 45 kilogrammes) carbon dioxide extinguisher may be accepted as an alternative to a 30 gallons (or 136 litres) froth extinguisher.

SCHEDULE VI.—*continued.*

(j) A passenger ship propelled by internal combustion machinery shall, in addition to complying with paragraphs (g) and (h) of this Regulation, be provided in each of the machinery spaces with at least one approved froth extinguisher of not less than 10 gallons (or 45 litres) capacity, and also with one approved portable froth extinguisher for each 1,000 b.h.p. of the engines or part thereof; but the total number of portable extinguishers so supplied shall be not less than two and need not exceed six. A 35 lbs. (or 16 kilogrammes) carbon dioxide extinguisher may be accepted as an alternative to the 10 gallons (or 45 litres) froth extinguisher.

(k) If in a passenger ship propelled by internal combustion machinery a donkey boiler is fitted, paragraph (i) shall be complied with. If the donkey boiler is situated in a machinery space, there shall be provided in that space, in place of the large extinguisher required by the preceding paragraph, an approved froth extinguisher of at least 30 gallons (or 136 litres) capacity fitted with suitable hose attachments or other approved means for distributing froth. A 100 lbs. (or 45 kilogrammes) carbon dioxide extinguisher may be accepted as an alternative to a 30 gallons (or 136 litres) froth extinguisher.

Pumps

(l) A passenger ship of 4,000 tons gross tonnage or over shall be provided with at least three fire pumps operated by steam or other motive power, and every passenger ship of under 4,000 tons gross tonnage, with at least two such fire pumps. Each fire pump shall be capable of delivering such quantity of water as the Administration may deem sufficient in at least two powerful jets simultaneously in any part of the ship.

(m) In a passenger ship of 300 feet (or 91.5 metres) in length or over, fitted with oil fired boilers or internal combustion machinery, the arrangements of sea connections, pumps and sources of power for operating them shall be such as to ensure that a fire in any one compartment will not put all the fire pumps out of action. In a ship less than 300 feet (or 91.5 metres) in length, if a fire in any one compartment could put all the pumps out of action, there shall be an alternative means of extinguishing the fire.

Water Service Pipes and Hydrants

(n) A passenger ship shall be provided with water service pipes and hydrants complying with the relevant requirements of Regulation 45.

Fire Hoses

(o) A passenger ship shall be provided with such number of fire hoses as the Administration may deem sufficient. There shall be at least one fire hose for each hydrant and these hoses shall be used only for the purpose of extinguishing fires or testing the fire-extinguishing apparatus at fire drills and surveys.

Smoke Helmets and Safety Lamps

(p) A passenger ship shall carry at least two outfits each consisting of a breathing apparatus or smoke helmet, a safety lamp and a fireman's axe. These outfits shall be kept in widely separated places ready for use. A portable electric drilling machine to provide emergency means of access to fires through decks, casings or bulkheads, shall be available.

REGULATION 51

Requirements for Cargo Ships of 1,000 Tons Gross Tonnage or over

(a) (i) A cargo ship of 2,000 tons gross tonnage or over shall be provided with apparatus whereby fire smothering gas sufficient to give a minimum volume of free gas equal to 30 per cent. of the gross volume of the largest hold in the ship which is capable of being sealed, can be promptly conveyed by a permanent piping system into any compartment in which cargo may be carried. The Administration may allow the use of steam in lieu of smothering gas in steam ships and in motor ships if the arrangements comply with paragraph (d) of Regulation 47. In tankers, froth may be accepted as a suitable alternative to smothering gas or steam.

SCHEDULE VI.—*continued.*

(ii) The Administration may exempt from this requirement cargo holds of any ship (other than the tanks of a tanker)—

- (a) if they are provided with steel hatch covers and effective means of closing all ventilators and other openings leading to the holds;
- (b) if the ship is constructed and intended solely for carrying such cargoes as ore or coal;
- (c) where it is shown to the satisfaction of the Administration that the ship is engaged on voyages of such short duration that it would be unreasonable to apply the requirement.

(b) A cargo ship of 1,000 tons gross tonnage or over shall comply with the following:—

- (i) (a) There shall be two power pumps each capable of providing a full supply of water to the fire hoses together with appliances whereby at least two powerful jets of water can be rapidly and simultaneously directed into any part of the ship; such appliances to include as many fire hoses, each complete with couplings and conductor, as the Administration may deem sufficient.
- (b) In such ships fitted with oil-fired boilers or internal combustion machinery, if a fire in any one compartment could put all the pumps out of action, there must be an alternative means of extinguishing the fire.
- (ii) There shall be portable fire extinguishers available for immediate use in the spaces used by crew and passengers, if any, and in any case a minimum of five such extinguishers.
- (iii) There shall be an outfit consisting of a breathing apparatus or smoke helmet, a safety lamp, a fireman's axe and, except in tankers, a portable electric drilling machine to provide emergency means of access to fires through decks, casings or bulkheads.

(c) A cargo ship of 1,000 tons gross tonnage or over with oil-fired boilers or internal combustion propelling machinery shall be provided in the machinery spaces with at least two fire hydrants, one port and one starboard, and for each hydrant a fire hose, complete with couplings and conductor together with a nozzle suitable for spraying water on oil.

(d) A cargo ship of 1,000 tons gross tonnage or over in which oil is used as fuel for the main or auxiliary boilers shall also comply in the boiler and machinery spaces with the following:—

- (i) In each firing space there shall be a receptacle containing sand, sawdust impregnated with soda, or other approved dry material in such quantity as may be required by the Administration.
- (ii) There shall be at least two approved portable extinguishers discharging froth or other approved medium suitable for quenching oil fires, in each firing space in each boiler room and each space in which a part of the oil fuel installation is situated. In addition, there shall be at least one extinguisher of the same description with a capacity of 2 gallons (or 9 litres) for each burner, provided that the total capacity of the additional extinguisher (s) need not exceed 10 gallons (or 45 litres) for any one boiler room.
- (iii) There shall be approved appliances whereby froth can be rapidly discharged and distributed over the boiler room and any space in which oil fuel units or settling tanks are situated. The quantity of froth available for discharge shall be sufficient to cover to a depth of 6 inches the largest area over which oil fuel is liable to spread in the event of an accidental leakage. Alternatively, smothering gas or steam or a fixed high pressure water-spraying system may be employed. If the engine and boiler rooms are not entirely separate and fuel oil can drain from the boiler room into the engine room bilges, the combined engine and boiler rooms shall be considered as one compartment. Apparatus shall be controlled from an easily accessible position or positions, which will not be readily cut off by an outbreak of fire.

SCHEDULE VI.—*continued.*

(e) The Administration shall give special consideration to the fire extinguishing arrangements to be provided in the engine and boiler spaces of cargo ships of 1,000 tons gross tonnage or over in which oil and coal are used as fuel simultaneously.

(f) A cargo ship of 1,000 tons gross tonnage or over propelled by internal combustion machinery, shall be provided in the machinery spaces with—

- (i) appliances in accordance with paragraph (c) of this Regulation;
- (ii) one approved froth extinguisher of at least 10 gallons (or 45 litres) capacity or a 35 lbs. (or 16 kilogrammes) carbon dioxide extinguisher;
- (iii) portable extinguishers in such number and so distributed as may be required by the Administration having regard to the size and lay-out of the engine room and to the horse-power of the engines, it being understood that the number of extinguishers may not be less than two and need not exceed six.

Where an oil-fired boiler is fitted, the requirements of paragraph (d) of this Regulation are applicable.

REGULATION 52

Ready Availability of Appliances

Fire extinguishing appliances in new and existing passenger ships and cargo ships shall be kept in good order and available for immediate use at all times during the voyage.

REGULATION 53

Acceptance of Substitutes

Where in this Part of this Chapter any special type of appliance, apparatus, extinguishing medium or arrangement is specified, any other type of appliance, &c., may be allowed, provided the Administration is satisfied that it is not less effective.

PART F.—MISCELLANEOUS

(Part F applies only to passenger ships)

REGULATION 54

Means of Escape

(a) In and from all passenger and crew spaces, stairways and ladderways shall be arranged so as to provide a ready means of escape to the lifeboat embarkation deck. In particular the following provisions shall be complied with:—

- (i) Below the bulkhead deck sufficient exit facilities shall be provided from each watertight compartment independent of watertight doors to provide adequate means of escape and shall be arranged so as to be readily accessible.
- (ii) Above the bulkhead deck there shall be at least two practicable means of escape from each space bounded by main fire-resisting bulkheads, at least one of which shall give access to a stairway forming a vertical escape.
- (iii) The width, number and arrangement of the stairways shall be to the satisfaction of the Administration.

(b) Practicable means of escape for the crew shall be provided from each engine room, shaft tunnel, stokehold compartment, and other working spaces, independent of watertight doors.

REGULATION 55

Power for Going Astern

A passenger ship shall have sufficient power for going astern to secure proper control of the ship in all normal circumstances.

REGULATION 56

Steering Gear

(a) A passenger ship shall be provided with main steering gear and auxiliary steering gear to the satisfaction of the Administration.

SCHEDULE VI.—*continued.*

(b) The auxiliary apparatus shall be capable of being brought speedily into action in an emergency and shall be of adequate strength and of sufficient power to steer the ship at navigable speed. It shall be operated by power in any ship in which the Administration would require a rudder stock of over 9 inches (or 22.86 centimetres) diameter in way of the tiller.

(c) A duplicate main steering gear power unit and connections shall be acceptable as an auxiliary apparatus.

CHAPTER III.—LIFE SAVING APPLIANCES, &c.

REGULATION 1

Application

(a) This Chapter, except where it is otherwise expressly provided, applies as follows to new ships engaged on international voyages:—

Part A.—Passenger ships and cargo ships.

Part B.—Passenger ships.

Part C.—Cargo ships.

(b) In the case of existing ships engaged on international voyages and which do not already comply with the provisions of this Chapter relating to new ships, the arrangements on each ship shall be considered by the Administration with a view to securing, so far as this is practicable and reasonable, compliance with the general principles set out in Regulation 4 not later than the 1st January, 1951, and substantial compliance with the other requirements of this Chapter.

PART A.—GENERAL

(Part A applies to both passenger ships and cargo ships)

REGULATION 2

Definitions

For the purposes of this Chapter the expression “short international voyage” means an international voyage in the course of which a ship is not more than 200 miles from a port or place in which the passengers and crew could be placed in safety, and which does not exceed 600 miles in length between the last port of call in the country in which the voyage begins and the final port of destination.

REGULATION 3

Exemptions

(a) Each Administration, if it considers that the sheltered nature and conditions of the voyage are such as to render the application of the full requirements of this Chapter unreasonable or unnecessary, may to that extent exempt from the requirements of this Chapter individual ships or classes of ships belonging to its country which, in the course of their voyage, do not go more than 20 miles from the nearest land.

(b) In the case of passenger ships engaged on international voyages which are employed in the carriage of large numbers of unberthed passengers in special trades, such, for example, as the pilgrim trade, the Administration, if satisfied that it is impracticable to enforce compliance with the requirements of this Chapter, may exempt such ships, when they belong to its country, from those requirements on the following conditions:—

- (i) That the fullest provision which the circumstances of the trade will permit shall be made in the matter of lifeboats and other life-saving appliances and fire protection.
- (ii) That all such boats and apparatus shall be readily available within the meaning of Regulation 4.
- (iii) That a lifejacket shall be provided for every person on board.
- (iv) That steps shall be taken to formulate general rules which shall be applicable to the particular circumstances of these trades. Such rules shall be formulated in concert with such other Contracting Governments, if any, as may be directly interested in the carriage of such passengers in such trades.

SCHEDULE VI.—*continued.*

Notwithstanding any provisions of the present Convention the Simla Rules, 1931, shall continue in force as between the Parties to those Rules until the rules formulated under sub-paragraph (b) (iv) of this Regulation come into force.

REGULATION 4

Ready Availability of Lifeboats and Buoyant Apparatus

(a) The general principles governing the provision of lifeboats and buoyant apparatus in a ship to which this Chapter applies are that they shall be readily available in case of emergency.

(b) To be readily available, the lifeboats and buoyant apparatus must comply with the following conditions:—

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

(ii) It must be possible to effect embarkation into the lifeboats rapidly and in good order.

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

(c) All life-saving appliances shall be kept in working order and available for immediate use before the ship leaves port and at all times during the voyage.

REGULATION 5

Construction of Lifeboats

(a) All lifeboats must be properly constructed and shall be of such form and proportions that they shall have ample stability in a seaway, and sufficient freeboard when loaded with their full complement of persons and equipment.

(b) All lifeboats must be open boats with rigid sides having internal buoyancy only. They shall be not less than 24 feet (or 7.3 metres) in length, except where owing to the size of the ship, or for other reasons, the Administration considers the carriage of such lifeboats unreasonable or impracticable. In no ship shall the lifeboats be less than 16 feet (or 4.9 metres) in length.

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

(d) All lifeboats certified to carry more than 60 persons shall be either motor lifeboats of Class A or Class B, complying with the requirements of Regulation 9 or be lifeboats fitted with other approved means of mechanical propulsion complying with the requirements of Regulation 10.

(e) All lifeboats must be of sufficient strength to enable them to be safely lowered into the water when loaded with their full complement of persons and equipment.

(f) All lifeboats must have a mean sheer at least equal to 4 per cent. of their length.

(g) In lifeboats certified to carry 100 or more persons the volume of the buoyancy shall be increased to the satisfaction of the Administration.

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

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

(j) All thwarts and side-seats shall be fitted as low in the lifeboat as practicable, and bottom boards shall be fitted so that the thwarts shall not be more than 2 feet 9 inches (or 84 centimetres) above them.

REGULATION 6

Cubic Capacity of Lifeboats

(a) The cubic capacity of a lifeboat shall be determined by Stirling's (Simpson's) Rule or by any other method giving the same degree of accuracy. The capacity of a square-sterned lifeboat shall be calculated as if the lifeboat had a pointed stern

SCHEDULE VI.—*continued.*

(b) For example, the capacity in cubic feet (or cubic metres) of a lifeboat, calculated by the aid of Stirling's Rule, may be considered as given by the following formula:—

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

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

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

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

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

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

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

(c) If the sheer of the gunwale, measured at the two points situated at a quarter of the length of the lifeboat from the ends, exceeds 1 per cent. of the length of the lifeboat, the depth employed in calculating the area of the cross-sections A or C shall be deemed to be the depth amidships plus 1 per cent. of the length of the lifeboat.

(d) If the depth of the lifeboat amidships exceeds 45 per cent. of the breadth, the depth employed in calculating the area of the amidship cross-section B shall be deemed to be equal to 45 per cent. of the breadth, and the depth employed in calculating the areas of the quarter-length sections A and C is obtained by increasing this last figure by an amount equal to 1 per cent. of the length of the lifeboat, provided that in no case shall the depths employed in the calculation exceed the actual depths at these points.

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

(f) Each Administration shall impose, by suitable formulæ, a limit for the number of persons allowed in lifeboats with very fine ends and in lifeboats very full in form.

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

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

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

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

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

SCHEDULE VI.—*continued*.

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

REGULATION 7

Carrying Capacity of Lifeboats

(a) The number of persons which a lifeboat can accommodate is equal to the greatest whole number obtained by dividing the capacity in cubic feet by 10 (or in cubic metres by 0.283).

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

(c) In the test for determining the number of persons which a lifeboat can accommodate each person shall be assumed to be an adult person wearing a lifejacket.

REGULATION 8

Proportion of Motor Lifeboats and Other Mechanically Propelled Lifeboats to be Carried

(a) Where the number of lifeboats required to be carried in a ship is 20 or more, two shall be motor lifeboats of Class A complying with the requirements of Regulation 9.

(b) Where the number of lifeboats to be carried in a ship is more than 13 but less than 20, one shall be a motor lifeboat of Class A and a second shall be a motor lifeboat of Class A or Class B complying with the requirements of Regulation 9 or an approved mechanically propelled lifeboat complying with the requirements of Regulation 10.

(c) All passenger ships not provided under the foregoing provisions with a motor lifeboat shall carry a motor lifeboat of either Class A or Class B, complying with the requirements of Regulation 9 or an approved mechanically propelled lifeboat complying with the requirements of Regulation 10.

(d) All cargo ships of 1,600 tons gross tonnage and upwards shall carry a motor lifeboat of Class A or Class B complying with the requirements of Regulation 9 or a mechanically propelled lifeboat complying with the requirements of Regulation 10.

REGULATION 9

Specification of Motor Lifeboat

(a) Class A

A motor lifeboat of Class A shall comply with the following conditions:—

- (i) It shall be fitted with an approved type of compression ignition engine and be provided with fuel sufficient for 24 hours continuous operation, and kept so as to be at all times ready for use.
- (ii) The engine and its accessories shall be suitably enclosed to ensure operation under adverse weather conditions, and provision shall be made for going astern.
- (iii) The speed ahead shall be at least six knots in smooth water when loaded with its full complement of persons and equipment.

(b) Class B

A motor lifeboat of Class B shall comply with the following conditions:—

- (i) It shall be adequately provided with fuel, and kept so as to be at all times ready for use.
- (ii) The engine and its accessories shall be suitably enclosed to ensure operation under adverse weather conditions, and provision shall be made for going astern.
- (iii) The speed ahead shall be at least four knots in smooth water when loaded with its full complement of persons and equipment.

SCHEDULE VI.—*continued*.

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

- (i) the weight of the engine and its accessories, and, if fitted, the searchlight and the radiotelegraph installation and their accessories, and
- (ii) the weight of the additional persons which the lifeboat could accommodate if the motor and its accessories, and, if fitted, the searchlight and the radiotelegraph installation and their accessories, were removed.

(d) Where a Class A motor lifeboat is carried voluntarily in place of a Class B motor lifeboat, or other type of approved mechanically propelled lifeboat, in excess of the numbers required, the requirements of paragraph

(b) (i) of this Regulation in regard to fuel shall apply.

REGULATION 10

Specification of a Mechanically Propelled Lifeboat other than a Motor Lifeboat

A mechanically propelled lifeboat, other than a motor lifeboat, shall comply with the following conditions:—

(a) The propelling gear shall be of an approved type and shall have sufficient power to enable the lifeboat to be readily cleared from the ship's side when launched and to be able to hold course under adverse weather conditions. If the gear is manually operated it shall be capable of being worked by persons untrained in its use and shall be capable of being operated when the lifeboat is flooded.

(b) Provision shall be made for going astern.

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

REGULATION 11

Equipment of Lifeboats

(a) The normal equipment of every lifeboat shall consist of:—

- (i) a single banked complement of oars, two spare oars, and a steering oar; one set and a half of thole pins or crutches, attached to the lifeboat by lanyard or chain; a boat hook;
- (ii) two plugs for each plug hole (plugs are not required when proper automatic valves are fitted) attached to the lifeboat by lanyards or chains; a baler, and two buckets of approved material;
- (iii) a rudder attached to the lifeboat and a tiller;
- (iv) two hatchets, one at each end of the lifeboat;
- (v) a lamp, with oil sufficient for 12 hours; two boxes of suitable matches in a water-tight container;
- (vi) a mast or masts, with galvanised wire stays together with sails (coloured orange);
- (vii) an efficient compass in binnacle, to be luminised or fitted with suitable means of illumination;
- (viii) a life-line becketed round the outside of the lifeboat;
- (ix) a sea-anchor of approved size;
- (x) two painters of sufficient length. One shall be secured to the forward end of the lifeboat with strop and toggle so that it can be released, and the other shall be firmly secured to the stem of the lifeboat and be ready for use;
- (xi) a vessel containing one gallon (or four and half litres) of vegetable, fish or animal oil. The vessel shall be so constructed that the oil can be easily distributed on the water, and so arranged that it can be attached to the sea-anchor;
- (xii) an air-tight receptacle containing two pounds (or one kilogramme) of provisions for each person;
- (xiii) one pound (or half a kilogramme) of condensed milk or its equivalent for each person;

SCHEDULE VI.—*continued*.

- (xiv) water-tight receptacles containing three quarts (or three litres) of fresh water for each person; a dipper with lanyard;
 - (xv) two parachute signals of approved type capable of giving a bright red light at a high altitude; six hand flares of an approved type giving a bright red light;
 - (xvi) two buoyant smoke signals of an approved type (for day-time use) capable of giving off a volume of orange-coloured smoke;
 - (xvii) approved means to enable persons to cling to the boat should it be upturned, in the form of bilge keels or keel rails, together with grab lines secured from gunwale to gunwale under the keel, or other approved arrangements;
 - (xviii) an approved first aid outfit in a watertight case,
 - (xix) an electric torch suitable for morse-signalling together with two spare batteries and two spare bulbs;
 - (xx) a daylight-signalling mirror of an approved type;
 - (xxi) a jack-knife fitted with a tin opener to be kept attached to the boat with a lanyard;
 - (xxii) two light buoyant heaving lines;
 - (xxiii) a manual pump of an approved type; and
 - (xxiv) a suitable locker for stowage of small items of equipment.
- (b) In the case of ships engaged on voyages of such duration that in the opinion of the Administration concerned the items specified in subparagraphs (vi), (xii), (xiii), (xx) and (xxi) of paragraph (a) of this Regulation are unnecessary, the Administration may allow them to be dispensed with.
- (c) Notwithstanding the provisions of paragraph (a) of this Regulation, motor lifeboats or other approved mechanically propelled lifeboats need not carry a mast or sails or more than half the complement of oars, but they shall carry two boat hooks.
- (d) All lifeboats certified to carry more than 60 persons shall be fitted with suitable means to enable persons in the water to climb into the lifeboat.

REGULATION 12

Security of Lifeboat Equipment

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

REGULATION 13

Lifeboat Portable Radio Apparatus

(a) Ships carrying less than 20 lifeboats shall be provided with an approved portable radiotelegraph apparatus complying with the requirements set out in Regulation 14 of Chapter IV. All this equipment shall be kept together in the chart room or other suitable place ready to be moved to one or other of the lifeboats in the event of an emergency.

(b) In the case of ships engaged on voyages of such duration that, in the opinion of the Administration, lifeboat portable radio apparatus is unnecessary, the Administration may allow such equipment to be dispensed with.

REGULATION 14

Embarkation into the Lifeboats

Suitable arrangements shall be made for embarkation into the lifeboats, which shall include:—

- (a) a suitable ladder at each set of davits, to afford access to the lifeboats when waterborne;
- (b) suitable means for illuminating the launching gear and lifeboats during the process of launching;
- (c) suitable arrangements for warning the passengers and crew that the ship is about to be abandoned, and
- (d) suitable means situated outside the engine room whereby any discharge of water into the lifeboats can be prevented.

SCHEDULE VI.—*continued.*

REGULATION 15

Marking of Lifeboats and Buoyant Apparatus

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

(b) Buoyant apparatus (and life rafts carried in lieu of buoyant apparatus) shall be marked with the number of persons in the same manner.

(c) No lifeboat or buoyant apparatus shall be marked for a greater number of persons than that obtained in the manner specified in these Regulations.

REGULATION 16

Specification of a Lifebuoy

(a) A lifebuoy shall satisfy the following requirements:—

(i) It shall be of solid cork or any other equivalent material;

(ii) It shall be capable of supporting in fresh water for 24 hours at least 32 pounds (or 14.5 kilogrammes) of iron.

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

(b) Lifebuoys shall be fitted with beackets securely seized. At least one lifebuoy on each side shall be fitted with a life-line of at least 15 fathoms (or 27.5 metres) in length. Not less than one-half of the total number of lifebuoys, and in no case less than six shall be provided with efficient self-igniting lights which cannot be extinguished by water, and these shall be kept near the buoys to which they belong, with the necessary means of attachment.

(c) All lifebuoys shall be so placed as to be readily accessible to the persons on board.

(d) Lifebuoys shall always be capable of being rapidly cast loose and shall not be permanently secured in any way.

REGULATION 17

Lifejackets

(a) Ships shall carry for every person on board a lifejacket of a type approved by the Administration, and in addition, unless these lifejackets can be adapted for use by children, a sufficient number of lifejackets suitable for children.

(b) A lifejacket shall not be approved by an Administration unless it satisfies the following requirements:—

(i) It shall be constructed with proper workmanship and materials,

(ii) It shall be capable of supporting in fresh water for 24 hours 16.5 pounds (or 7.5 kilogrammes) of iron.

(iii) It shall be reversible.

(iv) It shall be capable of holding up the head of an unconscious person in the water.

Lifejackets, the buoyancy of which depends on air compartments, are prohibited.

(c) Lifejackets shall be so placed as to be readily accessible and their position shall be plainly indicated.

REGULATION 18

Line-Throwing Appliances

(a) Ships shall carry a line-throwing appliance of a type approved by the Administration.

(b) The appliance shall be capable of carrying a line not less than 250 yards (or 230 metres) with reasonable accuracy, and shall include not less than four projectiles and four lines.

REGULATION 19

Ships' Distress Signals

Ships shall be provided, to the satisfaction of the Administration, with means of making effective distress signals by day and by night, including parachute signals capable of giving a bright red light at a high altitude.

SCHEDULE VI.—*continued.*

REGULATION 20

Muster List and Emergency Procedure

(a) Special duties to be undertaken in the event of an emergency shall be allotted to each member of the crew.

(b) The muster list shall show all these special duties and shall indicate, in particular, the station to which each member must go, and the duties that he has to perform.

(c) Before the vessel sails, the muster list shall be drawn up. Copies shall be posted in several parts of the ship, and in particular in the crew's quarters.

(d) The muster list shall assign duties to the different members of the crew in connection with:—

- (i) the closing of the watertight doors, valves and closing mechanisms of scuppers, ash shoots, &c.;
- (ii) the equipping of the lifeboats, including the portable radio apparatus, and buoyant apparatus generally;
- (iii) the launching of the lifeboats attached to davits;
- (iv) the general preparation of the other boats, and buoyant apparatus;
- (v) the muster of the passengers; and
- (vi) the extinction of fire.

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

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

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

REGULATION 21

Practice Musters and Drills

(a) (i) In passenger ships, musters of the crew for boat drill and fire drill shall take place weekly when practicable. In passenger ships in which the voyage exceeds one week, there shall be such a muster before the ship leaves the final port of departure.

(ii) In cargo ships, a muster of the crew for boat drill and fire drill shall take place at intervals of not more than one month.

(iii) The dates upon which musters are held shall be recorded in such log book as may be prescribed by the Administration; and, if in any week (for passenger ships) or month (for cargo ships) a muster is not held, an entry shall be made stating why a muster was not practicable.

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

(c) Different groups of lifeboats shall be used in turn at successive boat drills. The drills and inspections shall be so arranged that the crew thoroughly understand and are practised in the duties they have to perform.

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

SCHEDULE VI.—*continued.*

PART B.—PASSENGER SHIPS ONLY

(Part B applies to Passenger Ships only)

REGULATION 22

Lifeboats and Buoyant Apparatus

(a) Subject to the provisions of the following paragraphs of this Regulation, there must, in passenger ships, be accommodation in lifeboats for all persons on board, and there must, in addition, be buoyant apparatus for 25 per cent. of the persons on board. No more lifeboats shall be required on any passenger ship than are sufficient to accommodate all persons on board.

(b) In the case of passenger ships engaged on short international voyages, lifeboats and buoyant apparatus must be provided in accordance with the requirements set out for such ships in Regulations 23 and 24. If the Administration considers that the carriage of passengers in excess of the lifeboat capacity so provided is necessitated by the volume of traffic, the Administration may permit this if the ship complies with the provisions applicable to this class of ship laid down in Regulation 1 (d) of Chapter II.

(c) An Administration may permit individual ships or classes of ships with short international voyage certificates to proceed on voyages in excess of 600 miles, but not exceeding 1,200 miles, if such ships comply with the provisions of paragraph (b) of this Regulation and if they carry lifeboats which provide for at least 75 per cent. of the persons on board.

REGULATION 23

Number of Davits and Capacity of Lifeboats and Buoyant Apparatus

(a) (i) A passenger ship shall be provided with sets of davits in accordance with its length as provided in Column A of the Table in Regulation 24 except that a number of sets of davits greater than the number of lifeboats necessary for the accommodation of all the persons on board shall not be required.

(ii) Each set of davits shall have a lifeboat attached. If these lifeboats do not provide sufficient accommodation for all persons on board, additional sets of davits with lifeboats attached shall be fitted if practicable. If the lifeboats attached to davits do not provide accommodation for all persons on board, additional lifeboats shall be carried under the lifeboats attached to davits so that accommodation for all persons is provided.

(iii) When in the opinion of the Administration it is impracticable or unreasonable to place on a ship the number of sets of davits required by Column A of the Table in Regulation 24, the Administration may authorise, under exceptional conditions, a smaller number of sets of davits as specified in Column B of the Table.

(b) (i) A passenger ship engaged on a short international voyage shall be provided with sets of davits in accordance with its length as specified in Column A of the Table in Regulation 24. Each set of davits shall have a lifeboat attached to it and these lifeboats shall provide at least the minimum capacity required by Column C of the Table or the capacity required to provide accommodation for all persons on board if less. In the case of ships certified to carry a number of persons in excess of the lifeboat capacity specified in Column C, additional lifeboats under davits or approved buoyant apparatus shall be provided so that the total accommodation afforded by all the lifeboats, together with the buoyant apparatus, shall be sufficient for all on board. In addition there shall be buoyant apparatus for 10 per cent. of all on board.

(ii) When in the opinion of the Administration it is impracticable or unreasonable to place on a ship engaged on short international voyages the number of sets of davits required by Column A of the Table in Regulation 24, the Administration may authorise, under exceptional conditions, a smaller number of sets of davits, except that this number shall never be less than the minimum number fixed by Column B of the Table, and that the total capacity of the lifeboats on the ship will be at least up to the minimum capacity required by Column C or the capacity required to provide for all persons on board if less.

(c) Passenger ships shall carry two boats attached to davits—one on each side of the ship—for use in an emergency. These boats shall be of a type approved by the Administration and shall normally be not more than 26 feet (or 8 metres) in length. They may be counted for the purposes of Regulation 22, provided that they comply fully with the requirements of this Chapter for

SCHEDULE VI.—*continued*.

lifeboats. They shall be kept ready for immediate use while the ship is at sea. In ships in which the requirements of Regulation 26 (j) are met by means of appliances fitted to the sides of the lifeboats, such appliances shall not be required to be fitted to the two boats provided to meet the requirements of this Regulation.

REGULATION 24

Table relating to Davits and Lifeboat Capacity

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

- (A) The minimum number of sets of davits to be provided to each of which must be attached a lifeboat in accordance with Regulation 23 above;
- (B) the smaller number of sets of davits which may be authorised exceptionally under Regulation 23; and
- (C) the minimum lifeboat capacity required for a ship engaged on short international voyages.

Registered Length of Ship		(A) Minimum Number of Sets of Davits	(B) Smaller Number of Sets of Davits authorised exception- ally	(C) Minimum Capacity of Lifeboats	
Feet	Metres			Cubic Feet	Cubic Metres
100 and under 120	31 and under 37	2	2	400	11
120 " 140	37 " 43	2	2	650	18
140 " 160	43 " 49	2	2	900	26
160 " 175	49 " 53	3	3	1,150	33
175 " 190	53 " 58	3	3	1,350	38
190 " 205	58 " 63	4	4	1,550	44
205 " 220	63 " 67	4	4	1,750	50
220 " 230	67 " 70	5	4	1,850	52
230 " 245	70 " 75	5	4	2,150	61
245 " 255	75 " 78	6	5	2,400	68
255 " 270	78 " 82	6	5	2,700	76
270 " 285	82 " 87	7	5	3,000	85
285 " 300	87 " 91	7	5	3,300	94
300 " 315	91 " 96	8	6	3,600	102
315 " 330	96 " 101	8	6	3,900	110
330 " 350	101 " 107	9	7	4,300	122
350 " 370	107 " 113	9	7	4,750	135
370 " 390	113 " 119	10	7	5,150	146
390 " 410	119 " 125	10	7	5,550	157
410 " 435	125 " 133	12	9	6,050	171
435 " 460	133 " 140	12	9	6,550	185
460 " 490	140 " 149	14	10	7,150	202
490 " 520	149 " 159	14	10	7,800	221
520 " 550	159 " 168	16	12	8,400	238
550 " 580	168 " 177	16	12		
580 " 610	177 " 186	18	13		
610 " 640	186 " 195	18	13		
640 " 670	195 " 204	20	14		
670 " 700	204 " 213	20	14		
700 " 730	213 " 223	22	15		
730 " 760	223 " 232	22	15		
760 " 790	232 " 241	24	17		
790 " 820	241 " 250	24	17		
820 " 855	250 " 261	26	18		
855 " 890	261 " 271	26	18		
890 " 925	271 " 282	28	19		
925 " 960	282 " 293	28	19		
960 " 995	293 " 303	30	20		
995 " 1,030	303 " 314	30	20		

Note on (A) and (B).—When the length of the ship exceeds 1,030 feet (or 314 metres) the Administration shall determine the minimum number of sets of davits for that ship.

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

SCHEDULE VI.—*continued.*

REGULATION 25

Radio Apparatus and Searchlights in Motor Lifeboats

(a) Every motor lifeboat of Class A, required to be carried in compliance with paragraphs (a) and (b) of Regulation 8, must be fitted with a radio-telegraph installation complying with the requirements set out in this Regulation and in Regulation 13 of Chapter IV, and also with a searchlight complying with paragraph (f) of this Regulation.

(b) The radio installation shall be installed in a cabin large enough to accommodate both the equipment and the person using it.

(c) The arrangements shall be such that the efficient operation of the transmitter and receiver shall not be interfered with by the engine while it is running, whether a battery is on charge or not.

(d) The radio battery shall not be used to supply power to any engine starting motor or ignition system.

(e) The motor lifeboat engine shall be fitted with a dynamo for recharging the radio battery, and for other services.

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

REGULATION 26

Stowage and Handling of Lifeboats

(a) Lifeboats shall be stowed to the satisfaction of the Administration in such a way that—

- (i) they can be launched in the shortest possible time;
- (ii) they will not impede in any way the prompt handling of any of the other lifeboats attached to davits or stowed under lifeboats attached to davits or the buoyant apparatus or the marshalling of the persons on board at the launching stations, or their embarkation; and
- (iii) even under conditions of list and trim unfavourable from the point of view of the handling of the lifeboats, as large a number of persons as possible can be embarked in them.

(b) Where practicable not more than one lifeboat shall be served by a single set of davits. In ships where this arrangement is impracticable, the lifeboats may, subject to the foregoing provisions, be stowed one above the other, or they may, subject to such conditions as the Administration may impose, be fitted one within another, but where lifeboats so fitted require lifting before being launched mechanical power appliances for lifting shall be provided.

(c) Where a lifeboat is stowed underneath another lifeboat, there shall be provided approved removable supports or other approved appliances, so as to secure that the weight of a lifeboat is not unduly supported by the lifeboat underneath it.

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

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

(f) Davits shall be of approved form and shall be suitably placed to the satisfaction of the Administration. They shall be so disposed on one or more decks that the lifeboats placed under them can be safely lowered without interference from the operation of any other davits.

SCHEDULE VI.—*continued.*

(g) In ships over 150 feet (or 46 metres) in length, the davits shall be as follows:—

- (i) luffing or gravity type for operating lifeboats weighing not more than 4 tons (or 4,064 kilogrammes) in their turning out condition;
- (ii) gravity type for operating lifeboats weighing more than 4 tons (or 4,064 kilogrammes) in their turning out condition.

(h) In ships not exceeding 150 feet (or 46 metres) in length, the davits if of radial type shall be fitted with approved means to prevent them from being jerked from their sockets.

(i) The davits, falls, blocks and all other gear shall be of such strength that the lifeboats can be safely lowered with the full complement of persons and equipment, with the ship listed to 15 degrees either way.

(j) In ships in which the boat deck is more than 15 feet (or 4.6 metres) above the deepest sea-going draught arrangements shall be made to facilitate launching the lifeboats against an adverse list.

(k) The lifeboats, except the emergency boats referred to in Regulation 23 shall be served by wire rope falls, together with winches of an approved type, but the Administration may allow manila rope falls with or without winches to be fitted in ships where, having regard, for example, to the height of the boat deck above the lightest sea-going draught, they are satisfied that manila rope falls are adequate.

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

(m) Lifeboats attached to davits shall have the falls ready for service, and arrangements shall be made for speedily, but not necessarily simultaneously, detaching the lifeboats from the falls. The points of attachment of the lifeboats to the falls shall be so situated as to ensure the lifeboats being easily swung clear of the davits.

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

REGULATION 27

Lighting for Decks, Lifeboats, &c.

(a) Provision shall be made for an electric or other system of lighting, sufficient for all requirements of safety, in the different parts of a passenger ship, and particularly upon decks on which the lifeboats are stowed. Provision shall also be made for the illumination of the launching gear, and the lifeboats in process of, and immediately after, being launched. The self-contained emergency source of electrical power required by Regulation 22 of Chapter II shall be capable of supplying, when necessary, this lighting system.

(b) The exit from every main compartment occupied by passengers or crew shall be continuously lighted by an emergency lamp. The power for these emergency lamps shall be so arranged that they will be supplied from the emergency source of power referred to in paragraph (a) of this Regulation in the event of failure of the main generating plant.

REGULATION 28

Manning of Lifeboats

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

(b) A man capable of working the motor shall be assigned to each motor lifeboat.

SCHEDULE VI.—*continued.*

(c) A man capable of working the radio and searchlight installations shall be assigned to each lifeboat carrying this equipment in accordance with Regulation 25.

REGULATION 29

Certificated Lifeboatmen

(a) In passenger ships there must be, for every lifeboat carried in order to comply with this Chapter, a number of lifeboatmen at least equal to that specified in the following table:—

<i>Prescribed Complement of Lifeboat</i>	<i>The Minimum Number of Certificated Lifeboat- men shall be</i>
Less than 41 persons	2
From 41 to 61 persons	3
From 62 to 85 persons	4
Above 85 persons	5

(b) The allocation of the certificated lifeboatmen to each lifeboat remains within the discretion of the master.

(c) By “certificated lifeboatman” is meant any member of the crew who holds a certificate of efficiency issued under the authority of the Administration.

(d) In order to obtain this certificate, the applicant must prove that he has been trained in all the operations connected with launching lifeboats and the use of oars; that he is acquainted with the practical handling of the boats themselves; and, further, that he is capable of understanding and answering the orders relative to lifeboats.

REGULATION 30

Buoyant Apparatus and Liferafts

(a) The expression “buoyant apparatus” means flotation equipment (other than lifeboats, lifebuoys and lifejackets) designed to support a specified number of persons who are in the water and of such construction that it retains its shape and properties.

(b) No type of buoyant apparatus may be approved unless it satisfies the following conditions:—

- (i) It shall be of such size and strength that it can be thrown from the place where it is stowed into the water without being damaged.
- (ii) It shall not exceed 400 lbs. in weight (or 180 kilograms) unless suitable means to the satisfaction of the Administration are provided to enable it to be launched without lifting by hand.
- (iii) It shall be of approved material and construction.
- (iv) It shall be effective and stable when floating either way up.
- (v) The air cases or equivalent buoyancy shall be placed as near as possible to the sides of the apparatus, and such buoyancy shall not be dependent upon inflation.
- (vi) It shall be fitted with a painter and have a line securely becketed round the outside.

(c) The number of persons for which buoyant apparatus is certified shall be the number,

- (i) ascertained by dividing the number of pounds of iron which it is capable of supporting in fresh water by 32 (or the number of kilogrammes divided by 14.5), or
- (ii) equal to the number of feet (equivalent to 30.5 centimetres) in the perimeter

whichever is the less.

(d) Liferafts may be carried in lieu of buoyant apparatus, provided that, in addition to complying with the requirements of sub-paragraphs (ii), (iii), (iv), (v) and (vi) of paragraph (b) of this Regulation each liferaft satisfies the following conditions:

- (i) It shall be of such strength that it can be launched or thrown from the place where it is stowed into the water without being damaged.

SCHEDULE VI.—*continued.*

- (ii) It shall have not less than three cubic feet (or 85 cubic decimetres) of air cases or equivalent buoyancy for each person it is certified to carry.
- (iii) It shall have a deck area of not less than four square feet (or 3,720 square centimetres) for each person it is certified to carry, and it shall effectively support the occupants out of the water.
- (iv) It shall be equipped with two paddles.

REGULATION 31

Number of Lifebuoys to be Provided

The minimum number of lifebuoys with which passenger ships are to be provided is fixed by the following table:—

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

PART C.—CARGO SHIPS ONLY

(Part C applies to cargo ships only)

REGULATION 32

Number and Capacity of Lifeboats

(a) Cargo ships, except those employed as whale factory ships, shall carry lifeboats attached to davits on each side of the ship of such aggregate capacity as will accommodate all persons on board.

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

(c) Every tanker of 3,000 tons gross tonnage and upwards shall carry not less than four lifeboats attached to davits, two of which shall be carried aft and two amidships.

REGULATION 33

Davits and Launching Arrangements

(a) In cargo ships lifeboats attached to davits shall be stowed to the satisfaction of the Administration.

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

(c) Davits shall be of approved form and shall be suitably placed to the satisfaction of the Administration.

(d) In ships of over 150 feet (or 46 metres) in length the davits shall be as follows:—

- (i) Luffing or gravity type for operating lifeboats weighing not more than 4 tons (or 4,064 kilogrammes) in their turning out condition;
- (ii) gravity type for operating lifeboats weighing more than 4 tons (or 4,064 kilogrammes) in their turning out condition.

SCHEDULE VI.—*continued.*

(e) In cargo ships not exceeding 150 feet (or 46 metres) in length, the davits if of radial type shall be fitted with approved means to prevent them from being jerked from their sockets.

(f) The davits, falls, blocks and all other gear shall be of such strength that the lifeboats can be safely lowered with the full complement of persons and equipment, with the ship listed to 15 degrees either way.

(g) In cargo ships in which the boat deck is more than 15 feet above the deepest sea-going draught arrangements shall be made to facilitate launching the lifeboats against an adverse list.

(h) The lifeboats shall be served by wire rope falls together with winches of an approved type, but the Administration may allow manila rope falls with or without winches to be fitted in ships where, having regard, for example, to the height of the boat deck above the lightest sea-going draught, they are satisfied that manila rope falls are adequate.

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

(j) Lifeboats attached to davits shall have the falls ready for service, and arrangements shall be made for speedily, but not necessarily simultaneously, detaching the lifeboats from the falls. The points of attachment of the lifeboats to the falls shall be so situated as to ensure the lifeboats being easily swung clear of the davits.

REGULATION 34

Number of Lifebuoys to be Provided

(a) At least eight approved lifebuoys of a type which satisfies the requirements of Regulation 16 shall be carried. All the lifebuoys shall be fitted with beackets securely seized.

(b) At least half the lifebuoys shall be provided with approved self-igniting lights which cannot be extinguished by water. Self-igniting lights shall be kept near the lifebuoys to which they belong, with the necessary means of attachment. At least one lifebuoy on each side of the ship shall be fitted with a lifeline at least 15 fathoms (or 27.5 metres) in length.

(c) In the case of tankers, the self-igniting lights shall be of the electric battery type.

CHAPTER IV.—RADIOTELEGRAPHY AND RADIOTELEPHONY

PART A.—APPLICATION AND DEFINITIONS

REGULATION 1

Application

(a) Unless expressly provided otherwise, this Chapter applies to all ships to which the present Convention applies.

(b) No provision in this Chapter shall prevent the use by a ship or survival craft in distress of any means at its disposal to attract attention, make known its position and obtain help.

REGULATION 2

Definitions

For the purpose of this Chapter, unless expressly provided otherwise—

(a) "Radio Regulations" means the General Radiocommunication Regulations annexed to the International Telecommunication Convention (Madrid, 1932) or any regulations which have been, or which from time to time in the future may be, substituted for such regulations.

(b) "Alarm Signal" means the automatic alarm signal prescribed by the Radio Regulations for radiotelegraphy.

(c) "Auto Alarm" means an automatic alarm receiver which responds to the alarm signal and has been approved.

SCHEDULE VI.—*continued.*

(d) "Distress frequencies" means the distress frequencies designated for radiotelegraphy and radiotelephony respectively by the Radio Regulations.*

(e) "Distress Signal" means a distress signal prescribed by the Radio Regulations.

(f) "Qualified Operator" means a person holding an appropriate certificate complying with the provisions of the Radio Regulations.

(g) An existing installation is one already installed on board a ship at the time the present Convention comes into force.

(h) A new installation is an installation which replaces an existing installation or one installed on a ship after the date on which the present Convention comes into force.

REGULATION 3

Radiotelegraph Installation

Passenger ships irrespective of size and cargo ships of 1,600 tons gross tonnage and upwards, unless exempted under Regulation 5, shall be fitted with a radiotelegraph installation complying with the provisions of Regulations 9 and 10.

REGULATION 4

Radiotelephone Installation

Cargo ships of 500 tons gross tonnage and upwards but less than 1,600 tons gross tonnage, unless fitted with a radiotelegraph installation complying with the provisions of Regulations 9 and 10, shall, provided they are not exempted under Regulation 6, be fitted with a radiotelephone installation complying with the provisions of Regulation 15.

REGULATION 5

Exemptions from Regulation 3

(a) The Contracting Governments consider it highly desirable not to deviate from the application of Regulation 3, nevertheless each Administration may grant to individual passenger and cargo ships belonging to its country exemptions of a partial and/or conditional nature, or complete exemption from the requirements of Regulation 3.

(b) The exemptions permitted under paragraph (a) of this Regulation shall be granted only to a ship engaged on a voyage where the maximum distance of the ship from the shore, the length of the voyage, the absence of general navigational hazards, and other conditions affecting safety are such as to render the full application of Regulation 3 unreasonable or unnecessary.

(c) Each Administration shall submit to the Organisation as soon as possible after the first of January in each year a report showing all exemptions granted under sub-paragraphs (a) and (b) of this Regulation during the previous calendar year.

REGULATION 6

Exemptions from Regulation 4

Each Administration may, if it considers that the route and conditions of the voyage are such as to render a radiotelephone installation unreasonable or unnecessary, exempt ships belonging to its country from the requirements of Regulation 4.

PART B.—WATCHES

REGULATION 7

Watches—Radiotelegraph

(a) (i) Each ship which in accordance with Regulation 3 is required to be fitted with a radiotelegraph installation shall, while at sea, carry at least one qualified operator† and, if not fitted with an auto alarm, shall, subject to the provisions of paragraph (d) of this Regulation, listen continuously on the radiotelegraph distress frequency in the medium frequency band by means of a qualified operator using some aural method.

* NOTE.—The frequencies prescribed at the present time are 500 kc/s (Radiotelegraphy) and, when the Radio Regulations annexed to the International Telecommunication Convention (Atlantic City, 1947) come into force, 2,182 kc/s (Radiotelephony).

† NOTE.—In some countries called radio officer.

SCHEDULE VI.—*continued.*

(ii) However, in order to permit the installation of auto alarms developed in accordance with the specification in Regulation 11 in existing passenger ships below 3,000 tons gross tonnage and existing cargo ships below 5,500 tons gross tonnage, not fitted with an auto alarm, Administrations may on such ships permit the hours of listening to be limited to those shewn in paragraphs (b) and (c) (i) of this Regulation for a period not exceeding two years from the date of coming into force of the present Convention.

Passenger Ships

(b) Each passenger ship which in accordance with Regulation 3 is required to be fitted with a radiotelegraph installation, if fitted with an auto alarm shall, subject to the provisions of paragraph (d) of this Regulation, and while at sea, listen on the radiotelegraph distress frequency in the medium frequency band by means of a qualified operator using some aural method, as follows:—

- (i) if carrying or certificated to carry 250 passengers or less, at least 8 hours listening a day in the aggregate;
- (ii) if carrying or certificated to carry more than 250 passengers and engaged on a voyage exceeding 16 hours duration between two consecutive ports, at least 16 hours listening a day in the aggregate. In this case the ship shall carry at least two qualified operators;
- (iii) if carrying or certificated to carry more than 250 passengers and engaged on a voyage of less than 16 hours duration between two consecutive ports, at least 8 hours listening a day in the aggregate.

Cargo Ships

(c) (i) Each cargo ship which in accordance with Regulation 3 is required to be fitted with a radiotelegraph installation, if fitted with an auto alarm shall, subject to the provisions of paragraph (d) of this Regulation and, while at sea, listen on the radiotelegraph distress frequency in the medium frequency band by means of a qualified operator using some aural method, as follows:—

- (a) if of 5,500 tons gross tonnage and upwards, for at least 8 hours a day in the aggregate;
- (b) if of 1,600 tons gross tonnage and upwards but less than 5,500 tons gross tonnage for at least 8 hours a day in the aggregate. Administrations which on account of their special conditions find it impracticable to impose 8 hours listening shall take steps to ensure the maximum hours of listening possible and not less than 2 hours a day in the aggregate.*

(ii) Each cargo ship of 500 tons gross tonnage and upwards but less than 1,600 tons gross tonnage and fitted with a radiotelegraph installation as a consequence of Regulation 4, shall carry at least one qualified operator and shall, subject to the provisions of paragraph (d) of this Regulation, and while at sea, listen on the radiotelegraph distress frequency in the medium frequency band, by means of a qualified operator using some aural method, during such periods as may be determined by the Administration.

(d) During the period when a qualified operator is required by this Regulation to listen on the distress frequency the operator may discontinue such listening during the time when he is handling traffic on other frequencies, or performing other essential radio duties, but only if it is impracticable to listen by some aural means such as split headphones or loud speaker. When this aural listening is impracticable, the auto alarm if fitted shall be in operation. The provisions of this paragraph shall not relieve the ship from compliance with the provisions of the Radio Regulations in regard to the "silence periods".

(e) In all ships fitted with an auto alarm this auto alarm shall, while the ship is at sea, be in operation whenever there is no listening being done under paragraphs (b), (c) or (d).

* NOTE: The Netherlands Administration find it impracticable to comply entirely with this sub-paragraph, in respect of cargo ships of 1,600 tons gross tonnage and upwards but less than 3,500 tons gross tonnage. Nevertheless this Administration agrees to take steps to ensure the maximum possible hours of listening in such ships.

SCHEDULE VI.—*continued.*

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

REGULATION 8

Watches—Radiotelephone

Each ship which is fitted with a radiotelephone installation in accordance with Regulation 4 shall, for safety purposes, carry at least one qualified operator (who may be a member of the crew holding only a certificate for radiotelephony) and shall, while at sea, listen on the radiotelephone distress frequency in the medium frequency band during such periods as may be determined by the Administration.

PART C.—TECHNICAL REQUIREMENTS

REGULATION 9

Radiotelegraph Stations

(a) The ship's radiotelegraph station shall be so located that no harmful interference from extraneous mechanical or other noise will be caused to the proper reception of radio signals. The station shall be placed as high in the ship as is practicable, so that the greatest possible degree of safety may be secured.

(b) There shall be provided between the radiotelegraph operating room and the bridge and one other place, if any, from which the ship is navigated, an efficient two-way system for calling and voice communication which shall be independent of the main communication system on the ship.

(c) A reliable clock, equipped with a dial not less than 5 inches in diameter and provided with a concentric seconds hand, shall be securely mounted in the radiotelegraph operating room in such a position that the entire dial can be easily and accurately observed by the operator from the telegraph operating position and the auto alarm testing position.

(d) A reliable emergency light shall be provided in the radiotelegraph operating room permanently arranged so as to provide satisfactory illumination of the operating controls of the main and emergency radiotelegraph installations and of the clock required by paragraph (c) of this Regulation.

(e) If a separate emergency radiotelegraph operating room is provided the requirements of paragraphs (b), (c) and (d) shall apply to it.

(f) The ship's radiotelegraph station shall be provided with such spare parts, tools and testing equipment as will enable the radiotelegraph installation to be maintained in efficient working condition while at sea.

REGULATION 10

Radiotelegraph Installations

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

(i) The radiotelegraph installation shall comprise a main installation and an emergency (reserve) installation, electrically separate and electrically independent of each other.

(ii) A main and an emergency aerial shall be provided and installed, provided that the Administration may except any ship from the provision of an emergency aerial if it is satisfied that the fitting of such an aerial is impracticable or unreasonable, but in such case a spare aerial completely assembled for immediate replacement shall be carried.

The main aerial shall be suitably protected against breakage caused by whipping of the mast or masts.

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

(iv) The emergency (reserve) installation shall include an emergency transmitter, emergency receiver, and emergency source of energy.

SCHEDULE VI.—*continued.*

(b) In the case of existing installations on passenger ships the application of the requirement for a separate emergency transmitter and a separate emergency source of energy may, if the main transmitter and main source of energy comply with all the requirements for the emergency transmitter and emergency source of energy as defined in this Regulation, be delayed for a period not exceeding three years from the coming into force of the present Convention.

(c) In the case of—

(i) existing installations on cargo ships, and

(ii) new installations on cargo ships of 500 tons gross tonnage and upwards but less than 1,600 tons gross tonnage,

if the main transmitter and main source of energy comply with all the requirements for the emergency transmitter and the emergency source of energy, the latter are not obligatory.

(d) The main and emergency (reserve) installations shall be capable of being quickly connected with either the main aerial or the emergency aerial if installed.

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

(f) The main and emergency (reserve) transmitters shall be capable of transmitting on the radiotelegraph frequency, and of using a class of emission, assigned by the Radio Regulations for the purpose of distress in the medium frequency band, and shall have a depth of modulation of not less than 70 per cent. In addition, the main transmitter shall be capable of transmitting on the frequencies, and of using a class of emission, assigned by the Radio Regulations for the purpose of safety of navigation in the medium frequency band.

(g) In new installations the main and emergency (reserve) transmitters shall have a note frequency of more than 450 and less than 1,350 cycles per second.

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

	Minimum normal range in miles	
	Main transmitter	Emergency transmitter
All passenger ships, and cargo ships of 1,600 tons gross tonnage and over	150	100
Cargo ships below 1,600 tons gross tonnage ..	100	75

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

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

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

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

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

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

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

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

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

SCHEDULE VI.—*continued.*

(i) (i) The main and emergency receivers shall be capable of receiving the radiotelegraph frequency, and the classes of emission, assigned by the Radio Regulations for the purpose of distress in the medium frequency band.

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

(iii) The auto alarm receiver may be used as the emergency receiver.

(j) The main receiver shall have sufficient sensitivity to produce signals in headphones or by means of a loudspeaker when the receiver input is as low as 100 microvolts. The emergency receiver shall have the same sensitivity except in cases where an approved auto alarm is used as the emergency receiver.

(k) There shall be available at all times, while the ship is at sea, a supply of electrical power sufficient for operating the main installation over the normal range required by paragraph (h) of this Regulation as well as for the purpose of charging any batteries forming part of the radiotelegraph installation. The voltage of the supply for the main installation shall be maintained as near the rated voltage as possible, and if practicable within ± 10 per cent.

(l) The emergency (reserve) installation shall be provided with a source of energy independent of the propelling power of the ship and of the ship's electricity system. The source of energy shall preferably consist of accumulator batteries and shall under all circumstances be capable of being put into operation rapidly and of operating the emergency (reserve) transmitter and receiver for at least six hours continuously under normal working conditions besides any of the additional loads mentioned below.

(m) The emergency source of energy may be used only to supply:

(i) the emergency installation and the automatic alarm signal keying device specified in paragraph (s) of this Regulation;

(ii) the emergency light specified in paragraph (d) of Regulation 9;

(iii) the auto alarm; and

(iv) the direction finder.

(n) Notwithstanding the provisions of paragraph (m) of this Regulation, in cargo ships, an Administration may authorise the use of the emergency source of energy for a small number of low-power emergency circuits which are wholly confined to the upper part of the ship, such as emergency lighting on the boat deck, on condition that these can be readily disconnected if necessary.

(o) The emergency source of energy and its switchboard shall be readily accessible to the radio operator and shall wherever possible be placed in close proximity to a radio room.

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

(q) The radiotelegraph installation shall be provided with a device permitting changeover from transmission to reception and *vice versa* without manual switching. The application of this requirement may be delayed for one year after the date of the coming into force of the present Convention.

(r) All steps shall be taken to eliminate so far as is possible the causes of, and to suppress, radio interference from electrical and other apparatus on board.

(s) In addition to means for manually transmitting the auto alarm signal, an automatic alarm signal keying device shall be provided, capable of automatically keying the main and the emergency (reserve) installation so as to transmit the alarm signal. If electrically operated, this keying device shall be capable of operation from the emergency power supply. The application of this requirement may be delayed for two years after the date of the coming into force of the present Convention.

(t) At sea, if not used for communications, the emergency transmitter shall be tested daily using a suitable artificial aerial, and at least once during each voyage using the emergency aerial if installed. The emergency power supply shall also be tested daily.

SCHEDULE VI.—*continued.*

(u) Notwithstanding the provisions of Regulation 4, an Administration may, in the case of cargo ships below 1,600 tons gross tonnage, relax the full requirements of Regulation 9 and this Regulation, provided that the standard of the installation shall in no case fall below the equivalent of that prescribed under Regulation 15 for radiotelephone installations so far as applicable.

REGULATION 11

Auto Alarms

(a) Any new type of auto alarm which is approved after the date of coming into force of the present Convention for use in accordance with the present Regulations shall comply with the following minimum requirements:—

- (i) In the absence of interference of any kind it must be capable of being operated, without manual adjustment, by any alarm signal transmitted on the radiotelegraph distress frequency in the medium frequency band using the classes of emission assigned by the Radio Regulations for the alarm signal, provided that the frequency does not vary more than 8 kc/s from the nominal frequency and the strength of the signal at the receiver input is greater than 100 microvolts and less than 1 volt.
- (ii) In the absence of interference of any kind it shall be operated by either three or four consecutive dashes when the dashes vary in length from 3.5 to as near 6 seconds as possible and the spaces vary in length between 1.5 seconds and the lowest practicable value, preferably not greater than 10 milliseconds.
- (iii) It must not be actuated by atmospherics or by any signal other than the alarm signal, provided that the received signals do not in fact constitute a signal falling within the tolerance limits indicated in (ii).
- (iv) The selectivity of the auto alarm shall be such as to provide a practically uniform sensitivity within 8 kc/s on each side of the distress frequency and to provide outside this band a sensitivity which decreases as rapidly as possible, in conformity with the best engineering practice.
- (v) If practicable, the auto alarm in the presence of atmospherics or interfering signals shall automatically adjust itself so that within a reasonably short time it approaches the condition in which it can most readily distinguish the alarm signal.
- (vi) When operated by an alarm signal, or in the event of failure of the apparatus, the auto alarm shall cause a continuous audible warning to be given in the radiotelegraph operating room, in the radio operator's cabin, and on the bridge. If practicable, warning shall also be given in the case of failure of any part of the whole alarm receiving system. Only one switch for stopping the warning shall be provided and this shall be situated in the radiotelegraph operating room.
- (vii) For the purpose of regularly testing the auto alarm, the apparatus shall include a generator pre-tuned to the distress frequency and a keying device by means of which an alarm signal of the minimum strength indicated in (i) is produced.
- (viii) The auto alarm shall be capable of withstanding vibration, humidity, and changes of temperature, equivalent to severe conditions experienced on board ships at sea, and shall continue to operate under such conditions.

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

(c) In ships fitted with an auto alarm the radio operator shall test the efficiency of the auto alarm at least once every 24 hours while at sea and report to the master or the officer on watch on the bridge whether or not it is in working order.

SCHEDULE VI.—*continued.*

REGULATION 12

Direction finders

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

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

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

(d) Efficient communication shall be provided between the direction-finding apparatus and the bridge.

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

REGULATION 13

Radio Equipment for fitting in Motor Lifeboats

(a) The apparatus required by Regulation 25 of Chapter III shall be capable of transmitting and receiving on the radiotelegraph frequency assigned by the Radio Regulations for the purpose of distress in the medium frequency band. The transmitter shall be capable of using a class of emission assigned by the Radio Regulations for the purpose of distress in the medium frequency band and shall be modulated to a depth of at least 70 per cent. The receiver shall be capable of receiving the classes of emission assigned by the Radio Regulations for the purpose of distress in the medium frequency band. In new installations the apparatus shall also be capable of transmitting on the high frequency and the class of emission prescribed for survival craft by the Radio Regulations. An Administration may delay the application of the requirement for high frequency for a period not exceeding one year from the date of coming into force of the present Convention.

(b) The apparatus shall be so designed that it can be used in an emergency by an unskilled person. The transmitter shall be fitted with an automatic keying device for the transmission of the alarm signal and the distress signal, as well as a key for manual transmissions. An Administration may delay the application of the requirement for an automatic keying device for a period not exceeding one year from the date of coming into force of the present Convention.

(c) A fixed-type aerial shall be provided together with means for supporting it at the maximum practicable height. In addition an aerial supported by a kite or balloon shall be provided if practicable.

(d) On the distress frequency the transmitter shall have a minimum normal range (as defined in paragraph (h) of Regulation 10) of 25 miles using the fixed aerial.*

(e) In new installations the note frequency shall be between 450 and 1,350 cycles per second.

(f) The radio apparatus shall be operated from an accumulator battery with sufficient capacity to supply the transmitter for four hours continuously under normal working conditions. If the battery is of a type that requires charging, means shall be available for charging the battery from the ship's power supply. In addition there shall be means for charging the battery after the lifeboat has been launched.

* In the absence of a measurement of the field strength, it may be assumed that this range will be obtained if the product of the height of the aerial above the water line and the aerial current is 10 metre-amperes.

SCHEDULE VI.—*continued.*

(g) When the power for the radio apparatus and the searchlight are drawn from the same battery, the battery shall have sufficient capacity to provide for the additional load of the searchlight.

(h) At sea a qualified operator shall at weekly intervals bring the battery up to full charge if the battery is of a type which requires charging, and in any case shall test the transmitter using a suitable artificial aerial.

REGULATION 14

Lifeboat Portable Radio Apparatus

(a) The apparatus required by Regulation 13 of Chapter III shall be capable of transmitting and receiving on the radiotelegraph frequency assigned by the Radio Regulations for the purpose of distress in the medium frequency band. The transmitter shall be capable of using a class of emission assigned by the Radio Regulations for the purpose of distress in the medium frequency band and shall be modulated to a depth of at least 70 per cent. The receiver shall be capable of receiving the classes of emission assigned by the Radio Regulations for the purpose of distress in the medium frequency band. In new equipment the apparatus shall also be capable of transmitting on the high frequency and the class of emission prescribed for survival craft by the Radio Regulations. An Administration may delay the application of the requirement for high frequency in the case of new equipment for a period not exceeding one year from the date of coming into force of the present Convention.

(b) The apparatus shall be so designed that it may be used in an emergency by an unskilled person. The transmitter shall be fitted with an automatic keying device for the transmission of the alarm signal and the distress signal, as well as a key for manual transmissions. An Administration may delay the application of the requirement for an automatic keying device in the case of new equipment for a period not exceeding one year from the date of coming into force of the present Convention, and in the case of existing equipment for a period not exceeding three years from the date of coming into force of the present Convention.

(c) In new equipment, the note frequency shall be between 450 and 1,350 cycles per second.

(d) The apparatus shall be readily portable, watertight and capable of floating in sea water and also capable of being dropped into the sea without damage.

(e) The transmitter shall have at least 10 watts input to the anode of the final stage, and shall preferably derive its power from a hand generator. If operated from batteries these shall comply with conditions laid down by the Administration to ensure that the batteries are of a durable type and are of sufficient capacity.

(f) An aerial shall be included, either self-supporting or capable of being supported by the mast of the lifeboat at the maximum practicable height.

(g) At sea a qualified operator shall at weekly intervals bring the battery up to full charge if the battery is of a type which requires charging and in any case shall test the transmitter, using a suitable artificial aerial.

(h) For the purpose of this Regulation, new equipment means equipment supplied to a ship after the present Convention comes into force.

REGULATION 15

Radiotelephone Installations

(a) The ship's radiotelephone station shall be in the upper part of the ship, and, unless situated on the bridge, there shall be efficient communication with the bridge.

(b) The installation shall be capable of transmitting and receiving radiotelephony on the radiotelephone distress frequency and on at least one other frequency available for maritime radiotelephone stations in the medium frequency band under the Radio Regulations. In normal operation the depth of modulation shall be at least 70 per cent. at peak intensity.

SCHEDULE VI.—*continued*.

(c) The transmitter shall have a minimum normal range of 150 miles, *i.e.*, it shall be capable of transmitting clearly perceptible signals from ship to ship by day and under normal conditions and circumstances over this range. (Clearly perceptible signals will normally be received if the R.M.S. value of the field strength produced at the receiver by the unmodulated carrier is at least 25 microvolts per metre).*

(d) The receiver shall have sufficient sensitivity to receive an incoming signal as low as 50 microvolts by means of a loudspeaker.

(e) While the ship is at sea, there shall be available at all times a source of energy sufficient to operate the installation over the normal range required by paragraph (c) of this Regulation. If batteries are provided they shall have sufficient capacity to operate the transmitter and receiver for at least six hours continuously under normal working conditions. In new installations an emergency source of energy shall be provided in the upper part of the ship unless the main source of energy is so situated.

(f) While at sea the batteries (if provided) shall be kept charged so as to meet the requirement of paragraph (e) of this Regulation.

PART D.—RADIO LOG

REGULATION 16

Radio Log

The radio log (diary of the radio service) required by the Radio Regulations shall be kept in the radio operating room during the voyage. It shall be available for inspection by the officers authorised by the Administration to make such inspections. Every radio operator shall enter in the radio log his name, the times at which he goes on and off watch, and all incidents occurring during his watch connected with the radio service which may appear to be of importance to safety of life at sea. In addition to the entries required by the Radio Regulations there shall be entered in the radio log:—

Radiotelegraph Log

- (i) details of the maintenance, including a record of the charging, of the batteries in such form as may be prescribed by the Administration;
- (ii) a daily statement that the requirement of paragraph (p) of Regulation 10 has been fulfilled;
- (iii) details of tests of the emergency transmitter and emergency power supply made under paragraph (t) of Regulation 10;
- (iv) in ships fitted with an auto alarm details of tests made under paragraph (c) of Regulation 11;
- (v) details of the maintenance, including a record of the charging, of the batteries (if applicable), and tests of the transmitters fitted in motor lifeboats, under paragraph (h) of Regulation 13;
- (vi) details of the maintenance, including a record of the charging, of the batteries (if applicable), and tests of lifeboat portable transmitters under paragraph (g) of Regulation 14;

Radiotelephone Log

- (vii) in ships fitted with a radiotelephone installation details of the maintenance, including a record of the charging, of the batteries (if provided), under paragraph (f) of Regulation 15;
- (viii) details of the maintenance, including a record of the charging, of the batteries (if applicable), and tests of lifeboat portable transmitters under paragraph (g) of Regulation 14.

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

SCHEDULE VI.—*continued.*

CHAPTER V.—SAFETY OF NAVIGATION

REGULATION 1

Application

Notwithstanding the provisions of Regulation 3 of Chapter I, this Chapter, unless otherwise expressly provided in this Chapter, refers to all ships on all voyages, except ships of war.

REGULATION 2

Danger Messages

(a) The master of every ship which meets with dangerous ice, a dangerous derelict, or any other direct danger to navigation, or a tropical storm, is bound to communicate the information by all the means at his disposal to ships in the vicinity, and also to the competent authorities at the first point on the coast with which he can communicate. The form in which the information is sent is not obligatory. It may be transmitted either in plain language (preferably English) or by means of the International Code of Signals (Radio Section). It should be broadcast to all ships in the vicinity and sent to the first point on the coast to which communication can be made, with a request that it be transmitted to the appropriate authorities.

(b) Each Administration will take all steps which it thinks necessary to ensure that when intelligence of any of the dangers specified in paragraph (a) is received, it will be promptly brought to the knowledge of those concerned and communicated to other Administrations interested.

(c) The transmission of messages respecting the dangers specified is free of cost to the ships concerned.

(d) All messages issued under this Regulation shall be preceded by the Safety Signal, using the procedure as prescribed by the Radio Regulations.

REGULATION 3

Information required in Danger Messages

The following information is desired in danger messages, the time in all cases being Greenwich Mean Time:

(a) Ice, Derelicts and other Direct Dangers to Navigation.

- (i) the kind of ice, derelict or danger observed;
- (ii) the position of the ice, derelict or danger when last observed;
- (iii) the time and date when the observation was made.

(b) Tropical Storms—(Hurricanes in the West Indies, Typhoons in the China Sea, Cyclones in Indian waters, and storms of a similar nature in other regions).

(i) A statement that a tropical storm has been encountered. This obligation should be interpreted in a broad spirit, and information transmitted whenever the master has good reason to believe that a tropical storm exists in his neighbourhood.

(ii) Meteorological Information. Each shipmaster should add to his warning message as much of the following meteorological information as he finds practicable:—

- the Greenwich Mean Time, date and position of the ship when the observations were taken;
- barometric pressure (stating millibars, inches, or millimetres, and whether corrected or uncorrected);
- barometric tendency (the change in barometric pressure during the past three hours);
- true wind direction;
- wind force (Beaufort scale);
- state of the sea (smooth, moderate, rough, high);
- swell (slight, moderate, heavy) and the true direction from which it comes. Period or length of swell (short, average, long) would also be of value;
- true course and speed of ship.

(c) Subsequent Observations. When a master has reported a tropical or other dangerous storm, it is desirable, but not obligatory, that other

SCHEDULE VI.—*continued.*

observations be made and transmitted hourly, if practicable, but in any case at intervals of not more than three hours, so long as the ship remains under the influence of the storm.

*Examples***Ice**

TTT Ice. Large berg sighted in 4605 N., 4410 W., at 0800 GMT, May 15.

Derelicts

TTT Derelict. Observed derelict almost submerged in 4006 N., 1243 W., at 1630 GMT. April 21.

Danger to Navigation

TTT Navigation. Alpha lightship not on station. 1800 GMT. January 3.

Tropical Storm

TTT Storm. 0030 GMT. August 18. 2204 N., 11354 E. Barometer corrected 994 millibars, tendency down 6 millibars. Wind NW., force 9, heavy squalls. Heavy easterly swell. Course 067, 5 knots.

TTT Storm. Appearances indicate approach of hurricane. 1300 GMT. September 14. 2200 N., 7236 W. Barometer corrected 29.64 inches, tendency down .015 inches. Wind NE., force 8, frequent rain squalls. Course 035, 9 knots.

TTT Storm. Conditions indicate intense cyclone has formed. 0200 GMT. May 4. 1620 N., 9203 E. Barometer uncorrected 753 millimetres, tendency down 5 millimetres. Wind S. by W., force 5. Course 300, 8 knots.

TTT Storm. Typhoon to southeast. 0300 GMT. June 12. 1812 N., 12605 E. Barometer falling rapidly. Wind increasing from N.

REGULATION 4

Meteorological Services

(a) The Contracting Governments undertake to encourage the collection of meteorological data by ships at sea and to arrange for their examination, dissemination and exchange in the manner most suitable for the purpose of aiding navigation. Administrations shall encourage the use of instruments of a high degree of accuracy, and shall facilitate the checking of such instruments upon request.

(b) In particular, the Contracting Governments undertake to co-operate in carrying out, as far as practicable, the following meteorological arrangements:—

- (i) To warn ships of gales, storms and tropical storms, both by the issue of radio messages and by the display of appropriate signals at coastal points.
- (ii) To issue daily, by radio, weather bulletins suitable for shipping, containing data of existing weather and ice conditions, forecasts, and when practicable, sufficient additional information to enable simple weather charts to be prepared at sea.
- (iii) To prepare and issue such publications as may be necessary for the efficient conduct of meteorological work at sea.
- (iv) To arrange for selected ships to be equipped with tested instruments (such as a barometer, a barograph, a psychrometer, and suitable apparatus for measuring sea temperature) for use in this service, and to take meteorological observations at standard synoptic hours (at least four times daily, whenever circumstances permit) and to encourage other ships to take observations in a modified form, particularly when in areas where shipping is sparse; these ships to transmit their observations by radio for the benefit of the various official meteorological services, repeating the information for the benefit of ships in the vicinity. When in the vicinity of a tropical storm, or of a suspected tropical storm, ships should be encouraged to take and transmit their observations at more frequent intervals whenever practicable, bearing in mind navigational preoccupations of ships' officers during storm conditions.

SCHEDULE VI.—*continued.*

- (v) To arrange for the reception and transmission by coast radio stations of weather messages from and to ships. Ships which are unable to communicate direct with shore shall be encouraged to relay their weather messages through ocean weather ships or through other ships which are in contact with shore.
 - (vi) To encourage all masters to inform ships in the vicinity and also shore stations whenever they experience a wind speed of 50 knots or more (force 10 on the Beaufort scale).
 - (vii) To endeavour to obtain a uniform procedure in regard to the international meteorological services already specified, and, as far as is practicable, to conform to the recommendations made by the International Meteorological Organisation, to which the Contracting Governments may refer for study and advice any meteorological question which may arise in carrying out the present Convention.
- (c) The information provided for in this Regulation shall be furnished in form for transmission and transmitted in the order of priority prescribed by the Radio Regulations, and during transmission "to all stations" of meteorological information, forecasts and warnings, all ship stations must conform to the provisions of the Radio Regulations.
- (d) Forecasts, warnings, synoptic and other meteorological reports intended for ships shall be issued and disseminated by the national service in the best position to serve various zones and areas, in accordance with mutual arrangements made by the Contracting Governments concerned.

REGULATION 5

Ice Patrol Service

(a) The Contracting Governments undertake to continue an ice patrol and a service for study and observation of ice conditions in the North Atlantic. During the whole of the ice season the south-eastern, southern and south-western limits of the regions of icebergs in the vicinity of the Grand Banks of Newfoundland shall be guarded for the purpose of informing passing ships of the extent of this dangerous region; for the study of ice conditions in general; and for the purpose of affording assistance to ships and crews requiring aid within the limits of operation of the patrol ships. During the rest of the year the study and observation of ice conditions shall be maintained as advisable.

(b) Ships and aircraft used for the ice patrol service and the study and observation of ice conditions may be assigned other duties by the managing Government, provided that such other duties do not interfere with their primary purpose or increase the cost of this service.

REGULATION 6

Ice Patrol. Management and Cost

(a) The Government of the United States of America agrees to continue the management of the ice patrol service and the study and observation of ice conditions, including the dissemination of information received therefrom. The Contracting Governments specially interested in these services undertake to contribute to the expense of maintaining and operating these services; each contribution to be based, as far as practicable, upon the total gross tonnage of the vessels of each contributing Government passing through the regions of icebergs guarded by the Ice Patrol. The Maritime Safety Committee is invited to undertake studies of these tonnages for the purpose of advising the contributing Governments. The Contracting Governments specially interested undertake to contribute to the expense of maintaining and operating these services in the proportions of their respective contributions as agreed to under the terms of the International Convention for the Safety of Life at Sea, 1929, until such contributions are modified as provided for in this Regulation.

(b) Each of the contributing Governments has the right to alter or discontinue its contribution, and other Contracting Governments may undertake to contribute to the expense. The contributing Government which avails itself of this right will continue responsible for its current contribution up to

SCHEDULE VI.—*continued.*

the 1st September following the date of giving notice of intention to alter or discontinue its contribution. To take advantage of the said right it must give notice to the managing Government at least six months before the said 1st September.

(c) If, at any time, the United States Government should desire to discontinue these services, or if one of the contributing Governments should express a wish to relinquish responsibility for its pecuniary contribution, or to have its contribution altered, or another Contracting Government should desire to undertake to contribute to the expense, the contributing Governments shall settle the question in accordance with their mutual interests.

(d) The contributing Governments shall have the right by common consent to make from time to time such alterations in the provisions of this Regulation and of Regulation 5 as appear desirable.

(e) Where this Regulation provides that a measure may be taken after agreement among the contributing Governments, proposals made by any Contracting Government for effecting such a measure shall be communicated to the managing Government which shall approach the other contributing Governments with a view to ascertaining whether they accept such proposals, and the results of the enquiries thus made shall be sent to the other contributing Governments and the Contracting Government making the proposals. In particular, the scale of contributions to the cost of the services to be made by the Contracting Governments specially interested shall be reviewed by those Governments in consultation at intervals not exceeding three years. The managing Government shall initiate the action necessary to this end.

REGULATION 7

Speed Near Ice

When ice is reported on or near his course the master of every ship at night is bound to proceed at a moderate speed or to alter his course so as to go well clear of the danger zone.

REGULATION 8

North Atlantic Routes

(a) The practice of following recognised routes across the North Atlantic in both directions has contributed to safety of life at sea and should be recommended to all ships.

(b) The selection of the routes and the initiation of action with regard to them is left to the responsibility of the shipping companies concerned. The Contracting Governments will assist the companies, when requested to do so, by placing at their disposal any information bearing on the routes which may be in the possession of the Governments.

(c) The Contracting Governments undertake to impose on the companies the obligation to give public notice of the regular routes which they propose their ships should follow, and of any changes made in these routes; they will also use their influence to induce the owners of all ships crossing the Atlantic to follow, so far as circumstances will permit, the recognised routes, and to induce the owners of all ships crossing the Atlantic bound to or from ports of the United States or Canada via the vicinity of the Grand Banks of Newfoundland to avoid, as far as practicable, the fishing banks of Newfoundland north of latitude 43° N. during the fishing season, and to pass outside regions known or believed to be endangered by ice.

(d) The Government managing the ice patrol service is requested to report to the Administration concerned any ship which is observed not to be on any regular, recognised or advertised route, or which crosses the above-mentioned fishing banks during the fishing season, or which, when proceeding to or from parts of the United States or Canada, passes through regions known or believed to be endangered by ice.

SCHEDULE VI.—*continued.*

REGULATION 9

Misuse of Distress Signals

The use of an international distress signal, except for the purpose of indicating that a ship or aircraft is in distress, and the use of any signal which may be confused with an international distress signal, are prohibited on every ship or aircraft.

REGULATION 10

Distress Messages—Procedure

(a) The master of a ship at sea, on receiving a signal from any source that a ship or aircraft or survival craft thereof is in distress, is bound to proceed with all speed to the assistance of the persons in distress informing them if possible that he is doing so. If he is unable or, in the special circumstances of the case, considers it unreasonable or unnecessary to proceed to their assistance, he must enter in the logbook the reason for failing to proceed to the assistance of the persons in distress.

(b) The master of a ship in distress, after consultation, so far as may be possible, with the masters of the ships which answer his call for assistance, has the right to requisition such one or more of those ships as he considers best able to render assistance, and it shall be the duty of the master or masters of the ship or ships requisitioned to comply with the requisition by continuing to proceed with all speed to the assistance of persons in distress.

(c) The master of a ship shall be released from the obligation imposed by paragraph (a) of this Regulation when he learns that one or more ships other than his own have been requisitioned and are complying with the requisition.

(d) The master of a ship shall be released from the obligation imposed by paragraph (a) of this Regulation, and, if his ship has been requisitioned, from the obligation imposed by paragraph (b) of this Regulation, if he is informed by the persons in distress or by the master of another ship which has reached such persons that assistance is no longer necessary.

(e) The provisions of this Regulation do not prejudice the International Convention for the unification of certain rules with regard to Assistance and Salvage at Sea, signed at Brussels on the 23rd September, 1910, particularly the obligation to render assistance imposed by Article 11 of that Convention.

REGULATION 11

Signalling Lamps

All ships of over 150 tons gross tonnage, when engaged on international voyages, shall have on board an efficient daylight signalling lamp.

REGULATION 12

Direction-Finding Apparatus

(a) All ships of 1,600 tons gross tonnage and upwards, when engaged on international voyages, shall be fitted with direction-finding apparatus complying with the provisions of Regulation 12 of Chapter IV, but the provision of such apparatus on ships between 1,600 and 5,000 tons gross tonnage may be deferred for a period of 2 years from the date on which the present Convention comes into force if in the opinion of the Administration this is necessary.

(b) An Administration may, in areas where it considers it unreasonable or unnecessary for such apparatus to be carried, exempt any ships under 5,000 tons gross tonnage from this requirement, due regard being had to the fact that direction-finding apparatus is of value both as a navigational instrument and as an aid to locating ships, aircraft or survival craft.

REGULATION 13

Manning

The Contracting Governments undertake, each for its national ships, to maintain, or, if it is necessary, to adopt, measures for the purpose of ensuring that, from the point of view of safety of life at sea, all ships shall be sufficiently and efficiently manned.

SCHEDULE VI.—*continued.*

REGULATION 14

Aids to Navigation

The Contracting Governments undertake to arrange for the establishment and maintenance of such aids to navigation, including radio beacons and electronic aids as, in their opinion, the volume of traffic justifies and the degree of risk requires, and to arrange for information relating to these aids to be made available to all concerned.

REGULATION 15

Search and Rescue

(a) Each Contracting Government undertakes to ensure that any necessary arrangements are made for coast watching and for the rescue of persons in distress at sea round its coasts. These arrangements should include the establishment, operation and maintenance of such maritime safety facilities as are deemed practicable and necessary having regard to the density of the seagoing traffic and the navigational dangers and should, so far as possible, afford adequate means of locating and rescuing such persons.

(b) Each Contracting Government undertakes to make available information concerning its existing rescue facilities and the plans for changes therein, if any.

REGULATION 16

Life-Saving Signals

The following signals shall be used by life-saving stations when communicating with ships in distress and by ships in distress when communicating with life-saving stations:—

(a) *Replies from shore station to distress signals made by a ship:—*

<i>Signal</i>	<i>Signification</i>
—By day—White smoke signal.	} “You are seen—assistance will be given as soon as possible.”
By night—White star rocket.	

(b) *Landing signals for the guidance of small boats bringing away the crew of a wrecked ship:—*

<i>Signal</i>	<i>Signification</i>
—By day—Vertical motion of a white flag or the arms.	} “This is the best place to land.”
By night—Vertical motion of a white light or flare. A range (indication of direction) may be given by placing a steady white light or flare lower and in line with the observer.	
—By day—Horizontal motion of a white flag or arms extended horizontally.	} “Landing here highly dangerous.”
By night—Horizontal motion of a white light or flare.	
—By day—Horizontal motion of a white flag, followed by the placing of the white flag in the ground and the carrying of another white flag in the direction to be indicated.	} “Landing here highly dangerous. A more favourable location to land is in the direction indicated.”
By night—Horizontal motion of a white light or flare, followed by the placing of the white light or flare on the ground and the carrying of another white light or flare in the direction to be indicated.	

SCHEDULE VI.—*continued.*

(c) *Signals to be employed in connexion with the use of shore life-saving apparatus:—*

<i>Signal</i>	<i>Signification</i>
—By day—Vertical motion of a white flag or the arms.	In general—"Affirmative." Specifically:— "Rocket line is held." "Tail block is made fast." "Hawser is made fast." "Man is in the breeches buoy." "Haul away."
By night—Vertical motion of a white light or flare.	
—By day—Horizontal motion of a white flag or arms extended horizontally.	
By night—Horizontal motion of a white light or flare.	
	In general—"Negative." Specifically:— "Slack away." "Avast hauling."

REGULATION 17

Pilot Ladders

All ships engaged on voyages in which pilots are likely to be embarked should comply with the following requirements respecting pilot ladders:—

- (a) The ladder should be kept in good order and used as far as possible only for embarking and disembarking pilots and other officials while a ship is arriving at or leaving a port.
- (b) The ladder should be of adequate length and strength.
- (c) The treads should be of adequate width.
- (d) Two man-ropes, properly secured, should, where circumstances so require, be used in conjunction with the ladders.
- (e) Arrangements should be such that the pilot can safely pass from the head of the ladder to the ship's deck.
- (f) Spreaders at suitable intervals should be provided, if necessary, to prevent the ladder twisting.
- (g) At night, a light shining overside should be available and used.

CHAPTER VI.—CARRIAGE OF GRAIN AND DANGEROUS GOODS

REGULATION 1

Application

Unless expressly provided otherwise, this Chapter applies to ships to which the present Regulations apply.

REGULATION 2

Carriage of Grain

(a) The term "grain" includes wheat, maize (corn), oats, rye, barley, rice, pulses, and seeds.

(b) Where grain is loaded in a ship, all necessary and reasonable precautions shall be taken to prevent the grain from shifting.

(c) Any compartment which is entirely filled with loose grain in bulk shall be:—

- (i) fed by properly constructed feeders which shall contain not less than $2\frac{1}{2}$ per cent. nor more than 8 per cent. of the capacity of the compartment served, and
- (ii) divided by a longitudinal bulkhead or shifting boards, which shall be properly secured and fitted grain tight with proper fillers (fillings) between the beams. In holds such shifting boards shall extend downwards from the underside of the deck to a distance of at least one-third of the depth of the hold or 8 feet, whichever is the greater. In 'tween deck compartments they shall extend from deck to deck. In all cases they shall extend to the top of the feeders of the hold or compartment in which they are situated.

SCHEDULE VI.—*continued*.

(d) In any compartment which is partially filled with loose grain in bulk, the grain shall be levelled and topped off with bagged grain or other suitable cargo extending to a height of not less than 4 feet above the top of the loose grain in bulk and supported on suitable platforms laid over the whole surface of the loose grain in bulk. In addition, the compartment shall be divided by a longitudinal bulkhead or shifting boards in line with the keel which shall extend from the bottom of the hold or deck as the case may be to a height sufficient to prevent the shifting of the loose grain in bulk. The fitting of a longitudinal bulkhead or shifting boards shall not be required if the grain in bulk does not exceed one-third the capacity of the compartment or, in the case of a compartment divided by a shaft tunnel, one-half the capacity of that compartment.

(e) Loose grain in bulk other than oats, light barley, and cotton seed shall not be carried in the 'tween decks of a two-deck ship, or in the uppermost 'tween decks of ships having more than two decks, except in properly constructed feeders as necessary for feeding the lower compartments. Loose grain in bulk may be carried in positions not otherwise permitted under this Regulation provided that:—

- (i) It is carried in one or more bins, which shall be properly constructed and provided with feeders in accordance with the provisions of paragraph (c) (i).
- (ii) The hold or compartment below the bin or bins is properly battened down, clear of the feeder to such hold or compartment.
- (iii) The quantity of grain so carried does not exceed the capacity fixed by the Administration.

(f) Each Administration may, if it considers that the sheltered nature and conditions of the voyage are such as to render the application of any of the requirements of paragraphs (c) and (d) of this Regulation unreasonable or unnecessary, exempt from those particular requirements individual ships or classes of ships.

REGULATION 3

Carriage of Dangerous Goods

(a) The term "dangerous goods" includes:—

- (i) explosives;
- (ii) compressed, liquefied and dissolved gases;
- (iii) corrosives;
- (iv) poisons;
- (v) substances giving off inflammable vapours;
- (vi) substances which become dangerous by interaction with water or air;
- (vii) strong oxidising agents;
- (viii) substances which are liable to spontaneous combustion;
- (ix) any other substance which experience has shown, or may show, to be of such a dangerous character that the provisions of this Regulation should apply to it.

(b) The carriage of dangerous goods is prohibited except in accordance with the provisions of this Regulation.

(c) Explosives other than the following may not be carried on passenger ships:—

- (i) safety cartridges and safety fuses;
- (ii) small quantities of explosives not exceeding 20 lbs. in the aggregate;
- (iii) explosives up to a total of 10 cwt. in approved packages on the deck of a passenger ship on a short voyage.

(d) Notwithstanding the provisions of paragraph (c), explosives may be carried on passenger ships on which there are special approved safety measures.

(e) On ships carrying inflammable liquids adequate precautions shall be taken against fire or explosion.

(f) Substances which are liable to spontaneous combustion (including fodder and other vegetable products especially if damp) shall not be carried unless adequate precautions have been taken to prevent outbreak of fire.

SCHEDULE VI.—*continued.*

(g) Dangerous goods tendered to a ship for transportation shall be accompanied by a written statement by the shipper correctly describing the shipment according to the classification used in paragraph (a) of this Regulation.

(h) Except for parcels of mixed chemicals in limited quantities, shipments of dangerous goods shall be marked with a distinctive label or stencil which shall indicate their dangerous character. Each package of the shipment shall be so marked except in the case of a large shipment which can be stowed and identified as a unit.

(i) Each ship carrying dangerous goods shall carry a special list setting forth, in accordance with paragraph (a) of this Regulation, the dangerous goods on board.

(j) Each Contracting Government shall issue, or cause to be issued, detailed rules to supplement the provisions of this Regulation. Such detailed rules shall provide for the packing and stowage of dangerous goods when carried with other commodities, and for the stowage of various categories of dangerous goods.

(k) The provisions of this Regulation do not apply to ship's stores and equipment.

APPENDIX

Form of Safety Certificate for Passenger Ships

SAFETY CERTIFICATE

(Official Seal)

(Country)

for $\frac{\text{an}}{\text{a short}}$ international voyage.

Issued under the provisions of the

INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1948

Name of Ship	Distinctive Number or Letters	Port of Registry	Gross Tonnage	Particulars of voyages, if any, sanctioned under Regulation 22 (c) of Chapter III

The
I, the undersigned

(Name) Government certifies
(Name) certify

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

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

- (1) the structure, main and auxiliary boilers and machinery;
- (2) the watertight subdivision arrangements and details;

SCHEDULE VI.—*continued.*

(3) the following subdivision loadlines:—

Subdivision loadlines assigned and marked on the ship's side at amidships (Regulation 10 of Chapter II)	Freeboard	To apply when the spaces in which passengers are carried include the following alternative spaces
C. 1
C. 2
C. 3

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

..... lifeboats (including motor lifeboats or mechanically propelled lifeboats) capable of accommodating persons, and motor lifeboats fitted with radiotelegraph installation and searchlight (included in the total lifeboats shown above), requiring certificated lifeboatmen;
 liferafts capable of accommodating persons;
 buoyant apparatus capable of supporting persons;
 lifebuoys;
 lifejackets;

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

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

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

—	Requirements of Regulation	Actual provision
Hours of listening by operator
Number of operators
Whether auto-alarm fitted
Whether main installation fitted
Whether emergency installation fitted
Whether main and emergency transmitters electrically separated or combined
Whether direction-finder fitted
Number of passengers for which certificated

VII. That the ship complied with the requirements of the Regulations, as regards fire-detecting and fire-extinguishing appliances and was provided with navigation lights and shapes, and means of making sound signals and distress signals, in accordance with the provisions of the Regulations and also the International Collision Regulations.

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

This certificate is issued under the authority of the Government.
 It will remain in force until

Issued at the day of 19 ..

SCHEDULE VI.—*continued.*

Here follows the seal or signature of the authority entitled to issue the certificate.

(Seal)

If signed, the following paragraph is to be added:—

The undersigned declares that he is duly authorised by the said Government to issue this Certificate.

(Signature)

Form of Certificate for Cargo Ships
SAFETY EQUIPMENT CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1948

Name of Ship	Distinctive Number or Letters	Port of Registry	Gross Tonnage

The
I, the undersigned

(Name) Government certifies
(Name) certify

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

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

.....lifeboats on port side capable of accommodating.....persons.

.....lifeboats on starboard side capable of accommodating.....persons.

.....motor lifeboats and/or mechanically propelled lifeboats (included in the total lifeboats shown above).

.....lifebuoys.

.....lifejackets.

III. That the lifeboats were equipped in accordance with the provisions of the Regulations annexed to the Convention.

IV. That the ship was provided with a line-throwing apparatus and lifeboat portable radio apparatus in accordance with the provisions of the Regulations.

V. That the inspection showed that the ship complied with the requirements of the said Convention as regards fire-extinguishing appliances and was provided with navigation lights and shapes and means of making sound signals and distress signals, in accordance with the provisions of the Regulations and the International Collision Regulations.

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

This certificate is issued under the authority of the Government. It will remain in force until

Issued at the day of 19 .

Here follows the seal or signature of the authority entitled to issue the certificate.

(Seal)

If signed, the following paragraph is to be added:—

The undersigned declares that he is duly authorised by the said Government to issue this Certificate.

(Signature)

No. 96.

Navigation.

1953.

SCHEDULE VI.—continued.

Form of Safety Radiotelephony Certificate

SAFETY RADIOTELEPHONY CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1948

Name of Ship	Distinctive Number or Letters	Port of Registry	Gross Tonnage

The (Name) Government certifies
I, the undersigned, (Name) certify

That the above-mentioned ship complies with the provisions of the
Regulations annexed to the Convention referred to above as regards Radio-
telephony:—

	Requirements of Regulations	Actual provision
Hours of listening by operator
Number of operators

This certificate is issued under the authority of the
Government. It will remain in force until

Issued at the day of 19 .

Here follows the seal or signature of the authority entitled to issue this
certificate.

(Seal)

If signed, the following paragraph is to be added:—

The undersigned declares that he is duly authorised by the said Government
to issue this Certificate.

(Signature)

Form of Safety Radiotelegraphy Certificate

SAFETY RADIOTELEGRAPHY CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1948

Name of Ship	Distinctive Number or Letters	Port of Registry	Gross Tonnage

The (Name) Government certifies
I, the undersigned, (Name) certify

SCHEDULE VI.—*continued.*

That the above-mentioned ship complies with the provisions of the Regulations annexed to the Convention referred to above as regards Radio-telegraphy:—

	Requirements of Regulations	Actual provision
Hours of listening by operator
Number of operators
Whether autoalarm fitted
Whether main installation fitted
Whether emergency installation fitted
Whether main and emergency transmitters electrically separated or combined
Whether direction finder fitted

This certificate is issued under the authority of the Government. It will remain in force until

Issued at the day of 19 .

Here follows the seal or signature of the authority entitled to issue this certificate.

(Seal)

If signed, the following paragraph is to be added:—

The undersigned declares that he is duly authorised by the said Government to issue this Certificate.

(Signature)

Form of Exemption Certificate

EXEMPTION CERTIFICATE

(Official Seal)

(Country)

Issued under the provisions of the

INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1948

Name of Ship	Distinctive Number or Letters	Port of Registry	Gross Tonnage

The (Name) Government certifies
I, the undersigned (Name) certify

That the above-mentioned ship is, under the authority conferred by Regulation.....of Chapter.....of the Regulations annexed to the Convention referred to above, exempted from the requirements of †.....of the Convention on the voyages.....to.....

* Insert here the conditions, if any, on which the exemption certificate is granted.

This certificate is issued under the authority of the Government. It will remain in force until

Issued at the day of 19 .

Here follows the seal or signature of the authority entitled to issue this certificate.

(Seal)

If signed, the following paragraph is to be added:—

The undersigned declares that he is duly authorised by the said Government to issue this Certificate.

(Signature)

† Insert here references to Chapters and Regulations, specifying particular paragraphs.

Saving of
existing
certificates
during
transition
period.

40.—(1.) A certificate of survey or a certificate of equipment in force for the purposes of the Principal Act at the commencement of this section has the same effect for the purposes of the Principal Act as amended by this Act as a certificate of survey or a certificate of equipment, as the case may be, issued under section one hundred and ninety-four of the Principal Act as amended by this Act.

(2.) Where, immediately before the commencement of this section, there was in force in respect of a ship registered in Australia a certificate to which this sub-section applies—

(a) that certificate remains in force as if this Act had not been passed ; and

(b) the amendments made to the Principal Act by this Act, other than the amendment made by sub-section (2.) of section thirty of this Act, do not apply to or in relation to that ship, or the master, owner, agent or charterer of that ship, until that certificate ceases to be in force.

(3.) The Minister may at any time revoke a certificate to which the last preceding sub-section applies.

(4.) Sub-section (2.) of this section applies to a certificate which, for the purposes of section two hundred and six c of the Principal Act, was a general safety certificate, a short voyage safety certificate, a qualified safety certificate, a passenger steamship exemption certificate, a wireless telegraphy certificate or a wireless telegraphy exemption certificate.

(5.) Where, at any time within a period of two years after the commencement of this section, there is in force in respect of a ship not registered in Australia a certificate to which this sub-section applies, the amendments made to the Principal Act by this Act, other than the amendment made by sub-section (2.) of section thirty of this Act, do not apply to or in relation to that ship, or the master, owner, agent or charterer of that ship, until—

(a) the expiration of that period of two years ;

(b) the certificate ceases to be in force ; or

(c) the operation of the certificate is suspended by the Minister under the next succeeding sub-section,
whichever first occurs.

(6.) The Minister may at any time suspend the operation of a certificate to which the last preceding sub-section applies.

(7.) Sub-section (5.) of this section applies to a certificate—

(a) which was issued before the commencement of this section and was, immediately before that commencement, a valid Safety Convention certificate for the purposes of the Principal Act ; or

- (b) which was issued after that commencement and would, if it had been in force immediately before that commencement, have been a valid Safety Convention certificate for the purposes of the Principal Act.

41. The regulations in force under the Principal Act immediately before the commencement of this section shall, after the commencement of this section, be as valid and effectual as if made under the Principal Act as amended by this Act. Saving of regulations