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Marine Guidance (4/ 2025)

Guidance for the Survey, Certification, and Safe Operation of Cargo Ships engaged on Near-Coastal Voyages

Applicable to: **Shipowners, Managers, Operators, Ship Masters, Recognized Organizations and Flag State Surveyors.**

References:
(a) Myanmar Merchant Shipping Act;
(b) Notification (9/2017): International Maritime Conventions and Other Instruments Adopted by the Republic of the Union of Myanmar;
(c) Directive (3/2023): Liability for Bunker Oil Pollution Damage;
(d) Directive (1/2023): Control of Harmful Anti-Fouling Systems on Ships;
(e) Directive (3/2021): Survey Guidelines under the Harmonized System of Survey and Certification (HSSC) 2019;
(f) Directive (2/2021): Flag State Implementation System;
(g) Directive (1/2021): Amended to Directive No.2/2020 relating to issuing the Maritime Labour Certificate;
(h) Directive (15/2018): Safe Manning Requirements;
(i) Marine Guidance (6/2021), as amended, relating to "Guidance for Maritime Education & Training, Examination and Certification for seafarers"; and
(j) Notification (1/2007): Near Coastal Voyage Limits.

Summary

This Marine Guidance serves to provide the requirements of safety, security, and environmental protection for Myanmar-flagged ships on near-coastal voyages, and vessels under 500 GT on international voyages.

1. The Department of Marine Administration (DMA) hereby issues this Marine Guidance to prescribe the requirements governing the construction, safety, security, and environmental protection of ships, in conformity with the applicable international conventions and national legislation. This Guidance consolidates and gives effect to the relevant provisions of the International Convention for the Safety of Life at Sea (SOLAS), the International Convention for

the Prevention of Pollution from Ships (MARPOL), the International Load Line Convention (Load Lines) , the International Safety Management (ISM) Code, and other pertinent IMO instruments, as adopted for vessels engaged on near-coastal voyages.

2. This Marine Guidance applies to all ships registered under the flag of Myanmar and engaged on near-coastal voyages, as well as to ships of less than 500 gross tonnage engaged on international voyages.

3. Shipowners, managers, operators and masters of ships shall comply with the provisions of this Marine Guidance, as prescribed in the Annex thereto, for the purpose of ensuring the safe operation of ships and the prevention of marine pollution.

4. Flag State Surveyors shall carry out surveys, inspections, audits, and certifications in accordance with this Guidance, in respect of Myanmar-flagged ships engaged on near-coastal voyages and ships of less than 500 gross tonnage engaged on international voyages.

5. This Marine Guidance shall enter into force on the date of issue.

Dr. Ko Ko Naing
Director General (Acting)

Annex.

Guidance for the Survey, Certification, and Safe Operation of Cargo Ships engaged on Near-Coastal Voyages

Chapter I

General Provisions

Title, application and definitions

1. Application

.1 Unless expressly provided otherwise, this Guidance shall apply to:

.1.1 cargo ships engaged on near-coastal voyages; and

.1.2 cargo ships less than 500 gross tonnage engaged on international voyages;

.2 This Guidance, unless expressly provided otherwise, shall not apply to:

.2.1 ships of war and troopships;

.2.2 wooden ships of primitive build;

.2.3 pleasure yachts not engaged on trade;

.2.4 fishing vessels;

.2.5 passenger ships; and

.2.6 Government vessels not used for commercial services.

2. Definitions

For the purpose of this Guidance, unless expressly provided otherwise:

.1 “Approved” means approved by the Department of Marine Administration;

.2 “Accommodation spaces” means those spaces used for public spaces, corridors, lavatories, cabins, offices, hospitals, cinemas, games and hobbies rooms, pantries containing no cooking appliances and similar spaces;

.3 “Breadth (B)” is the greatest moulded breadth of the ship at or below the deepest subdivision draught;

.4 “Control stations” mean the spaces in which the ship’s radio or main navigation equipment or the emergency source of power is located, or where the fire recording or fire control equipment is centralized;

.5 “Cargo ship” means any ships which is not a passenger ship;

.6 “Department” means the Department of Marine Administration;

.7 “Depth (D)” means the vertical distance measured amidships from the keel line to the top of the freeboard deck beam at side except that:

.7.1 in vessels ships having rounded gunwales, the depth shall be measured to the point of intersection of the moulded lines of the deck and side shell plating, the lines extending as though the gunwale were of angular design;

.7.2 where the freeboard deck is stepped and the raised part of the deck extends over the point at which the depth is to be determined, the depth shall be measured to a line of reference extending from the lower part of the deck along a line parallel with the raised part;

.8 “Existing ship” means a ship, which is not a new ship;

.9 “Gross tonnage” means the measure of the overall size of a ship determined in accordance with the provisions of the International Tonnage Convention;

.10 “Inflated lifeboat” means a permanently inflated survival craft subdivided and of strong, abrasion-resistant construction;

.11 “International voyage” means a voyage from or to a port or place in Myanmar to or from a port or place outside Myanmar or between any ports outside Myanmar;

.12 “Launching appliance or arrangement” means a means of transferring a survival craft or rescue boat from its stowed position safely to the water;

.13 “Length (L)” in relation to a ship means 96% of the total length on a waterline at 85% of the least depth measured from the keel line, or as the length from the foreside of the stem to the axis of the rudder stock on that waterline, if that be greater. In ships designed with rake of keel the waterline on which this length is measured shall be parallel to the designed waterline;

.14 “Low flame spread” means that the surface thus described will adequately restrict the spread of flame, this being determined to the satisfaction of the Department by an established test procedure;

.15 “Machinery spaces” means all machinery spaces of Category A and all other spaces containing propelling machinery, boilers, oil fuel units, steam and internal- combustion engines, generators and major electrical machinery, oil filling stations, refrigerating, stabilizing, ventilating and air conditioning machinery and similar spaces and trunks to such spaces;

.16 “Machinery spaces of category “A” means those spaces and trunks to such spaces, which contain:

.16.1 internal-combustion machinery used for main propulsion;

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

.16.3 any oil-fired boiler or oil fuel unit;

.17 “Ministry” means Ministry of Transport and Communications of the Government of the Republic of the Union of Myanmar;

.18 “Near-coastal voyage” means a voyage between any port or place in, India, Maldives, Sri-Lanka, Bangladesh, Myanmar, Malaysia, Indonesia, Brunei, Singapore and Thailand as defined by Myanmar Merchant Shipping Law;

.19 “New ship” means a ship the keel of which is laid or which is at a similar stage of construction on or after the issuance of this Guidance;

.20 “Non-combustible material” means a material which neither burns nor gives off flammable vapours in sufficient quantity for self-ignition when heated to approximately 750° Celsius this being determined to the satisfaction of the Department by an established test procedure. Any other material is a combustible material;

.21 “Off-shore supply vessel” means a cargo ship propelled by a mechanical means:

.21.1 whose primary use is the transport of stores, materials and equipment to off-shore installations and which may also be used for the laying of anchors, towage of off-shore installations; and

.21.2 which is designed with accommodation and bridge erections in the forward part of the vessel and an exposed cargo deck in the after part for the handling of cargo at sea;

.22 “Oil fuel unit” means the equipment used for the preparation of fuel oil for delivery to an oil-fired boiler, or equipment used for the preparation of oil for delivery to an internal combustion engine, and includes any oil pressure pumps, filters and heaters dealing with oil at a pressure of more than 0.18 newton per square millimeter;

.23 “Public spaces” means those portions of the accommodation spaces which are used for halls, dining rooms, lounges and similar permanently enclosed spaces;

.24 “Service spaces” means those spaces used for galleys, pantries containing cooking appliances, lockers and store-rooms, workshops other than those forming part of the machinery spaces, and similar spaces and trunks to such spaces;

.25 “Ship” means any watercraft, used or capable of being used in navigation by its own propulsion, in, above, or under the water, but does not include fishing vessels or sailing vessels;

.26 “Standard fire test” means a test in which specimens of the relevant bulkheads or decks are exposed in a test furnace to temperatures corresponding approximately to the standard time-temperature curve. The specimen shall have an exposed surface of not less than 4.65 square metres and a height (or length of deck) of 2.44 metres resembling as closely as possible the intended construction, and including where appropriate at least one joint. The standard time-temperature curve is defined by a smooth curve drawn through the following points:

.26.1 at the end of the first 5 minutes 538° Celsius,

.26.2 at the end of the first 10 minutes 704° Celsius,

.26.3 at the end of the first 30 minutes 843° Celsius,

.26.4 at the end of the first 60 minutes 927° Celsius;

.27 “Steel or other equivalent material” means steel or any material which, by itself or due to insulation provided, has structural and integrity properties equivalent to steel at the end of the applicable fire exposure

to the standard fire test (e.g. aluminium alloy with appropriate insulation);

.28 "survival craft" means a craft capable of sustaining the lives of persons in distress from the time of abandoning the ship and it includes lifeboats, liferafts and any other craft approved as suitable for the protection and preservation of persons in such circumstances; and

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

3. Exemptions

.1 A ship which is not normally engaged on near-coastal voyages but which, in exceptional circumstances, is required to undertake a single near-coastal voyage may be exempted by the department from any of the requirements of this Guidance provided that it complies with safety requirements which are adequate in the opinion of the Department for the voyage which is to be undertaken by the ship.

.2 The Department may exempt any ship which embodies features of a novel kind from any of the provisions of chapters III, IV, V, VI and VII of this Guidance, the application of which might seriously impede research into the development of such features and their incorporation in ships engaged on near-coastal voyages. Any such ship shall, however, comply with safety requirements that, in the opinion of that Department, are adequate for the service for which it is intended and are such as to ensure the overall safety of the ship.

.3 .3.1 The Department consider it highly desirable not to deviate from the requirements of Radio communications nevertheless, the

Department may grant partial or conditional exemptions to individual ships from the requirements of Radio equipment in chapter VII provided:

.3.1.1 such ships comply with the functional requirements;

.3.1.2 the Department has taken into account the effect such exemptions may have upon the general efficiency of the service for the safety of all ships.

.3.2 An exemption may be granted under sub-paragraph .3.1 only:

.3.2.1 if the conditions affecting safety are such as to render the full application of Radio equipment in chapter VII unreasonable or unnecessary; or

.3.2.2 in exceptional circumstances, for a single voyage outside the sea area or sea areas for which the ship is equipped.

.4 The Department may grant to individual ships exemptions of a partial or conditional nature, when any such ship is engaged on a voyage where the maximum distance of the ship from the shore, the length and nature of the voyage, the absence of general navigational hazards, and other conditions affecting safety are such as to render the full application of this chapter unreasonable or unnecessary, provided that the Department has taken into account the effect such exemptions may have upon the safety of all other ships.

4. Dispensations

A ship, in exceptional circumstances, may be dispensed by the Department from any of the requirements of this Guidance, provided that the similar arrangement is

substituted and it complies with safety requirements that are adequate in the opinion of the Department for the voyage which is to be undertaken by the ship.

5. Extensions

If a ship at the time when a certificate expires is not in a port in which it is to be surveyed, the Department may extend the period of validity of the certificate but this extension shall be granted only for the purpose of allowing the ship to complete its voyage to the port in which it is to be surveyed, and then only in cases where it appears proper and reasonable to do so. No certificate shall be extended for a period longer than three months, and a ship to which an extension is granted shall not, on its arrival in the port in which it is to be surveyed, be entitled by virtue of such extension to leave that port without having a new certificate.

6. Grace period

A certificate issued to a ship engaged on short voyages which has not been extended under the provisions of this Guidance may be extended by the Department for a period of grace of up to one month from the date of expiry stated on it.

7. Equivalent

.1 Where this Guidance require that a particular fitting, material, appliance or apparatus, or type thereof, shall be fitted or carried in a ship, or that any particular provision shall be made, the Department may allow any other fitting, material, appliance or apparatus, or type thereof, to be fitted or carried, or any other provision to be made in that ship, if it is satisfied by trial thereof or otherwise that such fitting, material, appliance or apparatus, or type thereof, or provision, is at least as effective as that required by this Guidance.

.2 The Department may grant to individual ships equivalents of a partial or conditional nature, when any such ship is engaged on a voyage where the maximum distance of the ship from the shore, the length and nature of the voyage, the absence of general navigational hazards, and other conditions affecting safety are such as to render the full application of this chapter unreasonable or unnecessary, provided that the Department has taken into account the effect such equivalents may have upon the safety of all other ships.

Chapter II

Surveys and Certificates

8. Certificates

All ships covered by this Guidance shall be surveyed, certified and maintained the validity of near coastal certificates.

9. Validity

All certificates shall be issued solely by the Department or Recognized Organization and shall be valid for 5 years with the requirement of annual, periodical and intermediate surveys.

10. Surveyors to carry out

The surveys, inspection and audit of ships, for the enforcement of the provisions of this Guidance, shall be carried out by surveyors of the Department or Recognized Organization.

11. Requirement to notify the Department

When a nominated surveyor or Recognized Organization determines that the condition of the ship or its equipment does not correspond substantially with the particulars of the certificate or is such that the ship is not fit to proceed to sea without danger to vessel, or persons on board, such surveyor or organization shall ensure that corrective action is taken and shall in due course notify the Department.

12. Duration of survey and inspection

The surveys, inspections and audit for the certificates shall be subject to the surveys specified below:

.1 an initial survey including an inspection of the outside of the ship's bottom before the ship is put in service;

.2 a renewal survey at intervals specified by the Department but not exceeding five years, except where paragraphs 15.2, 15.5, 15.6 and 15.7 is applicable;

.3 An intermediate survey within three months before or after the second anniversary date or within three months before or after third anniversary date of the respective certificates, which shall take the place of one of the annual surveys specified in sub-paragraph .4;

.4 An annual survey within three months before or after each anniversary date of the respective certificates;

5 a periodical survey:

.5.1 within three months before or after each anniversary date of the Cargo Ship Safety Radio Certificate; or

.5.2 within three months before or after the second anniversary date or within three months before or after the third anniversary date of the Cargo Ship Safety Equipment Certificate which shall take the place of one of the annual surveys specified in sub-paragraph .4;

.6 an additional survey either general or partial, according to the circumstances, shall be made after a repair resulting from investigations 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 this Guidance, the International Regulations for Preventing Collisions at Sea in force, and the national legislations; and

.7 A minimum of two inspections of the outside of the ship's bottom during any five-period of validity of Cargo Ship Safety Construction Certificate, except where paragraphs 15.5 and 15.6 is applicable. Where paragraphs 15.5 and 15.6 is applicable, this five-year period may be extended to coincide with the extended period of validity of the certificate. During the validity of the certificate, the interval between any two such inspections shall not exceed thirty-six months. Department may endorse the certificate with an in-water inspection include approved video recording of the condition of the ship's bottom in lieu of inspection in intermediate dry docking for the ship less than 15 years of ages.

13. Survey requirements

Survey and inspections shall be carried out as follows in respective certificate;

.1 The initial survey shall include a complete inspection of:

.1.1 the structure, machinery and equipment to ensure that the arrangements, materials, scantling and workmanship of the structure, boilers, and other pressure vessels, their appurtenances, main and auxiliary machinery including steering gear and associated control systems, electrical installations and other equipment comply with the requirements of this guidance, are in satisfactory condition and are fit for the service for which is intended and that required stability information is provided. In addition, for tanker include an inspection of the pump-rooms, cargo, bunker and ventilation piping systems and associated safety devices;

.1.2 a complete inspection of the fire safety systems and appliances, life - saving appliances and arrangements, the shipborne navigational equipment, means of embarkation

for pilots and other equipment, fire control plans, nautical publications, lights, shapes, means of making sound signals and distress signals;

.1.3 radio installations of cargo ships including those used in life-saving appliances; and

.1.4 pollution prevention equipment;

.2 The renewal survey shall include an inspection referred to in sub-paragraph .1 to ensure that complies requirements of the respective regulations of Convention;

.3 The intermediate survey shall include an inspection of the structure, boilers and other pressure vessels, machinery and equipment, the steering gear and associated control systems and electrical installations to ensure that they remain satisfactory for the service for which the ship is intended. In additional for tanker include an inspection of the pump-rooms, cargo, bunker and ventilation piping systems and associated safety devices and the testing of insulation resistance of electrical installations in dangerous zones;

.4 The periodical survey includes an inspection referred to in sub-paragraph .1.1.2 or .1.1.3 to ensure that complies requirements of the respective regulations of the Convention;

.5 The annual survey includes a general inspection shall include an inspection of the equipment referred to in sub-paragraph .1.1.1 or .1.1.2 to ensure that it has been maintained in accordance with the paragraph 14 and that it remains satisfactory for the service for which the ship is intended; and

.6 The inspection of the outside of the ship's bottom and survey of related items inspected at the same time shall be such as to ensure that they remain satisfactory for the service for which the ship is intended.

14. Maintenance of condition after survey

.1 The ship and its equipment must be kept in a condition that complies with the guidelines in order to guarantee that the ship is in good enough shape to sail without posing any risks to itself or the people on board.

.2 After any survey of the ship under paragraphs 12 and 13 has been completed, no change shall be made in the structural arrangements, machinery, equipment and other items covered by the survey, without the approval of the Department.

.3 Whenever an accident occurs to a ship or a defect is discovered, either of which affects the safety of the ship or the efficiency or completeness of its life-saving appliances or other equipment, the master or owner of the ship shall report at the earliest opportunity to the Department, the nominated surveyor or recognize organization responsible for issuing the relevant certificate, who shall cause investigations to be initiated to determine whether a survey, as required by the paragraphs 12 and 13, is necessary. If the ship is in a foreign port, the master or owner shall also report immediately to the appropriate authorities of the port State and the nominated surveyor or recognized organization shall ascertain that such a report has been made.

15. Duration and validity of certificates

.1 Certificates shall be issued for a period specified by the Department which shall not exceed five years. An Exemption Certificate shall not be valid for longer than the period of the certificate to which it refers.

.2 .2.1 Notwithstanding the requirements of sub-paragraph .1, when the renewal survey is completed within three months before the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of expiry of the existing certificate;

.2.2 when the renewal survey is completed after the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of expiry of the existing certificate; and

.2.3 when the renewal survey is completed more than three months before the expiry date of the existing certificate, the new certificate shall be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of completion of the renewal survey.

.3 If a certificate is issued for a period of less than five years, the Department may extend the validity of the certificate beyond the expiry date to the maximum period specified in sub-paragraph .1, provided that the surveys referred to in paragraphs 12 and 13 applicable when a certificate is issued for a period of five years are carried out as appropriate.

.4 If a renewal survey has been completed and a new certificate cannot be issued or placed on board the ship before the expiry date of the existing certificate, the surveyor or Recognized Organization may endorse the existing certificate and such a certificate shall be accepted as valid for a further period which shall not exceed five months from the expiry date.

.5 If a ship at the time when a certificate expires is not in a port in which it is to be surveyed, the Department may extend the period of validity of the certificate for complete the voyage to the port in which it is to be surveyed. When the renewal survey is completed, the new certificate shall be valid to a date not exceeding five years from the date of expiry of the existing certificate before the extension was granted.

.6 A certificate issued to a ship engaged on short voyages which has not been extended under the foregoing provisions of this Guidance may be extended by the Department for a period of grace of up to one month from the date of expiry stated on it. When the renewal survey is completed, the new certificate shall be valid to a date not exceeding five years from the date of expiry of the existing certificate before the extension was granted.

.7 In special circumstances, as determined by the Department, a new certificate need not be dated from the date of expiry of the existing certificate as required by paragraphs 15.2.2.2, 15.5 or 15.6. In these special circumstances, the new certificate shall be valid to a date not exceeding five years from the date of completion of the renewal survey.

.8 If an annual, intermediate or periodical survey is completed before the period specified in the relevant Guidance then:

.8.1 the anniversary date shown on the relevant certificate shall be amended by endorsement to a date which shall not be more than three months later than the date on which the survey was completed;

.8.2 the subsequent annual, intermediate or periodical survey required by the relevant Guidance shall be completed at the intervals prescribed by this Guidance using the new anniversary date;

.8.3 the expiry date may remain unchanged provided one or more annual, intermediate or periodical surveys, as appropriate, are carried out so that the maximum Intervals between the surveys prescribed by the relevant Guidance are not exceeded; and

.8.4 Certificates issued under paragraph 9, shall cease to be valid in any of the following cases:

.8.4.1 if the relevant surveys and inspections are not completed within the periods specified under paragraph 12;

.8.4.2 if the certificate is not endorsed in accordance with the Guidance; and

.8.4.3 upon transfer of the ship to the flag of another State.

16. Availability of Certificates

All certificates and certificated copy issued under paragraph 9 shall be readily available onboard for examination at all times and posted up in a prominent and accessible place in the ship.

Chapter III

Construction, Freeboard, Stability, Machinery and Electrical Installations

Part A - General

17. General

All ships shall be constructed in compliance with this chapter of the Guidance.

18. Load Lines

The Load Line shall be assigned in accordance to International Load Line Convention 1966, as amended and national legislations.

19. Structural, mechanical and electrical requirements for ships

In addition to the requirements contained elsewhere in this Guidance, all ships shall be designed, constructed and maintained in compliance with the structural, mechanical and electrical requirements of:

.1 the Department; or

.2 a classification society, which is recognized by the Department.

20. Construction

.1 The strength and construction of hull, superstructures, deckhouses, machinery casings, companion ways and any other structure and equipment shall be sufficient to withstand all foreseeable conditions of the intended service.

.2 All ships propelled by a mechanical means shall be fitted with a collision bulkhead and with watertight bulkheads bounding the machinery spaces. Such bulkheads shall be extended up to the freeboard deck. In ships constructed of wood, such bulkheads shall as far as practicable be watertight.

.3 Pipes piercing the collision bulkhead shall be fitted with suitable valves operable from above the freeboard deck and the valve chest shall be secured at the collision bulkhead inside the forepeak. No door, manhole, ventilation duct or any other opening shall be fitted in the collision bulkhead below the freeboard deck.

.4 Where a long forward superstructure is fitted, the collision bulkhead shall be extended weathertight to the deck above the freeboard deck. The extension needs not be fitted directly over the bulkhead below provided it is located within the limits specified by the Department for such bulkhead and the part of the deck which forms the step is effectively weathertight.

.5 The number of openings in the collision bulkhead above the freeboard deck shall be reduced to the minimum compatible with the design and normal operation of the ship. Such openings shall be capable of being closed weathertight.

.6 No doors, manholes or access openings shall be provided in the collision bulkhead below the freeboard deck.

21. Chain locker

.1 In every ship where the chain locker is located abaft the collision bulkhead or extends into the forepeak tank it shall be watertight and provided with efficient means of drainage.

.2 A chain locker shall not be used for any purpose other than stowage of anchor chain cables.

22. Watertight doors

.1 The number of openings in watertight bulkheads, shall be reduced to the minimum compatible with the general arrangements and operational needs of the ship. Openings shall be fitted with watertight closing appliances to the satisfaction of the Department. Watertight doors shall be of an equivalent strength to the adjacent unpierced structure.

.2 In a ship of less than 45 metres in length (L), such doors may be of the hinged type, which shall be capable of being operated locally from either side of the door and shall normally be kept closed while at sea. A notice shall be attached to the door on each side to state that the door shall be kept closed while at sea.

.3 In a ship of 45 metres in length (L) and over, watertight doors shall be of the sliding type.

23. Anchor and mooring equipment

.1 Anchor equipment shall be designed for quick and safe operation and shall consist of anchors, anchor chains or wire ropes, stoppers and a windlass or other arrangements for dropping and hoisting the anchor and for holding the ship at anchor in all foreseeable service conditions. Ships shall also be provided with adequate mooring equipment for safe mooring in all operating conditions.

.2 Fairleads intended for use with the wire rope referred to in sub-paragraph .1 shall be designed to minimise wear and to avoid kinking or other similar damage to the rope.

Part B - Stability

24. Stability criteria

The following minimum stability criteria shall be met unless the Department is satisfied that operating experience justifies departure therefrom:

.1 the area under the righting lever curve (GZ curve) shall not be less than 0.055 metre-radians up to 30 degrees angle of heel and not less than 0.090 metre-radians up to 40 degrees or the angle of flooding θ_f if this angle is less than 40 degrees. Additionally, the area under the righting lever curve (GZ curve) between the angles of heel of 30 degrees and 40 degrees or between 30 degrees and θ_f, if this angle is less than 40 degrees shall not be less than 0.030 metre-radians. θ_f is the angle of heel at which openings in the hull, superstructure or deckhouses which cannot rapidly be closed water-tight commence to immerse. In applying this criterion, small openings through which progressive flooding cannot take place need not be considered as open;

.2 the righting lever GZ shall be at least 200 millimetres at an angle of heel equal to or greater than 30 degrees;

.3 the maximum righting lever GZ max shall occur at an angle of heel preferably exceeding 30 degrees but not less than 25 degrees; and

.4 the initial transverse metacentric height GM shall not be less than 150 millimetres.

25. Inclining test

.1 A ship having a length of 24 metres and upwards shall be inclined upon its completion and the elements of its stability shall be determined.

.2 Where any alterations are made so as to materially affect the stability information supplied to the master, amended stability information shall be provided. The ship shall be re-inclined, if the Department considers this necessary or whenever, in comparison with the approved stability information, a deviation from the lightship displacement exceeding 2% or a deviation of the longitudinal centre of gravity exceeding 1% of subdivision length is found or anticipated, and the stability information amended.

.3 The Department may allow the inclining test of a ship to be dispensed with, provided basic stability data are available from the inclining test of a sister ship and it is meet the requirements to the satisfaction of the Department that reliable stability information for the exempted ship can be obtained from such basic data.

.4 The Department may also allow the inclining test of a cargo ship or a class of ships, especially designed for the carriage of liquids or ore in bulk to be dispensed with when reference to existing data for similar ships clearly indicates that, due to the ship's proportions and arrangements, more than sufficient metacentric height will be available in all probable loading conditions.

26. Stability Information

.1 Suitable stability information shall be supplied to the master enable to assess with ease and certainty, the stability of the ship under various operating conditions. Such information shall include specific instructions to the master warning him of those operating conditions which could adversely affect either the stability or the trim of the ship. A copy of the stability information shall be submitted to the Department for approval.

.2 The approved stability information shall be kept on board, readily accessible at all times and inspected at the periodical surveys of the ship to ensure that it has been approved.

.3 Where alterations are made to a ship affecting its stability, revised stability calculations shall be prepared and submitted to the Department for approval. If the Certifying Authority decides that the stability information must be revised, the new information shall be supplied to the master and the superseded information removed.

Part C - Machinery and Electrical Installations

27. General

.1 Main propulsion, control, steam pipe, fuel oil, compressed air and electrical systems auxiliary machinery boilers and other pressure vessels, piping and pumping arrangements steering equipment and gears, shafts and couplings for power transmission shall be designed, constructed, tested, installed and serviced to the satisfaction of the Certifying Authority and shall be protected so as to reduce to a minimum danger to persons on board. Special attention shall be paid to moving parts, hot surfaces and other dangers.

.2 Machinery spaces shall be so designed as to provide safe and free access to all machinery and its controls and to any other part, which may require servicing. Such spaces shall be adequately ventilated. Provided that the Department may, having regard to overall safety considerations, accept a partial reduction in capability in lieu of full normal operation.

.3 .3.1 Means shall be provided whereby the operational capability of the propulsion machinery can be sustained or restored even if one of the essential auxiliaries becomes inoperative. Special consideration shall be given to the functioning of:

.3.1.1 the arrangements which supply fuel oil pressure for main propulsion machinery;

.3.1.2 the normal sources of lubricating oil pressure;

.3.1.3 the hydraulic, pneumatic and electrical means for the control of main propulsion machinery including controllable pitch propellers;

.3.1.4 the sources of water pressure for main propulsion cooling systems; and

.3.1.4 an air compressor and an air receiver for starting or control purposes: provided that the Department may, having regard to overall safety considerations, accept a partial reduction in capability in lieu of full normal operation.

.3.2 Means shall be provided whereby the machinery can be brought into operation from the dead ship condition without external aid.

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

.5 The design and construction of electrical installations shall be such as to provide:

.5.1 the services necessary to maintain the ship in normal operational condition without having recourse to an emergency source of power;

.5.2 the services essential to safety when failure of the main source of electrical power occurs; and

.5.3 protection of the crew and ship from electrical hazards.

.6 In ships fitted with periodically unattended machinery spaces, documentary evidence of their fitness to operate in such mode shall be submitted to the Department.

28. Machinery

.1 Main and auxiliary machinery essential for the propulsion and safety of the ship shall be provided with effective means of control.

.2 Where main or auxiliary machinery including pressure vessels or any parts of such machinery is subject to internal pressure and may be subject to dangerous overpressure, means shall be provided, where applicable, which will protect against such excessive pressure.

.3 All gearing, shaft and coupling used for transmission of power to machinery essential for the propulsion and safety of the vessel or the safety of persons on board shall be so designed and constructed that it will withstand the maximum working stresses to which it may be subjected in all service conditions. Due consideration shall be given to the type of engines by which it is driven or of which it forms a part.

.4 Main propulsion machinery and where applicable, auxiliary machinery shall be provided with automatic alarm arrangements in the case of

failures, such as lubricating oil supply failure, which could lead rapidly to damage, complete breakdown or explosion.

29. Means of going astern

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

30. Communications between the navigation bridge and machinery space

.1 Two separate means of communication between the navigation bridge and the machinery space shall be provided. One of the means shall be an engine room telegraph.

.2 In ships fitted with two main propulsion machinery each driving its own propeller, each machinery shall have an engine room telegraph.

.3 The engine room telegraph may be dispensed with if the main propulsion machinery is directly controlled from the navigation bridge.

31. Navigation bridge control of propulsion machinery

.1 This Guidance applies only to new ships, except for sub-paragraph .2.2.5 which also applies to existing ships.

.2 Where remote control of propulsion machinery is provided from the navigation bridge, the following shall apply:

.2.1 under all operating conditions, including manoeuvring, the speed, direction of thrust and, if applicable, the pitch of the propeller shall be fully controllable from the navigation bridge;

.2.2 the main propulsion machinery shall be provided with an emergency stopping device in the navigation bridge and be independent from the navigation bridge control

.2.3 control of the propulsion machinery shall be possible only from one station at a time;

.2.4 indicators shall be fitted in the navigation bridge for:

.2.4.1 propeller speed and direction in the case of fixed propellers; and

.2.4.2 propeller speed and pitch position in the case of controllable pitch propellers;

.2.5 it shall be possible to control the propulsion machinery locally, even in the case of failure in any part of the remote-control system;

.2.6 unless the Department considers it impracticable, the design of the remote control system shall be such that if it fails an alarm will be given until local control is in operation; and

.2.7 an alarm shall be provided to indicate low starting air pressure and shall be set at a level which will still permit main engine starting operations.

.3 Where the main propulsion and associated machinery including sources of main electrical supply are provided with various degrees of automatic or remote-control and are under continuous manned supervision from a control room, the control room shall be so designed, equipped and installed that the machinery operation will be as safe and effective as if it were under direct supervision.

.4 In general, automatic starting, operational and control systems shall include means for manually overriding the automatic means, even in the case of failure of any part of the automatic and remote-control system.

32. Boilers and other pressure vessels

.1 The boilers and other pressure vessels shall be of a design and construction adequate for the service for which they are intended and shall be installed and protected so as to reduce to a minimum any danger to persons on board.

.2 The boilers and the other pressure vessels and their respective mountings shall, before being put into service for the first time, be subjected to a pressure test to the satisfaction of the Department.

33. Arrangements for fuel oil, lubricating oil and other flammable oils

.1 Fuel oil which has a flashpoint of less than 60° Celsius (closed cup test) as determined by an approved flashpoint apparatus shall not be used as fuel, except in emergency generators, in which case the flashpoint shall not be less than 43 Celsius provided that the Department may permit the general use of fuel oil having a flashpoint of not less than 43° Celsius subject to such additional precautions as it may consider necessary and on condition that the temperature of the space in which such fuel is stored or used shall not rise to within 10°Celsius below the flashpoint of the fuel.

.2 Safe and efficient means of ascertaining the amount of fuel oil contained in any oil tank shall be provided. If sounding pipes are installed, their upper ends shall terminate in safe positions and shall be fitted with suitable means of closure. Tubular gauge glasses shall not be fitted, but suitably protected gauges having flat glasses of substantial thickness and self-closing fittings may be used. Suitably protected tubular gauge glasses may be permitted on fuel tanks independent of the hull structure

provided that they are fitted with self-closing valves to the satisfaction of the Department. Other means of ascertaining the amount of fuel oil contained in any fuel oil tank may be permitted provided that their failure or over-filling of the tanks will not permit release of fuel.

.3 Provision shall be made to prevent overpressure in any oil tank or in any part of the fuel oil system including the filling pipes. Relief valves and air or overflow pipes shall discharge to a position and in a manner, which is safe.

.4 Subject to the satisfaction of the Department, fuel oil pipes which, if damaged, would allow oil to escape from a storage, settling or daily service tank situated above the double bottom, shall be fitted with a cock or valve on the tank capable of being closed from a safe position outside the space concerned in the event of a fire arising in the space in which such tanks are situated. In the special case of deep tanks situated in any shaft or pipe tunnel or similar space, valves on the tanks shall be fitted but control in the event of fire may be affected by means of an additional valve on the pipe or pipes outside the tunnel or similar space. If such an additional valve is fitted in the machinery space it shall be capable of being operated from outside this space.

.5 Pumps forming part of the fuel oil systems shall be separate from any other system and the connections of any such pumps shall be provided with an efficient relief valve which shall be in closed circuit. Where fuel oil tanks are alternatively used as liquid ballast tanks, proper means shall be provided to isolate the fuel oil and ballast systems.

.6 No oil tank shall be situated where spillage or leakage therefrom can constitute a hazard by falling on heated surfaces. Precautions shall be

taken to prevent any oil that may escape under pressure from any pump, filter or heater from coming into contact with heated surfaces.

.7 .7.1 Fuel oil pipes and their valves and fittings shall be of steel or other equivalent material, provided that restricted use of flexible pipes may be permitted in position where the Department is satisfied that they are necessary. Such flexible pipes and end attachments shall be of adequate strength and be constructed of approved fire-resistant materials or have fire-resistant coatings.

.7.2 Where necessary, fuel oil and lubricating oil pipelines shall be screened or otherwise suitably protected to avoid, as far as practicable, oil spray or oil leakage on heated surfaces or into machinery air intakes. The number of joints in piping systems shall be kept to a minimum.

.8 As far as practicable, fuel oil tanks shall be part of the ship's structure and shall be located outside machinery spaces of Category A. Where fuel oil tanks, other than double bottom tanks, are necessarily located adjacent to or within machinery spaces of Category A, at least one of their vertical sides shall be contiguous to the machinery space boundaries, and shall preferably have a common boundary with the double bottom tanks where fitted and the area of the tank boundary common with the machinery space shall be kept to a minimum. When such tanks are sited within the boundaries of machinery spaces of Category A they shall not contain fuel oil having a flashpoint of less than 60° Celsius (closed cup test). In general, the use of free-standing fuel oil tanks shall be avoided in fire hazard areas, and particularly in machinery spaces of Category A. When free-standing fuel oil tanks are permitted, they shall be placed in

an oil-tight spill tray of ample size having a suitable drain pipe leading to a suitably sized spill oil tank.

.9 The ventilation of machinery spaces shall be sufficient under all normal conditions to prevent accumulation of oil vapour.

.10 The arrangements for the storage, distribution and use of oil employed in pressure lubrication systems shall be to the satisfaction of the Department. Such arrangements in machinery spaces of Category A and wherever practicable, in other machinery spaces shall at least comply with the provisions of paragraphs 33.1, 33.3, 33.6 and 33.7 and in so far as the Department may consider necessary with paragraphs 33.2 and 33.4. This does not preclude the use of sight flow glasses in lubrication systems, provided they are shown by test to have a suitable degree of fire resistance.

.11 The arrangements for the storage, distribution and use of flammable oils employed under pressure in power transmission systems other than oils referred to in paragraph 33.10 in control and activating systems and heating systems shall be to the satisfaction of the Department. In locations where means of ignition are present such arrangements shall at least comply with the provisions of paragraphs 33.2 and 33.4 and with paragraphs 33.3 and 33.10 in respect of strength and construction.

34. Bilge pumping arrangements

.1 This Guidance applies to all ships, except for sub-paragraph 34.3.3.2 which applies only to new ships.

.2 An efficient bilge pumping plant shall be provided which under all operating conditions shall be capable of pumping from and draining any

watertight compartment which is neither a permanent oil tank nor a permanent water tank whether the ship is upright or listed. Wing suctions shall be provided if necessary for that purpose. Arrangements shall be provided for easy flow of water to the suction pipes: provided that if the Certifying Authority is satisfied that the safety of the ship is not impaired the bilge pumping arrangements may be dispensed with in particular compartments.

.3 .3.1 At least two independently driven power bilge pumps shall be provided, one of which may be driven by the main engine. A ballast pump or other general service pump of sufficient capacity may be used as a power-driven bilge pump.

.3.2 Power bilge pumps shall be capable of giving a speed of water of at least two metres per second through the main bilge pipe which shall have an internal diameter of at least:

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

where d is the internal diameter in millimetres, and L, B and D are in metres.

.3.3 Each of the bilge pumps provided in accordance with this Guidance shall be provided with a direct bilge suction, one of these suctions drawing from the port side of the machinery space and the other from the starboard side, except that in the case of a ship of less than 75 metres in length (L) only one bilge pump need be provided with a direct bilge suction.

.3.4 The arrangement and sizing of the bilge system shall be such that the full rated capacity of the pump specified above can be applied

to each of the watertight compartments located between the collision and afterpeak bulkheads.

.4 A bilge ejector in combination with an independently driven high-pressure sea-water pump may be installed as a substitute for one independently driven bilge pump required by sub-paragraph .3.3.1, provided this arrangement is to the satisfaction of the Department.

.5 Bilge pipes shall not be led through fuel oil, ballast or double bottom tanks, unless these pipes are of heavy gauge steel construction.

.6 Bilge and ballast pumping systems shall be arranged so as to prevent water passing from the sea or from water ballast spaces into holds or into machinery spaces or from one watertight compartment to another. The bilge connection to any pump which draws from the sea or from water ballast spaces shall be fitted with either a non-return valve or a cock which cannot be opened simultaneously either to the bilges and to the sea or to the bilges and water ballast spaces. Valves in bilge distribution boxes shall be of a non-return type.

.7 Any bilge pipe piercing a collision bulkhead shall be fitted with a positive means of closing at the bulkhead with remote control from the freeboard deck with an indicator showing the position of the valve provided that, if the valve is fitted on the after side of the bulkhead and is readily accessible under all service conditions, the remote control may be dispensed with.

35. Steering gear

.1 Ships shall be provided with a main steering gear and an auxiliary means of actuating the rudder to the satisfaction of the Department. The main

steering gear and the auxiliary means of actuating the rudder shall be arranged so that as far as is reasonable and practicable the failure in one of them will not render the other one inoperative.

.2 Where the main steering gear comprises two or more identical power units an auxiliary steering gear need not be fitted if one of the power units is capable of operating the rudder as required by paragraph 35.7 when the other unit is out of operation.

.3 The position of the rudder, if power operated, shall be indicated in the navigation bridge. The rudder angle indicator for power-operated steering gear shall be independent of the steering gear control system.

.4 In the event of failure of any of the steering gear units an alarm shall be given on the navigation bridge.

.5 The main steering gear shall be of adequate strength and sufficient to steer the ship at maximum ahead speed. The main steering gear and rudder stock shall be so designed that they will not be damaged at maximum astern speed or by other maneuvering operations.

.6 The main steering gear power unit shall be arranged to start either by manual or automatic means when power is restored after a power failure.

.7 The auxiliary means for actuating the rudder shall be of adequate strength and sufficient to steer the ship at a navigable speed and capable of being brought speedily into action in an emergency.

.8 Electric or electro-hydraulic steering gear fitted in ships of 75 metres in length (L) and over shall be served by at least two circuits fed from the main switchboard and these circuits shall be as widely separated as possible.

36. Emergency source of electrical power

.1 A self-contained emergency source of electrical power located outside the machinery spaces of Category A shall be provided and so arranged as to ensure its functioning in the event of fire or other causes of failure of the main electrical installations.

.2 The emergency source of electrical power shall be capable, having regard to the starting current and the transitory nature of certain loads, of serving the following simultaneously for a period of at least 3 hours:

.2.1 internal communication equipment, fire detecting systems and signals which may be required in an emergency;

.2.2 the navigation lights if solely electrical;

.2.3 the emergency lights:

.2.3.1 of launching stations;

.2.3.2 in all alleyways, stairways and exits;

.2.3.3 in spaces containing machinery or the emergency source of power; and

.2.3.4 in control stations; and

.2.4 the operation of the emergency fire pump, if any.

.3 The emergency source of electrical power and starting equipment shall be so constructed and arranged as to enable adequate testing to be carried out by the crew while the ship is in operating condition.

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

.1 .1.1 Exposed permanently fixed metal parts of electrical machines or equipment which are not intended to be “live”, but which are liable

under fault conditions to become “live” shall be earthed (grounded) unless:

.1.1.1 they are supplied at a voltage not exceeding 55 volts direct current or 55 volts, root mean square, between conductors; autotransformers shall not be used for the purpose of achieving this alternative current voltage;

.1.1.2 they are supplied at a voltage not exceeding 250 volts by safety isolating transformers supplying one consuming device only; or

.1.1.3 they are constructed in accordance with the principle of double insulation.

.1.2 Portable electrical equipment shall operate at a safe voltage. The Department may require additional precautions for portable electric lamps, tools or similar apparatus for use in confined or exceptionally damp spaces where particular risks due to conductivity may exist.

.2 Main and emergency switchboards shall be so arranged as to give easy access as may be needed to apparatus and equipment, without danger to attendants. The sides and backs and, where necessary, the fronts of switchboards, shall be suitably guarded. Exposed “live” parts having voltages to earth exceeding a voltage to be specified by the Department shall not be installed on the front of such switchboards. There shall be non-conducting mats or gratings at the front and rear, where necessary.

.3 Where a hull return system of distribution is used, special precautions shall be taken to the satisfaction of the Department and A hull return system shall not be used in tankers.

.4 .4.1 Except as permitted by the Department in exceptional circumstances, all metal sheaths and armour of cables shall be electrically continuous and shall be earthed.

.4.2 Where cables which are installed in spaces where the risk of fire or explosion exists in the event of an electrical fault, special precautions against such risks shall be taken to the satisfaction of the Department.

.4.3 Wiring shall be supported in such a manner as to avoid chafing or other damage.

.4.4 Terminations and joints in all conductors shall be made such that they retain the original electrical, mechanical, flame-retarding and, where necessary, fire-resisting properties of the cable.

.4.5 .4.5.1 Circuits shall be protected against short circuit.

.4.5.2 The rating or appropriate setting of the overload protective device of each circuit shall be permanently indicated at the location of the protective device.

.4.6 Lighting fittings shall be arranged to prevent temperature rises which could damage the wiring and to prevent surrounding material from becoming excessively hot.

.4.7 Lighting or power circuits terminating in a space where the risk of fire or explosion exists shall be provided with isolating switches outside the space.

.4.8 .4.8.1 The housing of an accumulator battery shall be constructed and ventilated to the satisfaction of the Department.

.4.8.2 Electrical and other equipment which may constitute a source of ignition of flammable vapours shall not be permitted in the housing except as permitted under sub-paragraph .4.8.1.

.4.8.3 An accumulator battery shall not be located in accommodation spaces unless installed in a hermetically sealed container.

.4.9 In spaces where flammable mixtures are liable to collect and, in any compartment, assigned principally to the containment of an accumulator battery, no electrical equipment shall be installed unless the Department is satisfied that it is:

.4.9.1 essential for operational purposes;

.4.9.2 of a type which will not ignite the mixture concerned;

.4.9.3 appropriate to the space concerned; and

.4.9.4 appropriately certified for safe usage in the dusts, vapours or gases likely to be encountered.

.4.10 Lightning conductors shall be fitted to all wooden masts or topmasts. In ships constructed of non-conductive materials the lightning conductors shall be connected by suitable conductors to a copper plate fixed to the vessel's hull well below the waterline.

38. Communications

In ships of 75 metres in length (L) and over, one of the two separate means of communication referred to in Guidance shall be a reliable means of vocal

communication. An additional reliable means of vocal communication shall be provided between the navigation bridge and the engineers' accommodation.

39. Alarm System

.1 An alarm system shall be provided which shall indicate any fault requiring attention.

.2 .2.1 The alarm system shall be capable of sounding in the machinery space an audible alarm and indicate visually each separate alarm function at a suitable position. However, in ships of less than 45 metres in length (L) the Department may permit the system to be capable of sounding and indicating visually each separate alarm function in the navigation bridge only.

.2.2 In ships of 45 metres in length (L) and over the alarm system shall have a connection to the engineers' cabins through a selector switch to ensure connection to one of these cabins and to the engineers' public rooms, if any. The Certifying Authority may permit alternative arrangements which provide an equivalent measure of safety.

.2.3 Audible and visual alarms shall be activated on the navigation bridge for any situation requiring action by the responsible person on watch or which should be brought to his attention.

.2.4 The alarm system shall as far as is practicable be designed on the fail-safe principle.

.3 The alarm system shall be:

.3.1 continuously powered with automatic change-over to a stand-by power supply in case of loss of normal power supply; and

.3.2 activated by failure of the normal power supply.

.4 .4.1 The alarm system shall be able to indicate at the same time more than one fault and the acceptance of any alarm shall not inhibit another alarm.

.4.2 Acceptance at the position referred to in sub-paragraph .2.2.1 of any alarm condition shall be indicated at the positions where it was shown. Alarms shall be maintained until they are accepted and the visual indications shall remain until the fault has been corrected, when the alarm system shall automatically reset to the normal operating condition.

40. Special requirements for machinery, boiler and electrical installations

.1 If the electrical power is normally supplied by more than one generating set simultaneously, there shall be provisions, e.g. by load shedding, to ensure that in case of loss of one of these generating sets, the remaining ones are kept in operation without overload to permit propulsion and steering.

.2 Where required to be duplicated, other auxiliary machinery essential to propulsion shall be fitted with automatic change-over devices allowing transfer to a stand-by machinery. An alarm shall be given on automatic change-over.

.3 Automatic control and alarm systems shall be provided as follows:

.3.1 the control system shall be such that through the necessary automatic arrangements the services needed for the operation of the main propulsion machinery and its auxiliaries are ensured;

.3.2 means shall be provided to keep the starting air pressure at the required level where internal combustion engines are used for main propulsion;

.3.3 an alarm system complying with Paragraph 39 shall be provided for all important pressures, temperatures, fluid levels, etc.; and

.3.4 where appropriate an adequate central position shall be arranged with the necessary alarm panels and instrumentation indicating any fault.

41. Safety system

A safety system shall be provided so that serious malfunction in machinery or boiler operations, which presents an immediate danger, shall initiate the automatic shut-down of that part of the plant and an alarm shall be given. Shut-down of the propulsion system shall not be automatically activated except in cases which could lead to serious damage, complete breakdown or explosion. Where arrangements for overriding the shut-down of the main propelling machinery are fitted these shall be such as to preclude inadvertent activation. Visual means shall be provided to show whether or not it has been activated.

Chapter IV

Protection of the crew

General Protection Measures

42. Deckhouses and Superstructures

A deckhouse used for accommodation of persons shall be of efficient construction and appropriate to the ship and its area of operation and shall be of adequate strength to withstand the sea and weather forces which the ship may encounter.

43. Bulwarks, Guard Rails, Hand Rails and Toe Rails

.1 The perimeter of an exposed deck shall be fitted with bulwarks, guard rails or guard wires of sufficient strength and height for the safety of persons on deck. Bulwarks, guardrails and guard wires shall be supported efficiently by stays or stanchions. When application of such measures would impede the proper working of the ship, alternative safety measures shall be considered.

.2 To protect persons from falling overboard, bulwarks or three courses of rails or taut wires shall be provided and the bulwark top or the top rail/wire course shall not be less than 1000mm above the deck, in accordance with international Load Line Convention and national legislations.

.3 Where the function of the ship would be impeded by the provision of bulwarks and/or guardrails, alternative proposals providing an equivalent safety for persons onboard, shall be submitted to the Department for approval.

44. Stairways and ladders

Stairways and ladders of adequate size and strength with handrails and non-slip treads shall be provided.

Protection of Personnel

45. Personal Clothing

.1 Each person on board shall be provided with the necessary protective clothing suitable to undertake his/her necessary duties onboard.

.2 All persons on board shall be provided with suitable protective clothing and equipment appropriate also to the prevailing air and sea temperatures and weather conditions. It is strongly recommended that all persons on board wear footwear provided with non-slip soles, particularly on the open deck.

46. Noise

Noise levels onboard ships shall be kept to the lowest possible levels and shall comply Maritime Labour Convention, 2006 and national legislation requirements and to protect crew from the risk of noise-induced hearing loss.

47. Chemicals

Each crew member shall be given suitable protective clothing and equipment for protection against the effects of corrosive chemicals that may be used for onboard maintenance. This may include special gloves, goggles, eyewash and chemical showers, as applicable.

Chapter V

Construction- Fire Protection, Fire Detection And Fire Extinction

Part A - General

48. Fire Safety

The fire safety objectives of this chapter are to:

.1 prevent the occurrence of fire and explosion;

.2 reduce the risk to life caused by fire;

.3 reduce the risk of damage caused by fire to the ship, its cargo and the environment;

.4 contain, control and suppress fire and explosion in the compartment of origin; and

.5 provide adequate and readily accessible means of escape for passengers and crew.

49. The fire safety objectives shall be achieved by ensuring compliances with the prescriptive requirements specified in this chapter.

Part B - Fire Safety Measures for All Ships

50. Structural fire protection

.1 The hull, superstructure, structural bulkheads, decks and deckhouses shall be constructed of non-combustible materials. The Department may permit combustible construction in ships other than a tanker provided the requirement of this Guidance are complied with.

.2 In a ship, the hull of which is constructed of combustible materials, the decks and bulkheads shall be so constructed as to be capable of preventing the spread of fire to the unexposed side in compliance with the requirements of national legislations and SOLAS Chapter II-2. to the satisfaction of the Department.

51. Heating installations

.1 Electric radiators shall be fixed in position and so constructed as to reduce fire risks to a minimum. No such radiator shall be fitted with an element so exposed that clothing, curtains or other similar materials can be scorched or set on fire by heat from the element.

.2 Heating by means of open fires shall not be permitted. Heating stoves and other similar appliances shall be firmly secured and adequate protection and insulation against fire shall be provided beneath and around such appliances and in way of their uptakes. Uptakes of stoves which burn solid fuel shall be so arranged and designed as to minimize the possibility of becoming blocked by combustion products and shall have a ready means for cleaning. Dampers for limiting draughts in uptakes shall, when in the closed position, still leave an adequate area open. Spaces in which stoves are installed shall be provided with ventilators of sufficient area to provide adequate combustion air for the stove. Such ventilators shall have no means of closure and their position shall be to the satisfaction of the Department.

.3 Open flame gas appliances, except cooking stoves and water heaters, shall not be permitted. Spaces containing any such stoves or water heaters shall have adequate ventilation to remove fumes and possible gas leakage to a safe place.

.4 All pipes conveying gas from container to stove or water heater shall be of steel or other approved material. Automatic safety gas shut-off devices shall be fitted to operate on loss of pressure in the gas main pipe or flame failure on any appliance.

52. Means of escape

.1 Stairways and ladders leading to and from all accommodation spaces and in spaces in which the crew is normally employed, other than machinery spaces, shall be so arranged as to provide ready means for escape to the open deck and thence to the survival craft.

.2 Two means of escape shall be provided from every machinery space of Category A which shall be as widely separated as possible. Vertical escapes shall be by means of steel ladders. Where the size of the machinery spaces makes it impracticable, one of these means of escape may be omitted provided that the exit is to the satisfaction of the Certifying Authority.

53. Automatic fire alarm and fire detection systems

Where the Department has permitted under paragraph 3.1, a combustible construction or where otherwise appreciable amounts of combustible materials are used in the construction of accommodation spaces, service spaces and control stations, special consideration shall be given to the installation of an automatic fire alarm and fire detection system in those spaces, having due regard to the size of those spaces, their arrangement and location relative to control stations as well as, where applicable, the flame spread characteristics of the installed furniture.

54. Fire pumps

.1 .1.1 All ships shall be provided with at least one independent power-operated fire pump.

.1.2 In ships of less than 24 metres in length (L) the fire pump may be driven by main propulsion machinery provided that the propeller shafting can be readily disconnected or that a controllable pitch propeller is fitted.

.2 Sanitary, bilge, ballast, general service or any other pump may be used as fire pumps if they comply with the requirements of this Chapter and do not affect the ability to cope with pumping of the bilges. Fire pumps shall be so connected that they cannot be used for pumping oil or other flammable liquids.

.3 Centrifugal pumps or other pumps connected to the fire main through which backflow could occur shall be fitted with non-return valves.

.4 .4.1 If fire in any one compartment can pull all the fire pumps out of action, there shall be an alternate means to extinguish the fire. This alternate means may be an emergency power-operated fire pump.

.4.2 An emergency power-operated fire pump shall be an independently driven self-contained pump either with its own prime mover and fuel supply fitted in an accessible position outside the compartment which contains the main fire pump, or be driven by a self-contained generator which may be an emergency generator of sufficient capacity and which is positioned

in a safe place outside the engine room and above the freeboard deck.

.4.3 The emergency fire pump, sea suction and other valves shall be operable from outside the compartment containing the main fire pump and, in a position, not likely to be cut off by fire in that compartment.

.5 The total capacity (Q) of the main power-operated fire pump shall be at least:

$$Q = (0.15\sqrt{L\,(B + D)} + 1)^2$$

cubic metres per hour where L, B and D are in metres.

.6 Where two independent power-operated fire pumps are fitted, the capacity of each pump shall not be less than 40% of the quantity required by paragraph 54.5.

.7 When the main power fire pump is delivering the quantity of water required by paragraph 54.5 through the fire main, fire hoses and nozzles, the pressure maintained at any hydrant shall be not less than 0.21 newton per square millimetre.

.8 Where the power-operated emergency fire pump is delivering the maximum quantity of water through the jet required by paragraph 54.1, the pressure maintained at any hydrant shall be to the satisfaction of the Department.

55. Fire mains

.1 Where more than one hydrant is required to provide a jet of water required by the paragraph 56.1, a fire main shall be provided.

.2 Materials readily rendered ineffective by heat shall not be used for fire mains, unless adequately protected.

.3 When the fire pump delivery pressure can exceed the designed working pressure of fire mains, relief valves shall be fitted.

.4 Fire mains shall have no connections other than those required for firefighting, except for the purposes of washing the deck and anchor chains or operating the chain locker bilge ejector.

56. Fire hydrants, fire hoses and nozzles

.1 Fire hydrants shall be positioned so as to allow easy and quick connection of fire hoses and so that at least one jet of water can be directed into any part of the ship, which is normally accessible during navigation.

.2 The jet required in sub-paragraph .1 shall be from a single length of fire hose.

.3 In addition to the requirements of sub-paragraph .1, in every machinery space of Category A:

.3.1 there shall be at least two fire hydrants each complete with fire hose and combined jet and spray nozzle. One of the hydrants shall be located near the entrance; or

.3.2 in a ship of less than 24 metres in length (L) there shall be at least one fire hydrant complete with fire hose and combined jet and spray nozzle. This hydrant shall be located outside the space and near the entrance.

.4 A single length of fire hose shall not exceed 15 metres.

.5 Fire hoses shall be of an approved material. Each fire hose shall be provided with couplings and an approved nozzle.

.6 Except where fire hoses are permanently attached to the fire main, the couplings of fire hoses and nozzles shall be completely interchangeable.

.7 The nozzles as required by paragraph 56.5 shall be appropriate to the delivery capacity of the fire pumps fitted, but in any case, shall have a diameter of not less than 12 millimetres.

57. Portable fire extinguishers

.1 Each powder or carbon dioxide extinguisher shall have a capacity of at least 5 kg and each foam extinguisher shall have a capacity of at least 9 litres. The mass of all portable fire extinguishers shall not exceed 23 kg and they shall have a fire-extinguishing capability at least equivalent to that of a 9 litres fluid extinguisher. The Department shall determine the equivalents of fire extinguishers.

.2 Spare charges shall be provided to the satisfaction of the Department.

.3 Fire extinguishers containing an extinguishing medium, which, in the opinion of the Department, either by itself or under expected conditions of use, gives off toxic gases in such quantities as to endanger persons shall not be permitted.

.4 Fire extinguishers shall be periodically examined and subjected to such tests as the Department may require.

.5 Only refills approved for the fire extinguisher in question shall be used for recharging.

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

58. Fire buckets

.1 Fire buckets shall be of metal, painted red and clearly and permanently marked with the word “FIRE”. Except in open ships such fire buckets shall be kept filled with sand or water.

.2 All fire buckets shall be provided with lanyards of sufficient length.

59. Portable fire extinguishers in control stations, accommodation and service spaces

.1 A sufficient number of approved portable fire extinguishers shall be provided in control stations, accommodation and service spaces to ensure that at least one extinguisher of a suitable type is readily available for use in any part of such spaces. The total number of extinguishers in these spaces, however, shall not be less than 3.

.2 In addition to the requirements under paragraph 59.1 every ship shall be provided with at least 3 fire buckets.

60. Fire-extinguishing arrangements in machinery spaces

.1 .1.1 A ship of 1,000 gross tonnage or more, registered on or after the issuance of this Guidance, spaces containing oil-fired boilers, oil fuel units or internal combustion machinery having a total power output of not less than 746 kilowatts shall be provided with one of the following fixed fire-fighting installations:

.1.1.1 a pressure water-spraying installation;

.1.1.2 a fire-smothering gas installation;

.1.1.3 a fire-extinguishing installation using froth having an expansion ratio not exceeding 12 to 1;

.1.1.4 a fire-extinguishing installation using a high expansion froth having expansion ratio not exceeding 1,000 to 1.

.1.2 Where the engine and boiler rooms are not entirely separated from each other or if fuel oil can drain from the boiler room into the engine room, the engine and boiler rooms shall be considered as one compartment.

.2 Installations listed in sub-paragraph .1.1.1 shall be controlled from readily accessible positions outside such spaces not likely to be cut off by a fire in the protected space. Arrangements shall be made to ensure the supply of power and water necessary for the operation of the system in the event of fire in the protected space.

.3 In all machinery spaces of Category A, at least two portable extinguishers of a type suitable for extinguishing fires involving fuel oil shall be provided. Where such spaces contain machinery, which has a total power output of not less than 350 kilowatts, at least 3 such extinguishers shall be provided. One of the extinguishers shall be stowed near the entrance to the space.

.4 Every ship to which sub-paragraph .1.1.1 does not apply having machinery spaces not protected by a fixed fire-extinguishing system shall be provided with at least a 45-litre foam extinguisher suitable for fighting oil fires. Where the size of the machinery spaces makes this provision impracticable, the extinguisher shall be positioned outside the machinery

space in such a way as to be readily available for use in case of fire in such space.

.5 In each firing space of every such ship, fitted with auxiliary oil-fired boilers, a receptacle shall be provided which shall contain at least 0.28 cubic metres of sand or other dry material suitable for quenching oil fires. Scoops shall be provided for distributing the contents of the receptacle.

61. Fireman's Outfit Fire-fighter's outfits

.1 Ships of 500 gross tonnage and upwards, engaged on any voyage, shall carry at least two fire-fighter's outfits.

.2 Ships of less than 500 gross tonnage, engaged on any voyage, shall carry at least one fire-fighter's outfit.

.3 The fire-fighter's outfit referred to in sub-paragraphs .1 and .2 shall consist of a set of personal equipment and a breathing apparatus.

.3.1 Personal equipment which consist of the following:

.3.1.1 protective clothing of material to protect the skin from the heat radiating from the fire and from burns and scalding by steam, the outer surface shall be water-resistant;

.3.1.2 boots of rubber or other electrically non-conducting material;

.3.1.3 rigid helmet providing effective protection against impact;

.3.1.4 electric safety lamp (hand lantern) of an approved type with a minimum burning period of 3 h. Electric safety lamps on tankers and those intended to be used in hazardous areas shall be of an explosion-proof type; and

.3.1.5 axe with a handle provided with high-voltage insulation.

.3.2 Breathing apparatus

.3.2.1 Breathing apparatus shall be a self-contained compressed air breathing apparatus for which the volume of air contained in the cylinders shall be at least 1,200 litres, or other self -contained breathing apparatus which shall be capable of functioning for at least 30 min. All air cylinders for breathing apparatus shall be interchangeable.

.3.2.2 Compressed air breathing apparatus shall be fitted with an audible alarm and a visual or other device which will alert the user before the volume of the air in the cylinder has been reduced to no less than 200 litres.

.3.2.3 Lifeline

For each breathing apparatus a fireproof lifeline of at least 30 m in length shall be provided. The lifeline shall successfully pass an approval test by statical load of 3.5 kN for 5 min without failure. The lifeline shall be capable of being attached by means of a snap-hook to the harness of the apparatus or to a separate belt in order to prevent the breathing apparatus becoming detached when the lifeline is operated.

62. Fire-fighter's axe

Every ship shall carry at least one fire-fighter's axe.

63. Fire control plan

There shall be a permanently exhibited fire control plan to the satisfaction of the Department. For ships of less than 500 gross tonnage, the Department may dispense with this requirement.

64. Availability of appliances

Fire-fighting appliances shall be kept in good order and available for immediate use at all times.

65. Acceptance of substitutes

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

Fire Safety Measures for Tankers

66. Application

.1 Unless otherwise expressly provided, this chapter shall apply to any tanker registered as a Myanmar ship on or after the issuance of this Guidance engaged on all voyages carrying crude oil and petroleum products having a flash-point not exceeding 60° Celsius (closed cup test) as determined by an approved flashpoint apparatus and whose Reid vapour pressure is below that of atmospheric pressure, and other liquid products having a similar fire hazard.

.2 Where cargoes, other than those referred to in paragraph .1, which introduce additional fire hazards are intended to be carried, additional

safety measures shall be required to install according to national legislations.

Chapter VI

Life-Saving Appliances and Arrangements

General

67. Approval of life-saving appliances and arrangements

.1 Department shall approve the life-saving appliances and arrangements except sub-paragraphs .2 and .3 required by this chapter.

.2 Before accepting life-saving appliances and arrangements that have not been previously approved by the Administration, the Department shall satisfy that life-saving appliances and arrangements comply with this Guidance and Life-saving appliances Code (LSA Code).

.3 Life-saving appliances required by this chapter for which detailed specifications are not included in the LSA Code shall be to the satisfaction of the Department.

.4 Life-saving appliances and arrangements, Survival Craft and Rescue boat embarkation, launching and recovery arrangements shall comply with the requirements of the SOLAS Convention and LSA Code.

Requirements for Ships and Life-Saving Appliances

68. Communications

.1 Every cargo ship of 500 gross tonnage and upwards, shall carry at least 3 two-way VHF radiotelephone apparatus and every cargo ship of 300 gross tonnage and upwards but less than 500 gross tonnage shall carry at least 2 two-way VHF radiotelephone apparatus.

.2 Every cargo ship of 500 gross tonnage and upwards, shall carry at least one search and rescue locating device on each side of ship and every cargo ship of 300 gross tonnage and upwards but less than 500 gross tonnage shall carry at least one search and rescue locating device.

.3 Every cargo ship shall carry at least 12 rocket parachute flares and stow on or near the navigation bridge.

.4 An emergency means comprised of either fixed or portable equipment or both shall be provided for two-way communications between emergency control stations, muster and embarkation stations and strategic positions on board.

.5 A general emergency alarm system shall be provided and shall be used for summoning passengers and crew to muster stations and to initiate the actions included in the muster list. The system shall be supplemented by either a public address system or other suitable means of communication. The general emergency alarm system shall be audible throughout all the accommodation and normal crew working spaces.

Personal Life-saving appliances

69. Lifebuoy

.1 Cargo ships shall carry not less than the number of lifebuoys as follows:

Length of ship in metres	Minimum number of lifebuoys
Under 100	8

100 and under 150	10
150 and under 200	12
200 and over	14

.2 Lifebuoys shall be distributed as to be readily available on both sides of the ship and as far as practicable on all open decks extending to the ship's side and at least one shall be placed in the vicinity of the stern.

.3 At least one lifebuoy on each side of the ship shall be fitted with a buoyant lifeline equal in length to not less than twice the height at which it is stowed above the waterline in the lightest seagoing condition, or 30 m, whichever is the greater.

.4 .4.1 Not less than one half of the total number of lifebuoys shall be provided with lifebuoy self-igniting lights.

.4.2 Not less than two of these shall also be provided with lifebuoy self-activating smoke signals and be capable of quick release from the navigation bridge.

.4.3 Lifebuoys with lights and those with lights and smoke signals shall be equally distributed on both sides of the ship and shall not be the lifebuoys provide with lifelines in compliance with the requirements of sub-paragraph .3.

.4.4 Self-igniting lights for lifebuoys on tankers shall be of an electric battery type.

70. Lifejacket

.1 A lifejacket with lifejacket light shall be provided for every person on board the ship and shall be so placed as to be readily accessible and their position shall be plainly indicated.

.2 A sufficient number of lifejackets shall be carried for persons on watch and for use at remotely located survival craft stations. The lifejackets carried for persons on watch should be stowed on the bridge, in the engine control room and at any other manned watch station.

.3 If the adult lifejackets provided are not designed to fit persons weighing up to 140 kg and with a chest girth of up to 1,750 mm, a sufficient number of suitable accessories shall be available on board to allow them to be secured to such persons.

.4 The lifejackets used in totally enclosed lifeboats, except free-fall lifeboats, shall not impede entry into the lifeboat or seating, including operation of the seat belts in the lifeboat and lifejackets selected for free-fall lifeboats, and the manner in which they are carried or worn, shall not interfere with entry into the lifeboat, occupant safety or operation of the lifeboat.

71. Survival craft and rescue boats

Lifeboats and liferafts for which approved launching appliances are required shall be stowed as close to accommodation and service as possible.

72. Survival craft

.1 Cargo ships shall carry:

.1.1 one or more totally enclosed lifeboats of such aggregate capacity on each side of the ship as will accommodate the total number of persons on board; and

.1.2 in addition, one or more inflatable or rigid liferafts of a mass of less than 185 kg and stowed in a position providing for easy side-to-side transfer at a single open deck level, and of such aggregate capacity as will accommodate the total number of persons on board. If the liferaft(s) are not of a mass of less than 185 kg and stowed in a position providing for easy side-to-side transfer at a single open deck level, the total capacity available on each side shall be sufficient to accommodate the total number of persons on board.

.2 In lieu of meeting the requirement of sub-paragraph.1, cargo ships may carry:

.2.1 one or more fee-fall lifeboats capable of being free-fall launched over the stern of the sip of such aggregate capacity as will accommodate the total number of persons on board; and

.2.2 in addition, one or more inflatable or rigid liferafts on each side of the ship, of such aggregate capacity as will accommodate the total number of persons on board. The liferafts on at least one side of the ship shall be served by launching appliances.

.3 In lieu of meeting the requirement of sub-paragraphs .1 and .2, cargo ships of less than 85m in length other than oil tankers, chemical tankers and gas carriers, may comply with the following:

.3.1 they shall carry on each side of the ship, one or more inflatable or rigid liferafts of such aggregate capacity as will accommodate the

total number of persons on board.

.3.2 unless the liferafts required by above sub-paragraph .1 are of a mass of less than 185 kg and stowed in a position providing for easy side-to-side transfer at a single open deck level, additional liferafts shall be provided so that the total capacity available on each side will accommodate 150% of the total number of persons on boards;

.4 Cargo ships where the horizontal distance from the extreme end of the stem or stern of the ship to the nearest end of the closest survival craft is more than 100 metres shall carry, in addition to the liferafts required by sub-paragraphs .1.2 and .2.2, a liferaft stowed as far forward or aft, or one as far forward and another as far aft, as is reasonable and practicable. Such liferaft(s) may be securely fastened so as to permit manual release and need not be of the type which can be launched from an approved launching device.

.5 Chemical tankers and gas carriers carrying cargoes emiting toxic vapours or gases shall carry lifeboats with a self-contained air support system in lieu of totally enclosed lifeboats,

.6 Oil tankers, chemical tankers and gas carriers carrying cargoes having a flashpoint not exceeding 60° C (closed-cup test) shall carry fire protected lifeboats in lieu of totally enclosed lifeboats.

73. Stowage of survival craft

.1 Lifeboats and liferafts for which approved launching appliances are required shall be stowed as close to accommodation and service as possible.

.2 Lifeboats shall be stowed attached to launching appliances.

.3 .3.1 Every liferaft shall be stowed with its painter permanently attached to the ship and each liferaft or group of liferafts, shall be stowed with a float-free arrangement so that each floats free and, if inflatable, inflates automatically when the ship sinks.

.3.2 Liferafts shall be so stowed as to permit manual release of one raft or container at a time from their securing arrangements.

.3.3 Sub-paragraph (i) do not apply to liferafts required by paragraph 72.4.

.4 Davit-launched liferafts shall be stowed within reach of the lifting hooks, unless some means of transfer is provided which is not rendered inoperable within the limits of trim and list or by ship motion or power failure.

.5 Liferafts intended for throw-overboard launching shall be so stowed as to be readily transferable for launching on either side of the ship unless liferafts, of the aggregate capacity required by paragraph 90 to be capable of being launched on either side, are stowed on each side of the ship.

74. Rescue boats

Cargo ships shall carry at least one rescue boat. A life boat may be accepted as a rescue boat, provided that it and its launching and recovery arrangements also comply with the requirements for a rescue boat.

75. Stowage of rescue boats

Rescue boats shall be stowed:

.1 in a state of continuous readiness for launching in not more than 5min, and, if the inflated type, in a fully inflated condition at all times;

.2 in a position suitable fro launching and recovery;

.3 so that neither the rescue boat nor its stowage arrangements will interfere with the operation of any survival craft at any other launching station; and

.4 if it also a lifeboat, in compliance with the requirements of paragraph 73.

76. Recovery of persons from the water

All ships shall have ship-specific plans and procedures for recovery of persons from the water. The plans and procedures shall identify the equipment intended to be used for recovery purpose and measures to be taken to minimize the risk to shipboard personnel involved in recovery operations.

77. Line-throwing appliances

A line-throwing appliance shall be provided.

78. Muster list and emergency instructions

.1 The muster list shall:

.1.1 specify details of the general emergency alarm and also action to be taken by crew and passengers when this alarm is sounded. The muster list shall also specify how the order to abandon ship will be given;

.1.2 show the duties assigned to the different members of the crew;

.1.3 specify which officers are assigned to ensure that life-saving and fire appliances are maintained in good condition and are ready for immediate use;

.1.4 specify substitutes for key persons who may become disabled, taking into account that different emergencies may call for different actions;

.1.5 be exhibited in conspicuous places throughout the ship including the navigation bridge, engine-room and crew accommodation spaces; and

.1.6 be prepared before the ship proceeds to sea. After the muster list has been prepared, if any change takes place in the crew which necessitates an alteration in the muster list, the master shall either revise the list or prepare a new list.

.2 Clear instructions to be followed in the event of an emergency shall be provided for every person on board.

79. Drills

.1 Drills shall, as far as practicable, be conducted as if there were an actual emergency.

.2 Every crew member shall participate in at least one abandon ship drill and one fire drill every month. The drills of the crew shall take place within 24 hours of the ship leaving a port if more than 25% of the crew have not participated in abandon ship and fire drills on board that particular ship in the previous month. When a ship enters service for the first time, after modification of a major character or when a new crew is engaged, these drills shall be held before sailing. The Department may accept other arrangements that are at least equivalent for those classes of ships for which this is impracticable.

.3 Crew members with enclosed space entry or rescue responsibilities shall participate in an enclosed space entry and rescue drill to be held on board the ship at least once every two months.

80. On-board training and instructions

.1 On-board training in the use of the ship's life-saving appliances, including survival craft equipment, and in the use of the ship's fire-extinguishing appliances shall be given as soon as possible but not later than two weeks after a crew member joins the ship.

.2 .2.1 Every crew member shall be given the instructions in the use of the ship's fire-extinguishing appliances, life-saving appliances, and in survival at sea shall be given at the same interval as the drills.

.2.2 Individual instruction may cover different parts of the ship's life-saving and fire-extinguishing appliances, but all the ship's life-saving and fire-extinguishing appliances shall be covered within any period of two months.

.3 On-board training in the use of davit-launched liferafts shall take place at intervals of not more than four months on every ship fitted with such appliances.

.4 The Training manual shall contain instructions and information, in easily understood terms illustrated wherever possible, on the life-saving appliances provided in the ship and on the best methods of survival. Any part of such information my be provided in the form of audio-visual aids in lieu of the manual.

81. Records

The date when musters are held, details of abandon ship drills and fire drills enclosed space entry and rescue drills, drills of other life-saving appliances and on-board training shall be recorded in official log-book approved by the Department. If a full muster, drill or training session is not held at the appointed time, an entry shall be made in such official log-book stating the circumstances and the extent of the muster, drill or training session held.

82. Operational readiness, maintenance and inspections

.1 Before the ship leaves port and at all times during the voyage, all life-saving appliances shall be in working order and ready for immediate use.

.2 .2.1 Maintenance, testing and inspections of life–saving appliances shall be carried out in a manner having due regard to ensuring reliability of such appliances.

.2.2 The instructions for on-board maintenance of life-saving appliances complying with the Regulation III/36 of SOLAS Convention shall be provided and maintenance shall be carried out accordingly. The Department accept a shipboard planned maintenance programme,

.3 Test and inspections for all survival craft and launching appliances, all engines in lifeboats and rescue boats, lifeboats except free-fall lifeboats, general emergency alarm, shall be carried out weekly and a report of the inspection shall be entered in the logbook.

.4 .4.1 All lifeboats, except free-fall lifeboats, shall be turned out from their stowed position, without any persons on board if weather and sea conditions so allow.

.4.2 Inspection of the life-saving appliances, including lifeboat equipment, shall be carried out monthly using the checklist to ensure that they are complete and in good order. A report of the inspection shall be entered in the official log-book.

.5 Every inflatable liferaft, inflatable lifejacket and Hydrostatic release units other than disposable hydrostatic release units, shall be serviced at intervals not exceeding 12 months, provided where in any case this is impracticable, the Department may extend this period to 17 months.

.6 The maintenance, thorough Examination, operational testing, overhaul and repair of lifeboats, rescue boats and fast rescue boats, launching appliances and release gear shall be carried out in accordance with the Regulation III/36 of SOLAS Convention.

Chapter VII

Radiocommunications

83. Functional requirements

.1 Every ship, while at sea, shall be capable of performing the GMDSS functions, which are as follows:

.1.1 transmitting ship-to-shore distress alerts by at least two separate and independent means, each using a different radiocommunication service;

.1.2 receiving shore-to-ship distress alert relays;

.1.3 transmitting and receiving ship-to-ship distress alerts;

.1.4 transmitting and receiving serach and rescue coordinating communications;

.1.5 transmitting and receiving on-scene communications;

.1.6 transmitting and receiving signals for locating;

.1.7 receiving MSI;

.1.8 transmitting and receiving urgency and safety communications; and

.1.9 transmitting and receiving bridge-to-bridge communications; and

.2 Every ship, while at sea, shall be capable of transmitting and receiving general radiocommunications.

84. Radio installations

.1 Every ship shall be provided with radio installations capable of complying with the functional requirements prescribed by paragraph 83

throughout its intended voyage and, unless exempted under paragraph 3.3 complying with the requirements of paragraph 85 and, as appropriate for the sea area or areas through which it will pass during its intended voyage.

.2 Every radio installation shall be:

.2.1 located in such a way that no harmful interference of mechanical, electrical or other origin affects its proper use, and that electromagnetic compatibility is ensured and harmful interaction avoided with other equipment and systems;

.2.2 so located as to ensure the greatest possible degree of safety and operational availability;

.2.3 protected against harmful effects of water, extremes of temperature and other adverse environmental conditions;

.2.4 provided with reliable, permanently arranged electrical lighting, independent of the main and emergency sources of electrical power, for the adequate illumination of the radio controls for operating the radio installation; and

.2.5 clearly marked with the GMDSS identities, as applicable, for use by the radio installation operator.

.3 Control of the VHF radiotelephone channels, required for navigational safety, shall be immediately available on the navigation bridge convenient to the conning position and, where necessary, facilities should be available to permit radiocommunications from the wings of the navigation bridge. Portable VHF equipment may be used to meet the latter provision.

85. Radio equipment: General

.1 Every ship shall be provided with:

.1.1 a VHF radio installation capable of transmitting and receiving, for distress, urgency and safety communications purposes:

.1.1.1 DSC on the frequency 156.525 MHz (channel 70). It shall be possible to initiate the transmission of distress alerts on channel 70 from the position from which the ship is normally navigated; and

.1.1.2 radiotelephony on the frequencies 156.300 MHz (channel 6), 156.650 MHz (channel 13) and 156.800 MHz (channel 16);

.1.2 a radio installation capable of maintaining a continuous DSC watch on VHF channel 70 which may be separate from, or combined with, that required by sub-paragraph .1.1;

.1.3 a radar SART or an AIS-SART, which shall be so stowed that it can be easily utilized and may be one of those required by sub-paragraph .2.1;

.1.4 a receiver or receivers capable of receiving MSI and search and rescue related information throughout the entire voyage in which the ship is engaged;

.1.5 an EPIRB which shall be:

.1.5.1 installed in an easily accessible position;

.1.5.2 ready to be manually released and capable of being carried by one person into a survival craft;

.1.5.3 capable of floating free if the ship sinks and of being automatically activated when afloat; and

.1.5.4 capable of being activated manually; and

.1.6 a radio installation capable of transmitting and receiving general radiocommunications operating on working frequencies in the band between 156 MHz and 174 MHz. This requirement may be fulfilled by the addition of this capability in the equipment required by sub-paragraph .1.1.

.2 Every cargo ship of 300 gross tonnage and upwards but less than 500 gross tonnage shall be provided with at least:

.2.1 one radar SART or AIS-SART; and

.2.2 two two-way VHF radiotelephone apparatuses.

.3 The two-way VHF radiotelephone apparatuses required by sub-paragraph .2.1 may be portable or fitted in survival craft. The portable apparatus may be stored on the bridge.

.4 The radar SARTs or AIS-SARTs required by sub-paragraph .2.1 shall be stowed in such locations that they can be rapidly placed in any survival craft other than a liferaft required by regulation III/31.1.4 of SOLAS Convention. Alternatively, one radar SART or AIS-SART shall be stowed in each survival craft other than a liferaft required by regulation III/31.1.4 of SOLAS Convention. On ships carrying at least two radar SARTs or AIS-SARTs and equipped with free-fall lifeboats, one of the radar SARTs or AIS-SARTs shall be stowed in a free-fall lifeboat and the other shall be located in the immediate vicinity of the navigating bridge so that it can be utilized on board and ready for transfer to any of the other survival

craft, other than a liferaft required by regulation III/31.1.4 of SOLAS Convention.

86. Radio equipment: Sea area A1

In addition to meeting the requirements of paragraph 85, every ship engaged on voyages in sea area A1 shall be provided with a radio installation capable of initiating the transmission of ship-to-shore distress alerts from the position from which the ship is normally navigated, operating either:

.1 through the satellite service on 406 MHz; or

.2 if the ship is engaged on voyages within coverage of MF coast stations equipped with DSC, on MF using DSC; or

.3 on high frequency (HF) using DSC; or

.4 through a recognized mobile satellite service ship earth station.

87. EPIRB

The requirement in paragraph 85.1 may be fulfilled by installing:

.1 the EPIRB required by paragraph 85.1.1.5 close to the position from which the ship is normally navigated, but in a location whereby it can still float free of the ship in an emergency; or

.2 the EPIRB required by paragraph 85.1.1.5 elsewhere on the ship, provided that this EPIRB has a means of remote activation which is installed near the position from which the ship is normally navigated; or

.3 a second EPIRB near the position from which the ship is normally navigated.

88. Radio equipment: Sea area A2

.1 In addition to meeting the requirements of paragraph 85, every ship engaged on voyages within sea area A2 shall be provided with:

.1.1 an MF radio installation capable of transmitting and receiving, for distress, urgency and safety communications purposes, on the frequencies:

.1.1.1 2187.5 kHz using DSC; and

.1.1.2 2 182 kHz using radiotelephony;

.1.2 a radio installation capable of maintaining a continuous DSC watch on the frequency 2 187.5 kHz which may be separate from, or combined with, that required by sub-paragraph .1.1; and

.1.3 a secondary means of initiating the transmission of ship-to-shore distress alerts by a radio service other than MF operating either:

.1.3.1 through the satellite service on 406 MHz; or on HF using DSC; or

1.3.2 through a recognized mobile satellite service ship earth station.

.2 It shall be possible to initiate transmission of distress alerts by the radio installations specified in sub-paragraphs .1.1 and .1.3 from the position from which the ship is normally navigated.

.3 The requirement in sub-paragraph .1.3.1 may be fulfilled by installing:

.3.1 the EPIRB required by paragraph 85.1.1.5 close to the position from which the ship is normally navigated, but in a location whereby it can still float free of the ship in an emergency; or

.3.2 the EPIRB required by paragrapgh 85.1.1.5 elsewhere on the ship, provided that this EPIRB has a means of remote activation which is installed near the position from which the ship is normally navigated; or

.3.3 a second EPIRB near the position from which the ship is normally navigated.

.4 The ship shall, in addition, be capable of transmitting and receiving general radiocommunications by either:

.4.1 a radio installation operating on working frequencies in the bands between 1,605 kHz and 4,000 kHz or between 4,000 kHz and 27,500 kHz. This requirement may be fulfilled by the addition of this capability in the equipment required by sub-paragraph .1.1; or

.4.2 a recognized mobile satellite service ship earth station.

89. Radio equipment: Sea area A3

.1 In addition to meeting the requirements of paragraph 85, every ship engaged on voyages within sea area A3 shall be provided with:

.1.1 a recognized mobile satellite service ship earth station capable of:

.1.1.1 transmitting and receiving distress, urgency and safety communications;

.1.1.2 initiating and receiving distress priority calls; and

.1.1.3 maintaining watch for shore-to-ship distress alert relays, including those directed to specifically defined geographical areas;

.1.2 an MF radio installation capable of transmitting and receiving, for distress, urgency and safety communications purposes, on the frequencies:

.1.2.1 2187.5 kHz using DSC; and

.1.2.2 2182 kHz using radiotelephony

.1.3 a radio installation capable of maintaining a continuous DSC watch on the frequency 2 187.5 kHz which may be separate from, or combined with, that required by sub-paragraph .1.1.1; and

.1.4 a secondary means of initiating the transmission of ship-to-shore distress alerts by a radio service operating either:

.1.4.1 through the satellite service on 406 MHz; or

.1.4.2 on HF using DSC; or

.1.4.3 through any recognized mobile satellite service on an additional ship earth station.

.2 It shall be possible to initiate transmission of distress alerts by the radio installations specified in sub-paragraphs .1.1, .1.2 and .1.4 from the position from which the ship is normally navigated.

.3 The requirement in sub-paragraph .1.4 may be fulfilled by installing:

.3.1 the EPIRB required by paragraph 85.1.1.5 close to the position from which the ship is normally navigated, but in a location whereby it can still float free of the ship in an emergency; or

.3.2 the EPIRB required by paragraph 85.1.1.5 elsewhere on the ship, provided that this EPIRB has a means of remote activation which

is installed near the position from which the ship is normally navigated; or

.3.3 a second EPIRB near the position from which the ship is normally navigated.

.4 The ship shall, in addition, be capable of transmitting and receiving general radiocommunications by either:

.4.1 a recognized mobile satellite service ship earth station; or

.4.2 a radio installation operating on working frequencies in the bands between 1 605 kHz and 4 000 kHz or between 4 000 kHz and 27 500 kHz.

.5 The requirements in sub-paragraph (d) may be fulfilled by the addition of this capability in the equipment required by sub-paragraph .1.1 or .1.2, respectively.

90. Radio equipment: Sea area A4

.1 In addition to meeting the requirements of paragraph 85, every ship engaged on voyages within sea area A4 shall be provided with:

.1.1 an MF/HF radio installation capable of transmitting and receiving, for distress, urgency and safety communications purposes, on all distress, urgency and safety frequencies in the bands between 1,605 kHz and 4,000 kHz and between 4,000 kHz and 27,500 kHz:

.1.1.1 using DSC; and

.1.1.2 using radiotelephony;

.1.2 equipment capable of maintaining DSC watch on 2 187.5 kHz, 8 414.5 kHz and on at least one of the DSC frequencies 4,207.5 kHz,

6 312 kHz, 12,577 kHz or 16,804.5 kHz; it shall be possible at any time to select any of these DSC frequencies for distress, urgency and safety communications purposes. This equipment may be separate from, or combined with, the equipment required by sub-paragraph .1.1; and

.1.3 a secondary means of initiating the transmission of ship-to-shore distress alerts through the satellite service on 406 MHz.

.2 The ship shall, in addition, be capable of transmitting and receiving general radiocommunications by a radio installation operating on working frequencies in the bands between 1 605 kHz and 4 000 kHz and between 4 000 kHz and 27 500 kHz. This requirement may be fulfilled by the addition of this capability in the equipment required by sub-paragraph .1.1.

.3 It shall be possible to initiate transmission of distress alerts by the radio installations specified in sub-paragraphs .1.1 and .1.3 from the position from which the ship is normally navigated.

.4 The requirement in sub-paragraph .1.3 may be fulfilled by installing:

.4.1 the EPIRB required by sub-paragraph 85.1.1.5 close to the position from which the ship is normally navigated, but in a location whereby it can still float free of the ship in an emergency; or

.4.2 the EPIRB required by sub-paragraph 85.1.1.5 elsewhere on the ship, provided that this EPIRB has a means of remote activation which is installed near the position from which the ship is normally navigated; or

.4.3 a second EPIRB near the position from which the ship is normally navigated.

91. Watches

.1 Every ship, while at sea, shall maintain a continuous radio watch for distress, urgency and safety communications.

.2 Every ship, while at sea, shall maintain a radio watch for broadcasts of MSI and search and rescue related information on the appropriate frequency or frequencies on which such information is broadcast for the area in which the ship is navigating.

.3 Every ship, while at sea, shall maintain, when practicable, a continuous listening watch, which shall be kept at the position from which the ship is normally navigated, on:

.3.1 VHF channel 16; and

.3.2 other appropriate frequencies for urgency and safety communications for the area in which the ship is navigating.

92. Sources of energy

.1 While the ship is at sea, a supply of electrical energy shall be available at all times sufficient to operate the radio installations and to charge any batteries used as part of a reserve source or sources of energy for the radio installations.

.2 A reserve source or sources of energy shall be provided on every ship, to supply radio installations, for the purpose of conducting distress, urgency and safety communications, in the event of failure of the ship's main and emergency sources of electrical power. The reserve source or sources of

energy shall be capable of simultaneously operating the VHF radio installation required by paragraph 85.1.1 and, as appropriate for the sea area or sea areas for which the ship is equipped, either the MF radio installation required by paragraph 88.1.1 or 89.1.2, the MF/HF radio installation required by paragraph 90.1.1, or the ship earth station required by paragraph 89.1.1 and any of the additional loads mentioned in sub-paragraphs .4, .5 and .8 for a period of at least:

.2.1 one hour on ships provided with an emergency source of electrical power, if such source of power complies fully with all relevant provisions of regulation II-1/42 or 43 of SOLAS Convention, including the supply of such power to the radio installations; and

.2.2 six hours on ships not provided with an emergency source of electrical power complying fully with all relevant provisions of regulation II-1/42 or 43 of SOLAS Convention, including the supply of such power to the radio installations.

The reserve source or sources of energy need not supply independent HF and MF radio installations at the same time.

.3 The reserve source or sources of energy shall be independent of the propelling power of the ship and the ship's electrical system.

.4 Where, in addition to the VHF radio installation, two or more of the other radio installations referred to in sub-paragraph .2 can be connected to the reserve source or sources of energy, they shall be capable of simultaneously supplying, for the period specified, as appropriate, in sub-paragraph .2.1 or .2.2, the VHF radio installation and:

.4.1 all other radio installations which can be connected to the reserve source or sources of energy at the same time; or

.4.2 whichever of the other radio installations will consume the most power, if only one of the other radio installations can be connected to the reserve source or sources of energy at the same time as the VHF radio installation.

.5 The reserve source or sources of energy may be used to supply the electrical lighting required by paragraph 84.2.4.

.6 Where a reserve source of energy consists of a rechargeable accumulator battery or batteries:

.6.1 a means of automatically charging such batteries shall be provided which shall be capable of recharging them to minimum capacity requirements within 10 hours; and

.6.2 the capacity of the battery or batteries shall be checked, using an appropriate method, at intervals not exceeding 12 months, when the ship is not at sea.

.7 The siting and installation of accumulator batteries which provide a reserve source of energy shall be such as to ensure:

.7.1 the highest degree of service;

.7.2 a reasonable lifetime;

.7.3 reasonable safety;

.7.4 that battery temperatures remain within the manufacturer's specifications whether under charge or idle; and

.7.5 that when fully charged, the batteries will provide at least the minimum required hours of operation under all weather conditions.

.8 If an uninterrupted input of information from the ship's navigational or other equipment to a radio installation required by this chapter, including the navigation receiver referred to in paragraphs 97 and 98 is needed to ensure its proper performance, means shall be provided to ensure the continuous supply of such information in the event of failure of the ship's main or emergency source of electrical power.

93. Performance standards

All equipment to which this chapter applies shall be of a type approved by the Administration. Such equipment shall conform to appropriate performance standards not inferior to those adopted by the IMO.

94. Maintenance requirements

.1 Equipment shall be so designed that the main units can be replaced readily, without elaborate recalibration or readjustment.

.2 Where applicable, equipment shall be so constructed and installed that it is readily accessible for inspection and onboard maintenance purposes.

.3 Adequate information shall be provided to enable the equipment to be properly operated and maintained, taking into account the recommendations of the IMO.

.4 Adequate tools and spares shall be provided to enable the equipment to be maintained.

.5 The Department shall ensure that radio equipment required by this chapter is maintained to provide the availability of the functional requirements specified in paragraph 83 and to meet the recommended performance standards of such equipment.

.6 On ships engaged on voyages in sea areas A1 or A2, the availability shall be ensured by using such methods as duplication of equipment, shore-based maintenance or at-sea electronic maintenance capability, or a combination of these, as may be approved by the Department.

.7 On ships engaged on voyages in sea areas A3 or A4, the availability shall be ensured by using a combination of at least two methods such as duplication of equipment, shore-based maintenance or at-sea electronic maintenance capability, as may be approved by the Administration.

.8 While all reasonable steps shall be taken to maintain the equipment in efficient working order to ensure compliance with all the functional requirements specified in paragraph 83, malfunction of the equipment for providing the general radiocommunications required by sub-paragraph 83.1.1 shall not be considered as making a ship unseaworthy or as a reason for delaying the ship in ports where repair facilities are not readily available, provided the ship is capable of performing all distress, urgency and safety functions.

.9 EPIRBs shall be:

.9.1 annually tested, either on board the ship or at an approved testing station, for all aspects of operational efficiency, with special emphasis on checking the emission on operational frequencies, coding and registration, at intervals as specified below:

.9.1.1 on passenger ships, within three months before the expiry date of the Passenger Ship Safety Certificate; and

.9.1.2 on cargo ships, within three months before the expiry date, or within three months before or after the anniversary date, of the Cargo Ship Safety Radio Certificate; and

.9.2 subject to maintenance at intervals not exceeding five years, to be performed at an approved shore-based maintenance facility.

95. Radio personnel

Every ship shall carry personnel qualified for distress, urgency and safety communications purposes to the satisfaction of the Administration. The personnel shall be holders of the appropriate certificates specified in the Radio Regulations; one of the personnel shall be designated as having primary responsibility for communications during distress incidents.

96. Radio records

A record shall be kept on board, to the satisfaction of the Administration and as required by the Radio Regulations, of all incidents connected with the radiocommunication services which appear to be of importance to safety of life at sea.

97. Position-updating

All two-way communication equipment carried on board a ship to which this chapter applies which is capable of automatically including the ship's position in the distress alert shall be automatically provided with this information from an internal or external navigation receiver.

98. Manual update

In case of malfunction of the internal or external navigation receiver, the ship's position and the time at which the position was determined shall be manually updated at intervals not exceeding four hours, while the ship is under way, so that it is always ready for transmission by the equipment.

Chapter VIII

Safety of navigation

99. Carriage requirements for shipborne navigation systems and equipment

.1 All ships, irrespective of size, shall have:

.1.1 a properly adjusted standard magnetic compass, or other means, independent of any power supply, to determine the sip's heading and display the reading at the main steering position;

.1.2 a pelorus or compass bearing device, or other means, independent of any power supply, to take bearings over an arc of the horizon of 360°;

.1.3 means of correcting heading and bearings to true at all times;

.1.4 nautical charts and nautical publications to plan and display the ship's route for the intended voyage and to plot and monitor positions throughout the voyage;

.1.5 a receiver for a global navigation satellite system or a terrestrial radio-navigation system, or other means, suitable for use at all times throughout the intended voyage to establish and update the ship's position by automatic means;

.1.6 if less than 150 gross tonnage and if practicable, a radar reflector, or other means, to enable detection by ships navigating by radar at both 9 and 3 GHz;

.1.7 when the ship's bridge is totally enclosed and unless the Department determines otherwise, a sound reception system, or

other means, to enable the officer in charge of the navigational watch to hear sound signals and determine their direction; and

.1.8 a telephone, or other means, to communicate heading information to the emergency steering position, if provided.

.2 All ships of 150 gross tonnage and upwards, in addition to the requirements of sub-paragraph .1:

.2.1 a spare magnetic compass, interchangeable with the magnetic compass as referred to in sub-paragraph .1.1 or other means to perform the function referred to in sub-paragraph .1.1 by means of replacement or duplicate equipment;

.2.2 a daylight signalling lamp, or other means, to communicate by light during day and night using an energy source of electrical power not solely dependent upon the ship's power supply;

.2.3 a bridge navigational watch alarm system (existing ships installed prior to 1 July 2011 may be subsequently be exempted from full compliance with the standards adopted IMO, at the discretion of the Administration);

.3 All ships of 300 gross tonnage and upwards, in additional to the meeting the requirements of sub-paragraph .2 be fitted with:

.3.1 an echo-sounding device, or other electronic means, to measure and display the available depth of water;

.3.2 a 9GHz radar, or other means, to determine and display the range and bearing of radar transponders and of other surface craft, obstructions, buoys, shorelines and navigational marks to assist in navigation and in all collision avoidance.

.3.3 an electronic plotting aid, or other means, to plot electronically the range and bearing of targets to determine collision risk.

.3.4 speed and distance measuring device, or other means, to indicate speed and distance through the water.

.3.5 speed and distance measuring device, or other means, to indicate speed and distance through the water.

.4 All ships of 300 gross tonnage and upwards shall be fitted with an automatic identification system (AIS).

.5 All ships of 500 gross tonnage and upwards shall, in addition to meeting the requirements of sub-paragraph .3, with the exception of sub-paragraphs .3.3 and .3.5, have:

.5.1 a gyro-compass, or other means, to determine and display their heading by shipborne non-magnetic means, bearing clearly readable by the helmsman at the main steering position. These means shall also transmit heading information for input to the equipment referred to in sub-paragraphs .3.3, .4 and .5.5;

.5.2 a gyro-compass heading repeater, or other means, to supply heading information visually at the emergency steering position if provided.

.5.3 a gyro-compass bearing repeater, or other means, to take bearings, over an arc of the horizon of 360°, using the gyro-compass or other means referred to in sub-paragraph (i). However, ships of less than 1,6000 gross tonnage shall be fitted with such means as far as possible;

.5.4 rudder, propeller, thrust, pitch and operational mode indicators, or other means, to determine and display rudder angle, propeller revolutions, the force and direction of thrust and, if applicable, the force and direction of lateral and the pitch and operational mode, all to be readable from the conning position; and

.5.5 an automatic tracking aid, or other means, to plot automatically the range and bearing of other targets to determine collision risk.

.6 On all ships of 500 gross tonnage and upwards failure of one piece of equipment shall not reduce the ship's ability to meet the requirements of sub-paragraphs .1, .2 and .3.

.7 All ships of 3,000 gross tonnage and upwards shall, in additional to meeting the requirements of sub-paragraph .5, have:

.7.1 a 3GHz radar or, where considered appropriate by the Department, a second 9GHz radar, or other means, to determine and display, the range and bearing of other surface craft, obstructions, buoys, shorelines and navigational marks to assist in navigation and in collision avoidance, which are functionally independent of those referred to in sub-paragraph .3.2; and

.7.2 a second automatic tracking aids, or other means, to plot automatically, the range and bearing of other targets independent of those referred to in paragraph .5.5.

.8 all ships of 10,000 gross tonnage and upwards shall, in addition to meeting the requirements of sub-paragraph .7 with the exception of sub-paragraph .7.2, have:

.8.1 an automatic radar plotting aid, or other means, to plot automatically the range and bearing of at least 20 other targets, connected to a device to indicate speed and distance through the water, to determine collision risks and simulate a trial manoeuvre; and

.8.2 a heading or track control system, or other means, to automatically control and keep to a heading and/or straight track.

.9 Every ship of 300 gross tonnage and upward, shall be fitted with a system to automatically transmit the following long-range identification and tracking information:

.9.1 the identity of the ship;

.9.2 the position of the ship (latitude and longitude); and

.9.3 the date and time of the position provided.

.10 Ships of 3,000 gross tonnage and upwards shall be fitted with a VDR which may be a simplified voyage data recorder (S-VDR).

.11 Every ship of 300 gross tonnage and upwards shall carry:

.11.1 the International Code of Signals as may be amended by the IMO; and

.11.2 an up-to-date copy of Volume III of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual.

100. Navigation bridge visibility

.1 Ships of not less than 55 m in length (Length overall), constructed on or after the issuing this Guidance, shall meet the following requirements:

.1.1 The view of the sea surface from the conning position shall not be obscured by more than two ship lengths, or 500 m, whichever is the less, forward of the bow to 10° on either side under all conditions of draught, trim and deck cargo;

.1.2 No blind sector caused by cargo, cargo gear or other obstructions outside of the wheelhouse forward of the beam which obstructs the view of the sea surface as seen from the conning position, shall exceed 10 degrees. The total arc of blind sectors shall not exceed 20 degrees. The clear sectors between blind sectors shall be at least 5 degrees. However, in the view described in sub-paragraph .2.1, each individual blind sector shall not exceed 5 degrees;

.1.3 The horizontal field of vision from the conning position shall extend over an arc of not less than 225 degrees, that is from right ahead to not less than 22.5 degrees abaft the beam on either side of the ship;

.1.4 From each bridge wing the horizontal field of vision shall extend over an arc at least 225 degrees that is from at least 45 degrees on the opposite bow through right ahead and then from right ahead to right astern through 180 degrees on the same side of the ship;

.1.5 From the main steering position, the horizontal field of vision shall extend over an arc from right ahead to at least 60 degrees on each side of the ship;

.1.6 The ship's side shall be visible from the bridge wing;

.1.7 The height of the lower edge of the navigation bridge front windows above the bridge deck shall be kept as low as possible.

In no case shall the lower edge present an obstruction to the forward view as described in this chapter;

.1.8 The upper edge of the navigation bridge front windows shall allow a forward view of the horizon, for a person with a height of eye of 1,800 mm above the bridge deck at the conning position, when the ship is pitching in heavy seas. The Department, may allow reduction of the height of eye but not less than 1,600 mm if impractical.

.1.9 Windows shall meet the following requirements:

.1.9.1 To help avoid reflections, the bridge front windows shall be inclined from the vertical plane top out, at an angle of not less than 10 degrees and not more than 25 degrees;

.1.9.2 Framing between navigation bridge windows shall be kept to a minimum and not be installed immediately forward of any work station.

.1.9.3 Polarized and tinted windows shall not be fitted.

.1.9.4 A clear view through at least two of the navigation bridge front windows and, depending on the bridge configuration, an additional number of clear-view windows shall be provided at all times, regardless of weather conditions.

.2 On ships of unconventional design which, in the opinion of the Department, cannot comply with paragraph 99, arrangements shall be provided to achieve a level of visibility that is as near as practical.

101. Pilot transfer arrangement

.1 Ships engaged on voyages in the course of which pilots may be employed shall be provided with pilot transfer arrangements.

.2 Equipment and arrangements for pilot transfer which are installed shall comply with the requirements of this national legislation and standards of the IMO.

102. Use of heading and/or track control systems

.1 In areas of high traffic density, in conditions of restricted visibility and in all other hazardous navigational situations where heading and/or track control systems are in use, it shall be possible to establish manual control of the ship's steering immediately.

.2 In circumstances as above, the officer in charge of the navigational watch shall have available without delay the services of a qualified helmsperson who shall be ready at all times to take over steering control.

.3 The change-over from automatic to manual steering and vice versa shall be made by or under the supervision of a responsible officer.

.4 The manual steering shall be tested after prolonged use of heading and/or track control systems, and before entering areas where navigation demands special caution.

103. Operation of steering gear

In area where navigation demands special caution, ships shall have more than one steering gear power unit in operation when such units are capable of simultaneous operation.

104. Steering gear, testing and drills

.1 The ship's steering gear shall be checked and tested by the ship's crew within 12 hours before departure.

.2 Every ship, fitted with emergency steering, shall carry out emergency steering drills at least once every three months in order to practise emergency steering procedures.

.3 The Department may waive the requirements to carry out the checks and tests prescribed in sub-paragraph .1 for ships which regularly engage on voyages of short duration. Such ships shall carry out these checks and tests at least once every week.

.4 The date upon which the checks and tests prescribed in paragraph .1 are carried out and the date and details of emergency steering drills carried out under sub-paragraph .2 shall be recorded.

105. Records of navigational activities and daily reporting

Every ship shall keep on board a record of navigational activities and incidents which are of importance to safety of navigation and which must contain sufficient detail to restore a complete record of the voyage, taking into account the recommendations adopted by the IMO. When such information is not maintained in the ship's log-book, it shall be maintained in another form approved by the Department.

106. Life-saving signals to be used by ships, aircraft or persons in distress

Every ship shall have an illustrated table describing the life-saving signals, which shall be readily available to the officer of the watch of every ship to which this chapter applies. The signals shall be used by ships or persons in distress when communicating

with life-saving stations, maritime rescue units and aircraft engaged on search and rescue operations.

107. Danger messages

.1 The master of every ship which meets with dangerous ice, a dangerous derelict, or any other direct danger to navigation, or a tropical storm, or encounters sub-freezing air temperatures associated with gale force winds causing severe ice accretion on superstructures, or winds of force 10 or above on the Beaufort scale for which no storm warning has been received, is bound to communicate the information by all means at his disposal to ships in the vicinity, and also to the competent authorities. The form in which the information is sent is not obligatory. It may be transmitted either in plain English language or by means of the International Code of Signals.

.2 The transmission of messages respecting the dangers specified is free of cost to the ships concerned.

.3 All radio messages issued under sub-paragraph .1 shall be preceded by the safety signal, using the procedure as prescribed by the Radio Regulations.

.4 Information required in danger messages shall be prepared by the Regulation V/32 of the SOLAS Convention.

108. Obligations and procedures in distress situations

The master of a ship at sea which is in a position to be able to provide assistance, on receiving information from any source that persons are in distress at sea, shall comply with the relevant section of Myanmar Merchant Shipping Act.

109. Safe navigation and avoidance of dangerous situations

.1 Prior to proceeding to sea, the master shall ensure that the intended voyage has been planned using the appropriate nautical charts and nautical publications for the area concerned.

.2 The voyage plan shall identify a route which:

.2.1 takes into account any relevant ships' routeing systems;

.2.2 ensures sufficient sea room for the safe passage of the ship throughout the voyage;

.2.3 anticipates all known navigational hazards and adverse weather condition; and

.2.4 takes into account the marine environmental protection measures that apply, and avoids as far as possible actions and activities which could cause damage to the environment.

110. Master's discretion

The owner, the charterer, the company operating the ship or any other person shall not prevent or restrict the master of the ship from taking or executing any decision which, in the master’s professional judgement, is necessary for safety of life at sea and protection of the marine environment.

Chapter IX

Carriage of cargoes and oil fuel

Part A - General provisions

111. Cargo information

.1 The shipper shall provide the Master or his representative with appropriate information on the cargo sufficiently in advance of loading to enable the precautions that may be necessary for proper stowage and safe carriage of the cargo to be put into effect. Such information shall be confirmed in writing and by appropriate shipping documents prior to loading the cargo on the ship.

.2 The cargo information shall include:

.2.1 in the general cargo and of cargo carried in cargo units, a general description of the cargo, the gross mass of the cargo or of the cargo units, and any relevant special properties of the cargo; or

.2.2 in the solid bulk cargo, the information as required by section 4 of the IMSBC Code.

112. Oxygen analysis and gas detection equipment

When transporting a solid bulk cargo that is liable to emit a toxic or flammable gas, or cause oxygen depletion in the cargo space, an appropriate instrument for measuring the concentration of gas or oxygen in the air shall be provided together with detailed instructions for its use. Such an instrument shall be to the satisfaction of the Department.

113.The use of pesticides in ships

Appropriate precautions shall be taken in the use of pesticides in ships, in particular for the purposes of fumigation.

114. Stowage and securing of cargo

.1 Cargo, cargo units and cargo transport units carried on or under deck shall be so loaded, stowed and secured as to prevent as far as is practicable, throughout the voyage, damage or hazard to the ship and the persons on board, and loss of cargo overboard and shall be so packed and secured within the unit as to prevent, throughout the voyage, damage or hazard to the ship and the persons on board.

.2 Appropriate precautions shall be taken during loading and transport of heavy cargoes or cargoes with abnormal physical dimensions to ensure that no structural damage to the ship occurs and to maintain adequate stability throughout the voyage.

.3 All cargoes, other than solid and liquid bulk cargoes, cargo units and cargo transport units, shall be loaded, stowed and secured throughout the voyage in accordance with the Cargo Securing Manual approved by the Department.

115. Material safety data sheets

Ships carrying oil or oil fuel, as defined in regulation 1 of Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, shall be provided with material safety data sheets, based on the recommendations developed by the IMO, prior to the loading of such oil as cargo in bulk or bunkering of oil fuel.

116. Prohibition of the blending of bulk liquid cargoes and production processes during sea voyages

.1 The physical blending of bulk liquid cargoes during sea voyages is prohibited. Physical blending refers to the process whereby the ship's cargo pumps and pipelines are used to internally circulate two or more different cargoes with the intent to achieve a cargo with a new product designation. This prohibition does not preclude the master from undertaking cargo transfers for the safety of the ship or protection of the marine environment.

.2 The prohibition in sub-paragraph .1 does not apply to the blending of products for use in the search and exploitation of seabed mineral resources on board ships used to facilitate such operations.

.3 Any production process on board a ship during sea voyages is prohibited. Production processes refer to any deliberate operation whereby a chemical reaction between a ship's cargo and any other substance or cargo takes place.

.4 The prohibition in sub-paragraph .3 does not apply to the production processes of cargoes for use in the search and exploitation of seabed mineral resources on board ships used to facilitate such operations.

117. Acceptability for shipment for Special provisions for solid bulk cargoes

Prior to loading a solid bulk cargo, the master shall be in possession of comprehensive information on the ship's stability and on the distribution of cargo for the standard loading conditions. The method of providing such information shall be to the satisfaction of the Department.

118. Loading, unloading and stowage of solid bulk cargoes

.1 The ship shall be provided with a booklet to avoid excessive stresses in the ship's structure. The booklet shall be written in a language with which the ship's officers responsible for cargo operations are familiar and authorized by the Department.

.2 Before a solid bulk cargo is loaded or unloaded, the master and terminal representative shall agree on a plan footnote which shall ensure that permissible forces and moments on the ship are not exceeded during loading or unloading, and shall include the sequence, quantity and rate of loading or unloading, taking into consideration the speed of loading or unloading, the number of pours and the deballasting or ballasting capability of the ship. The plan and any subsequent amendments thereto shall be lodged with the appropriate authority of the port State.

.3 The master and terminal representative shall ensure that loading and unloading operations are conducted in accordance with the agreed plan.

.4 If during loading or unloading any of the limits of the ship referred to in sub-paragraph .1 are exceeded or are likely to become so if the loading or unloading continues, the master has the right to suspend operation and the obligation to notify accordingly the appropriate authority of the port State with which the plan has been lodged. The master and the terminal representative shall ensure that corrective action is taken. When unloading cargo, the master and terminal representative shall ensure that the unloading method does not damage the ship's structure.

.5 The master shall ensure that ship's personnel continuously monitor cargo operations. Where possible, the ship's draught shall be checked regularly

during loading or unloading to confirm the tonnage figures supplied. Each draught and tonnage observation shall be recorded in a cargo log-book. If significant deviations from the agreed plan are detected, cargo or ballast operations or both shall be adjusted to ensure that the deviations are corrected.

119. Requirements for cargo ships carrying grain

.1 A cargo ship carrying grain shall comply with the requirements of the International Grain Code in addition to any other applicable requirements of this Guidance and hold a document of authorization as required by that Code.

.2 A ship without such a document shall not load grain until the master satisfies the Department, or the Authority of the foreign port of loading on behalf of the Department, that the ship will comply with the requirements of the International Grain Code in its proposed loaded condition.

120. Stowage of bulk grain

.1 All necessary and reasonable trimming shall be performed to level all free grain surfaces and to minimize the effect of grain shifting.

.2 In any filled compartment, trimmed, the bulk grain shall be trimmed so as to fill all spaces under the decks and hatch covers to the maximum extent possible.

.3 In any filled compartment, untrimmed, the bulk grain shall be filled to the maximum extent possible in way of the hatch opening but may be at its natural angle of repose outside the periphery of the hatch opening.

.4 If there is no bulk grain or other cargo above a lower cargo space containing grain, the hatch covers shall be secured in an approved manner having regard to the mass and permanent arrangements provided for securing such covers.

.5 When bulk grain is stowed on top of closed 'teen-deck hatch covers which are not grain- tight, such covers shall be made grain-tight by taping the joints, covering the entire hatchway with tarpaulins or separation cloths, or other suitable means.

.6 After loading, all free grain surfaces in partly filled compartments shall be level.

.7 Lower cargo spaces and 'tween-deck spaces in way thereof may be loaded as one compartment provided that, in calculating transverse heeling moments, proper account is taken of the flow of grain into the lower spaces.

121. Requirements for the carriage of dangerous goods

.1 The carriage of dangerous goods in packaged form shall be in compliance with the relevant provisions of the IMDG Code.

.2 The carriage of dangerous goods in solid form in bulk shall be in compliance with the relevant provisions of the IMSBC Code.

.3 A chemical tanker shall comply with the requirements of the International Bulk Chemical Code and shall, in additional to the requirements of regulation I/8, I/9, and I/10, as applicable, be surveyed and certified as provided for in that Code.

.4 A gas carrier shall comply with the requirements of the International Gas Carrier Code and shall, in addition to the requirements of regulation I/8,

I/9 and I/10, as applicable, be surveyed and certified as provided for in that Code.

122. Certificates

.1 A chemical tanker holding a certificate issued pursuant to the provisions of paragraph 121.3 shall be subject to the control established in regulation I/19 of SOLAS Convention. For this purpose, such certificate shall be treated as a certificate issued under paragraph 9.

.2 A gas carrier holding a certificate issued pursuant to the provisions of paragraph 121.4 shall be subject to the control established in regulation I/19 of SOLAS Convention. For this purpose, such certificate shall be treated as a certificate issued under paragraph 9.

123. Documents for dangerous goods

.1 Transport information relating to the carriage of dangerous goods in packaged form and the container/vehicle packing certificate shall be in accordance with the relevant provisions of the IMDG Code and shall be made available to the person or organization designated by the port State authority.

.2 Each ship carrying dangerous goods in packaged form shall have a special list, manifest or stowage plan setting forth, in accordance with the relevant provisions of the IMDG Code, the dangerous goods on board and the location thereof. A copy of one of these documents shall be made available before departure to the person or organization designated by the port State authority.

.3 In all documents relating to the carriage of dangerous goods in solid form in bulk by sea, the bulk cargo shipping name of the goods shall be used (trade names alone shall not be used).

.4 Each ship carrying dangerous goods in solid form in bulk shall have a special list or manifest setting forth the dangerous goods on board and the location thereof. A detailed stowage plan, which identifies by class and sets out the location of all dangerous goods on board, may be used in place of such a special list or manifest. A copy of one of these documents shall be made available before departure to the person or organization designated by the port State authority.

124. Cargo Securing Manual

Cargo, cargo units and cargo transport units, shall be loaded, stowed and secured throughout the voyage in accordance with the Cargo Securing Manual approved by the Department. The Cargo Securing Manual shall be drawn up to a standard at least equivalent to the guidelines developed by the IMO.

125. Stowage and segregation requirements for dangerous goods in solid form in bulk

.1 Dangerous goods in solid form in bulk shall be loaded and stowed safely and appropriately in accordance with the nature of the goods. Incompatible goods shall be segregated from one another.

.2 Dangerous goods in solid form in bulk which are liable to spontaneous heating or combustion shall not be carried unless adequate precautions have been taken to minimize the likelihood of the outbreak of fire.

.3 Dangerous goods in solid form in bulk which give off dangerous vapours shall be stowed in a well-ventilated cargo space.

126. Reporting of incidents involving dangerous goods

.1 When an incident takes place involving the loss or likely loss overboard of dangerous goods in solid form in bulk into the sea, the master, or other person having charge of the ship, shall report the particulars of such an incident without delay and to the fullest extent possible to the nearest coastal State. The report shall be drawn up based on general principles and guidelines developed by the IMO.

.2 In the event of the ship referred to in sub-paragraph .1 being abandoned, or in the event of a report from such a ship being incomplete or unobtainable, the company, as defined in regulation IX/1.2 of the SOLAS Convention, shall, to the fullest extent possible, assume the obligations placed upon the master by this Guidance.

Chapter X

Management for the safe operation of ships

127. Safety management requirements

.1 The company and the ship shall comply with the requirements of the International Safety Management Code.

.2 The ship shall be operated by a company holding a Document of Compliance referred to in paragraph 128.1.

128. Certification

.1 A Document of Compliance shall be issued to every company which complies with the requirements of the International Safety Management Code. This document shall be issued by the Department or by an organization recognized by the Department. A copy of the Document of Compliance shall be kept on board the ship in order that the master can produce it on request for verification.

.2 A Safety Management Certificate, shall be issued to every ship by the Department or Recognized Organization. The Department or Recognized Organization by it shall, before issuing the Safety Management Certificate, verify that the company and its shipboard management operate in accordance with the approved safety-management system.

129. Safety Management System (SMS)

.1 Every Company shall develop, implement and maintain a Safety Management System.

.2 The Company shall establish a safety and environmental protection policy.

.3 The company shall designate a person ashore having direct access to the highest level of management and to ensure the safe operation of each ship and to provide a link between the company and those onboard. The responsibility and authority of the designated person or persons shall include monitoring the safety and pollution-prevention aspects of the operation of each ship and ensuring that adequate resources and shore-based support are applied, as required.

.4 The company shall ensure that the safety management system operating onboard the ship contains a clear statement emphasizing the master's authority. The company shall establish in the safety management system that the master has the overriding authority and the responsibility to make decisions with respect to safety and pollution prevention and to request the company's assistance as may be necessary. The company shall clearly define and document the master's responsibility.

.5 The Company shall establish procedures, plans and instructions, including checklists as appropriate, for key shipboard operations concerning the safety of the personnel, ship and protection of the environment. The various tasks should be defined and assigned to qualified personnel.

.6 The Company shall identify potential emergency shipboard situations and establish procedures to respond to them.

.7 The Company shall establish programs for drills and exercises to prepare for emergency actions.

.8 The Company shall establish procedures for the implementation of corrective action, including measures intended to prevent recurrence.

130. Maintenance of conditions

.1 The Company shall establish procedures to ensure that the ship is maintained in conformity with the provisions of the International Safety Management Code, as amended and with any additional requirements which may be established by the Company.

.2 The Company shall establish and maintain procedures to control all documents and data which are relevant to the Safety Management Manual.

.3 The documents used to describe and implement the SMS may be referred to as the “Safety Management Manual” Documentation should be kept in a form that the Company considers most effective. Each ship shall carry on board all documentation relevant to that ship.

131. Company verification, review and evaluation

The Company shall:

.1 carry out internal safety audits on board and ashore at intervals not exceeding twelve months to verify whether safety and pollution prevention activities comply with the SMS. In exceptional circumstances, this interval may be exceeded by not more than three months;

.2 periodically verify whether all those undertaking delegated ISM related tasks are acting in conformity with the Company's responsibilities under the Code;

.3 periodically evaluate the effectiveness of the SMS in accordance with procedures established by the Company;

.4 the audits and possible corrective actions should be carried out in accordance with documented procedures;

.5 personnel carrying out audits should be independent of the areas being audited unless this is impracticable due to the size and the nature of the Company;

.6 the results of the audits and reviews should be brought to the attention of all personnel having responsibility in the area involved; and

.7 the management personnel responsible for the area involved should take timely corrective action on deficiencies found.

132. Certification and periodical verification

.1 The ship shall be operated by a Company which has been issued with a document of compliance or with an Interim Document of Compliance in accordance with paragraph 133.1 relevant to that ship.

.2 The document of compliance shall be issued by the Department or Recognized Organization or, at the request of the Administration, by another Contracting Government to the Convention to any Company complying with the requirements of this Code for a period specified by the Department which should not exceed five years.

.3 Document of Compliance is only valid for the ship types explicitly indicated in the document. Such indication shall be based on the types of ships on which the initial verification was based. Other ship types shall only be added after verification of the Company's capability to comply with the requirements of this Code applicable to such ship types.

.4 The validity of a Document of Compliance shall be subject to annual verification by the Administration or, at the request of the Administration

by another Contracting Government within three months before or after the anniversary date.

.5 The Document of Compliance shall be withdrawn by the Administration or, at its request, by the Contracting Government which issued the document, when the annual verification required in sub-paragraph .4 is not requested or if there is evidence of major conformities with this Code.

.6 All associated Safety Management Certificates and/or Interim Safety Management Certificates shall also be withdrawn if the Document of Compliance is withdrawn.

.7 A copy of the Document of Compliance shall be placed on board in order that the Master of the ship, if so requested, may produce it for verification by the Department or by an Recognized Organization or for the purposes of the control referred to in IX/6.2 of the SOLAS Convention.

.8 The Safety Management Certificate shall be issued to a ship for a period which should not exceed five years by the Department or, at the request of the Administration, by another Contracting Government. The Safety Management Certificate shall be issued after verifying that the Company and its shipboard management operate in accordance with the approved safety management system. Such a certificate should be accepted as evidence that the ship is complying with the requirements of this Code.

9. The validity of the Safety Management Certificate shall be subject to at least one intermediate verification by the Department or Recognized Organization by the Administration or, at the request of the Administration, by another Contracting Government. If only one intermediate verification is to be carried out and the period of validity

of the Safety Management Certificate is five years, it should take place between the second and third anniversary date of the Safety Management Certificate.

.10 In addition to the requirements of sub-paragraph .6, the Safety Management Certificate should be withdrawn by the Department or, at the request of the Administration, by the Contracting Government which has issued it when the intermediate verification required in sub-paragraph .9 is not requested or if there is evidence of major non-conformity with this Code.

.11 Notwithstanding the requirements of sub-paragraphs .2 and .8 when the renewal verification is completed within three months before the expiry date of the existing Document of Compliance or Safety Management Certificate, the new Document of Compliance or the new Safety Management Certificate should be valid from the date of completion of the renewal verification for a period not exceeding five years from the date of expiry of the existing Document of Compliance or Safety Management Certificate.

.12 When the renewal verification is completed more than three months before the expiry date of the existing Document of Compliance or Safety Management Certificate, the new Document of Compliance or the new Safety Management Certificate shall be valid from the date of completion of the renewal verification for a period not exceeding five years from the date of completion of the renewal verification.

.13 When the renewal verification is completed after the expiry date of the existing Safety Management Certificate, the new Safety Management Certificate shall be valid from the date of completion of the renewal

verification to a date not exceeding five years from the date of expiry of the existing Safety Management Certificate.

.14 If a renewal verification has been completed and a new Safety Management Certificate cannot be issued or placed on board the ship before the expiry date of the existing certificate, the Department or Recognized Organization may endorse the existing certificate and such a certificate shall be accepted as valid for a further period which should not exceed five months from the expiry date.

.15 If a ship at the time when a Safety Management Certificate expires is not in a port in which it is to be verified, the Department may extend the period of validity of the Safety Management Certificate but this extension should be granted only for the purpose of allowing the ship to complete its voyage to the port in which it is to be verified, and then only in cases where it appears proper and reasonable to do so. No Safety Management Certificate should be extended for a period of longer than three months, and the ship to which an extension is granted should not, on its arrival in the port in which it is to be verified, be entitled by virtue of such extension to leave that port without having a new Safety Management Certificate. When the renewal verification is completed, the new Safety Management Certificate shall be valid to a date not exceeding five years from the expiry date of the existing Safety Management Certificate before the extension was granted.

133. Interim Certification

.1 An Interim Document of Compliance may issued to facilitate initial implementation of this ISM Code when:

.1.1 Company is newly established; or

.1.2 new ship types are to be added to an existing Document of Compliance, following verification that the Company has a safety management system that meets the objectives of paragraph 1.2.3 of ISM Code, provided the Company demonstrates plans to implement a safety management system meeting the full requirements of this Code within the period of validity of the Interim Document of Compliance. Such an Interim Document of Compliance shall be issued for a period not exceeding 12 months by the Administration or by an organization recognized by the Administration or, at the request of the Administration, by another Contracting Government. A copy of the Interim Document of Compliance should be placed on board in order that the Master of the ship, if so requested, may produce it for verification by the Administration or for the purposes of the control referred to in IX/6.2 of the SOLAS Convention. The copy of the document is not required to be authenticated or certified.

.2 An Interim Safety Management Certificate may be issued:

.2.1 to new ships on delivery;

.2.2 when a Company takes on responsibility for the operation of a ship that is new to the Company; or

.2.3 when a ship changes flag. Such an Interim Safety Management Certificate shall be issued for a period not exceeding 6 months by the Department or Recognized Organization or, at the request of the Administration, by another Contracting Government.

.3 An Administration or, at the request of the Administration, another Contracting Government may, in special cases, extend the validity of an Interim Safety Management Certificate for a further period which should not exceed 6 months from the date of expiry.

.4 An Interim Safety Management Certificate may be issued following verification that:

.4.1 the Document of Compliance or the Interim Document of Compliance is relevant to the ship concerned;

.4.2 the safety management system provided by the Company for the ship concerned includes key elements of this Code and has been assessed during the audit for issuance of the Document of Compliance or demonstrated for issuance of the Interim Safety Management Certificate;

.4.3 the Company has planned the internal audit of the ship within three months;

.4.4 the Master and Officers are familiar with the Safety Management System and the planned arrangements for its implementation;

.4.5 instructions, which have been identified a being essential, are provided prior to sailing; and

.4.6 relevant information on the safety management system has been given in a working language understood by the ship’s personnel.

134. Verification and control

The Department or Recognized Organization shall periodically verify the proper functioning of the ship's safety-management system.

135. SMC Certificate

A ship required to hold a certificate issued to the provisions of the paragraph 128.2 shall be subject to control in accordance with the provisions of regulation XI/4 of SOLAS Convention. For this purpose, such certificate shall be treated as a certificate issued under regulation I/12 or I/13 of SOLAS Convention.

Chapter XI

Casualties and investigations

136. Casualties and investigations

.1 Department undertakes to conduct an investigation of any casualty occurring to any of its ships subject to the provisions of the SOLAS Convention when it judges that such an investigation may assist in determining what changes in the present regulations might be desirable.

.2 Department undertakes to supply the Organization with pertinent information concerning the findings of such investigations. No reports or recommendations of the Organization 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.

.3 Department shall conduct investigations of marine casualties and incidents, taking into account the provisions of the Code of the International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident (Casualty Investigation Code adopted by resolution MSC.255(84), as amended.

137. Reports

In the event of any casualty or an accident involving the ship resulting in loss of life or the ship is being stranded, abandoned, lost or materially damaged, the master or the owner of the ship shall inform the Department within 24 hours for the required investigation.

Chapter XII

Ship Security

138. Requirements for Companies and ships

.1 Companies shall comply with the relevant requirements of this chapter and of part A of the ISPS Code, taking into account the guidance given in part B of the ISPS Code.

.2 Ships shall comply with the relevant requirements of this chapter and of part A of the ISPS Code, taking into account the guidance given in part B of the ISPS Code, and such compliance shall be verified and certified as provided for in part A of the ISPS Code.

.3 Prior to entering a port or whilst in a port within the territory of a Contracting Government, a ship shall comply with the requirements for the security level set by that Contracting Government, if such security level is higher than the security level set by the Department for that ship.

.4 Ships shall respond without undue to any change to a higher security level.

.5 Where a ship is not in compliance with the requirements of this Chapter or of part A of the ISPS Code, or cannot comply with the requirements of the security level set by the Administration or by another Contracting government and applicable to threat ship, then the ship shall notify the appropriate competent authority prior to conducting any ship/port interface or prior to entry into port, whichever occurs earlier.

139. Specific responsible of Companies

The company shall ensure that the master has available onboard at all times, information through which officers duly authorized by a Contracting Government can establish:

.1 who is responsible for appointing the members of the crew or others persons currently employed or engaged on board the ship in any capacity on the business of that ship;

.2 who is responsible for deciding the employment of the ship; and

.3 in cases where the ship is employed under the terms of charter party(ies), who are the parties to such charter party(ies).

140. Ship Security Alert (SSA) system

.1 All ships shall be provided with a ship security alert system.

.2 The ship security alert system shall comply with the Regulation XI-2/6 of the SOLAS Convention.

.3 The ship security alert system activation points shall be designed so as to prevent the inadvertent initiation of the ship security alert.

.4 The requirement for a ship security alert system may be complied with by using the radio installation fitted for compliance with the requirements of Chapter IV of the SOLAS Convention.

141. Ship Security Assessments

Ship security assessments including the on-scene survey, are the responsible of Company Security Officer (CSO).

142. Update SSA

The Department shall provide the guidance to CSOs on the security risks that their ships may face on voyages, having regard to the ship type, the sea area in which the ship operates, and the ports and port facilities that it uses. If a ship changes its trading pattern, the security threats that it faces may significantly change; in such cases, Administration shall be well placed to provide revised guidance on any new threats that the ship may face as a basis for updating the SSA.

143. Ship Security plans

.1 Every Company shall develop, implement and maintain a Ship Security Plan.

.2 The Company shall establish the policies and procedures to be included in an SSP on Declarations of Security and on the security incidents that should be reported to them and the timing of such reports.

.3 Ship security Plan shall be approved by the Department or Recognized Security Organization (RSO).

.4 SSP shall establish internal audit procedures to be followed by a Company or Ship to ensure the continued effectiveness of the SSP.

144. Security measures and procedures

The Department shall provide guidance to each of their shipping companies and CSOs on, the security measures and procedures considered appropriate at each security level for their ships. These are based on the SSASs undertaken for the CSO.

145. Continuous Synopsis Records

Department must ensure that each ship's Continuous Synopsis Record (CSR) includes the name of the Department of RSO that issued the ship's International Ship

Security Certificate (ISSC) or Interim ISSC and if different from above, the organization that carried out the verification leading to the issuance of the Certificate.

146. Types of Verifications as applicable to the International Ship Security Certificate

The following verifications are to be conducted for the International Ship Security Certificate as specified below:

.1 the Initial verification, before the ship is put in service or before the Certificate required under the ISPS Code is issued for the first time, shall include a complete verification of its security system and associated security equipment covered by the relevant provisions of SOALS Chapter XI-2, ISPS Code and the approved Ship Security Plan. It is to ensure that the security system and any associated security equipment of the ship fully complies with all the relevant requirements and is in satisfactory condition and fit for the service for which the ship is intended.

.2 the Intermediate verification, between the second and third anniversary date of the ISSC, shall include inspection of the security system and any associated security equipment of the ship to ensure that it remains satisfactory for the service for which the ship is intended.

.3 the Renewal verification, within 3 months before the expiry of ISSC, shall ensure that the security system and associated security equipment of the ship fully complies with the applicable requirements of SOALS Chapter XI-2, ISPS Code and the approved Ship Security Plan, is in satisfactory condition and fit for the service for which the ship is intended.

.4 the Additional verification to check the security system still functions effectively where there are clear grounds such as port state control

detentions, or in the case of reactivation after the interruption of operations due to a period out of service, or in order to verify that effective corrective actions have been taken and/or are being properly implemented.

147. Issue of International Ship Security Certificate

.1 Department or Recognized Organization shall issue the interim International Ship Security Certificate of validity not exceeding 6 months.

.2 Before the expiry of Interim Certificate or after completion of the renewal verification, the Full term International Ship Security Certificate of validity not exceeding 5 years shall be issued to the ship by Department or Recognized Organization.

.3 The International Ship Security Certificate is subject to the intermediate verification between second and third anniversary date of the Certificate and the additional verification where there is clear grounds, whereas the endorsement is to be completed by the Department.

.4 The extension to the International Ship Security Certificate shall be such that:

.4.1 If the ship is not at port in order for carrying out the renewal verification on expiration of certificate, extension of not more than 3 months from the date of expiry of existing certificate may be granted.

.4.2 If the renewal verification has been completed but the new International Ship Security Certificate cannot be placed on board,

extension of not more than 5 months from the date of expiry of existing certificate may be granted.

.4.3 Either of the cases for extension of International Ship Security Certificate shall be subject to approval from the Director General of Department.

.5 The Director General shall have the authority to cease the validity of the International Ship Security Certificate under the following cases:

.5.1 if the relevant verifications are not completed within the periods specified under the ISPS Code;

.5.2 new shipping company takes over the operation of the ship;

.5.3 upon transfer of the ship to the flag of another State.

148. Reporting security incidents

.1 Procedures and processes for reporting and recording security incidents shall be implemented. The master shall be provided with contact information for authorities responsible for emergency response, the national response centre(s) (if appropriate) and any other authorities that may need to be notified.

.2 Reports of security incidents on board a ship shall be reported to the master or the person designated.

.3 In the event of a security incident occurring while the ship is at sea the master, in addition to activating an appropriate response, shall alert the nearest coastal State or authorities and/or ships in vicinity and provide details of the incident.

Chapter XIII

Occupational Health, Safety and Crew Accommodation

149. Occupational Health

seafarers are provided with occupational health protection and live, work and train on board ship in a safe and hygienic environment.

150. Medical Certification

.1 Seafarers must be valid medically certificate attesting that they are medicaly fit to perform the duties they are to carry out at sea.

.2 The medical certificate shall be issued by a duly qualified medical practitioner or, in the case of a certificate solely concerning eyesight, by a person recognized by the competent authority as qualified to issue such a certificate. Practitioners must enjoy full professional independence in exercising their medical judgement in undertaking medical examination procedures.

151. Medical Care Onboard

.1 Seafarers are covered by adequate measures for the protection of their health and that they have access to prompt and adequate medical care whilst working on board.

.2 The requirements for on-board health protection and medical care set out in the Code include standards for measures aimed at providing seafarers with health protection and medical care as comparable as possible to that which is generally available to workers ashore.

.3 Ships must be equipped with medical supplies and equipment sufficient to meet the needs of the crew.

152. Medical Facilities

.1 All ships shall carry a medicine chest, medical equipment and a medical guide, the specifics of which shall be prescribed and subject to regular inspection by the competent authority.

.2 Shore-based medical facilities for treating seafarers shall be adequate.

.3 The ship shall have a designated space for medical care and equipment as per the needs of the crew.

153. Health and Safety Training

Seafarers are provided with occupational health protection and live, work and train on board ship in a safe and hygienic environment.

154. Protection from Hazards

Measures must be in place to protect seafarers from occupational hazards, including the use of personal protective equipment (PPE) and safety protocols.

155. Crew Accommodations

.1 Accommodations shall be suitable, safe, and provide adequate space. This includes having separate sleeping areas for male and female crew members when applicable.

.2 Beds must be provided, with proper bedding and ventilation.

156. Sanitary Facilities

.1 Ships must have sufficient and properly maintained sanitary facilities, including toilets and showers. Facilities should be clean, functional, and provide adequate privacy.

.2 All sanitary spaces shall have ventilation to the open air, independently of any other part of the accommodation; and

157. Recreational Facilities

Adequate recreational spaces should be available, allowing seafarers to relax and unwind during their free time.

158. Mess Rooms and Dining:

Ships shall have appropriate mess rooms where crewmembers can eat, with facilities for preparing and storing food.

159. Ventilation and Lighting:

Crew accommodations must be well-ventilated and adequately lit, ensuring a comfortable living environment.

160. Maintenance and Cleanliness:

.1 Regular maintenance and cleaning of living quarters are required to ensure a healthy and safe living environment.

.2 These requirements aim to promote the well-being and safety of seafarers, ensuring that they have the necessary conditions to perform their duties effectively while maintaining their health and quality of life on board.

Chapter XIV

Prevention of Collision

161. International Regulation

All vessels shall comply with the requirements of the International Regulations for Preventing Collisions at Sea, 1972 (COLREGs), as amended.

162. Proof of Compliance

.1 Each light, shape, sound-signal appliances and radar reflector required by the Rules of COLREGs, 72 to be carried or exhibited on a ship, shall have a proof of compliance stating that the light, shape, sound-signalling appliance or radar reflector meets the standards appliances under the paragraph 163.

.2 The proof of compliance shall be in the form of:

.2.1 a document that is carried on board the vessel in a readily accessible location; or

.2.2 a label that is securely affixed, in a readily visible location, to the light, shape, sound-signalling appliance or radar reflector.

.3 A proof of compliance issued shall be in English language.

.4 The proof of compliance shall be issued by:

.4.1 a government that is a party to the Convention on the International Regulations for Preventing Collisions at Sea, 1972;

.4.2 a classification society recognized by a government referred to in paragraph (a) as able to determine whether the equipment meets the applicable standards specified in section 6; or

.4.3 an independent testing establishment recognized by the Minister or by a government referred to in sub-paragraph .1 as able to determine whether the equipment meets the applicable standards specified in paragraph 163.

163. Standards

Each light, shape, sound-signalling appliance and radar reflector required by Regulations of COLREG, 72 to be carried or exhibited on a vessel shall meet the standards set out in Annex I and Annex III of the COLREGs, 72, as amended.

164. Notices to Mariners and Navigational Warnings

Every vessel shall navigate with particular caution where navigation may be difficult or hazardous and, for that purpose, shall comply with any instructions and directions contained in Notices to Mariners or Navigational Warnings that are issued as a result of circumstances such as:

.1 unusual maritime conditions;

.2 the undertaking of marine or engineering works;

.3 casualties to a vessel or aid to navigation; and

.4 changes to hydrographic information

165. Look-out

Every ship shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision, stranding and other hazards to navigation. Additionally, the duties of the look-out shall include the detection of ships or aircraft in distress, shipwrecked persons, wrecks and debris. In applying these principles the following shall be observed:

.1 whoever is keeping a look-out must be able to give full attention to the task and no duties shall be assigned or undertaken which would interfere with the keeping of a proper look-out;

.2 the duties of the Person on look-out and helmsman are separate and the helmsman should not be considered the Person on look-out while steering; except in small vessels where an unobstructed all round view is provided at the steering position and there is no impairment of night vision or other impediment to the keeping of a proper look-out; and

.3 there may be circumstances in which the officer of the watch can safely be the sole look-out in daylight. However, this practice shall only be followed after the situation has been carefully assessed on each occasion and it has been established without doubt that it is safe to do so. Full account shall be taken of all relevant factors including but not limited to the state of weather, conditions of visibility, traffic density, proximity of navigational hazards and if navigating in or near a traffic separation scheme. Assistance must be summoned to the bridge when any change in the situation necessitates this and such assistance must be immediately available.

166. Navigation with Pilot embarked

Despite the duties and obligations of a pilot, his presence on board does not relieve the master or officer in charge of the watch from their duties and obligations for the safety of the ship. The master and the pilot shall exchange information regarding navigation procedures, locale conditions and the ship's characteristics.

167. Protection of the marine environment

The master and officer in charge of the watch shall be aware of the serious effects of operational or accidental pollution of the marine environment and shall take all possible precautions to prevent such pollution particularly within the existing framework of existing international regulations.

Chapter XV

Prevention of Pollution

168. General

.1 Director General, with the approval of the Ministry, may exempt a ship which has constructional features which render the application of any of the provisions of the requirements for machinery space and requirements for cargo areas of oil tankers.

.2 The particulars of any exemption granted under sub-paragraph .1 must be indicated in the certificate issued by the department.

.3 An exemption by the Director General is valid only if given in writing and may be:

.3.1 given subject to such conditions and limitations as the Director General may specify; and

.3.2 altered or cancelled by a notice given in writing by the Director General.

169. The Director General with the approval of the Ministry, may waive the requirements of stability instruments (regulation 28.6(6) of MARPOL Annex I), of oil tankers, provided that the master of such tankers shall be supplied in an approved form with:

.1 information relative to loading and distribution of cargo necessary to ensure compliance with the provisions of regulation 27 of the MARPOL Annex I; and

.2 data on the stability of the ship to comply with damage stability criteria as determined by regulation 28 of the MARPOL Annex I, for tankers of more than 100 m in length.

170. .1 Subject to sub-paragraph .2, any fitting, material, appliance or apparatus may be fitted in a ship as an alternative to one that complies with national legislations and:

.2 the owner or master of the ship has made an application to the Department for permission to fit the fitting, material, appliance or apparatus to the ship;

171. Ships more than 400 gross tonnage and tanker ships more than 150 gross tonnage are required to be surveyed and certified in line with MARPOL Annex I and national legislations and shall be issued Oil Pollution Prevention Certificate.

172. Oil or Oil mixture

Oil tanker ship of 150 gross tonnage and above shall meet the requirements, those prescribed in the following regulations, or paragraphs of regulations, of MARPOL Annex I:

.1 regulation 12 (tanks for oil residues (sludge));

.2 regulation 12A, paragraphs 1 to 11 (oil fuel tank protection);

.3 regulation 13 (standard discharge connection);

.4 regulation 14, paragraphs 1 to 3, 6 and 7 (oil filtering equipment); and

.5 regulation 16 (segregation of oil and water ballast and carriage of oil in forepeak tanks).

173. Cargo Ships of less than 400 gross tonnage must be equipped, so far as practicable, to retain on board oil or oily mixtures for subsequent discharge into reception facilities.

174. .1 In the case of ships of 400 gross tonnage and above, the discharge into the sea of oil or oily mixture from the machinery space of any ship is prohibited

.2 Paragraph (a) is subject to the following exceptions, when all the following conditions are satisfied:

.2.1 the ship is proceeding en route;

.2.2 the oily mixture is processed through an oil filtering equipment meeting the requirements of regulation 14 of the MARPOL Annex I;

.2.3 the oil content of the effluent without dilution does not exceed 15 ppm;

.2.4 the oily mixture does not originate from cargo pump-room bilges on oil tankers; and

.2.5 the oily mixture, in case of oil tankers, is not mixed with oil cargo residues.

.3 Oil residues which cannot be discharged into the sea in compliances with this paragraph, must be retained on board for subsequent discharge to reception facilities.

175. .1 The discharge into the sea of oil or oily mixtures from the cargo area of an oil tanker is prohibited.

.2 In the case of an oil tanker when all the following conditions are satisfied, paragraph (a) is subject to the following exceptions:

.2.1 the tanker is more than 50 nautical miles from the nearest land;

.2.2 the tanker is proceeding en route;

.2.3 the instantaneous rate of discharge of oil content does not exceed 30 liters per nautical mile;

.2.4 the total quantity of oil discharged into the sea does not exceed of the total quantity of the particular cargo of which the residue formed a part;

.2.5 the tanker has in operation an oil discharge monitoring and control system and a slop tank arrangement; and

.2.6 otherwise, All the cargo tank washing may be discharged to appropriate shore reception facilities.

176. Oil Record Book

Ever oil tanker of 150 gross tonnage and above, and every ship of 400 gross tonnage and above other than an oil tanker, must be provided with an Oil record Book Part I (Machinery Space Operations) and Every tanker ship must be provided with an Oil record Book Part II.

177. Shipboard oil pollution emergency plan

Every ship shall carry onboard a shipboard oil pollution emergency plan (SOPEP) approved by the Department.

178. Tankers more than150 gross tonnage and other Ships more than 400 gross tonnage shall be surveyed and certified in line with MARPOL Annex I requirements and shall carry onboard an approved SOPEP Manual. The SOPEP shall also include details about crew training. MARPOL drills are to be carried out in accordance to the drills and training requirements specified in the SOPEP manual to ensure the effectiveness

of the Plan. Records of these drills shall be maintained in the ship's drill logbook and/or official logbook.

179. Standard Discharge Connection

To allow for the connection of reception facility pipes to the ship's discharge pipeline for machinery bilges and from oil residuce (sludge), both pipelines must be equipped with a standard discharge connection as outlined in the following table:

Description	Dimension
Outside diameter	215 mm
Inner diameter	According to pipe outside diameter
Bolt circle diameter	183 mm
Slot in flange	holes 22 mm in diameter equidistantly placed on a bolt circle of the above diameter, slotted to the flange periphery. The slot width to be 22 mm.
Flange thickness	20 mm
Bolts and nuts: quantity, diameter	6, each of 20 mm in diameter and of suitable length
The flange shall be designed to accept pipes up to a maximum internal diameter of 125mm and shall be of steel or other equivalent material having a flat face. This flange, together with a gasket of oil-proof material, shall be suitable for a service pressure of 600 kPa.	

180. Ship to ship transfer (STS) operations

Any oil tanker involved in STS operations shall carry on board an approved STS operations Plan which prescribing how to conduct STS operations.

181. Sewage pollution prevention

Every ship more than 400 gross tonnage and ships certified to carry more than 15 persons are required to be surveyed and certified in line with MARPOL Annex IV and national legislations and shall be issued with a sewage pollution prevention certificate.

182. Discharge of Sewage

Notwithstanding the above survey and certification threshold, in areas where direct overboard discharge from a water closet is prohibited, A sewage treatment plant or sewage comminuting and disinfecting system or dedicated holding tanks of sufficient capacity to store waste for discharge to shore facilities shall be available onboard.

183. Sewage discharge criteria

Discharge of sewage into the sea is prohibited, except under the following conditions:

.1 Ship operates a sewage treatment plant that has been type-approved by the Department or Recognized Organization in according with the requirements of MARPOL annex IV and national legislation.

.2 The ships shall discharge through the comminuted and disinfected sewage, as specified in paragraph (a), at a distance of more than three nautical miles from the nearest land, provided that sewage stored in the holding tank is discharged at a moderate rate when the ship is en route and proceeding at a speed of not less than four knots; or

.3 Discharging sewage stored in the holding tank, as specified in paragraph (a) above, at a distance of more than twelve nautical miles from the nearest land, provided that sewage stored in the holding tank is discharged at a moderate rate when the ship is en route and proceeding at a speed of not less than four knots.

184. Sewage holding tank

Sewage holding tanks shall be constructed with a sloping bottom arranged such that the outlet is at the lowest point. Ventilation arrangements shall be routed well clear of accommodation and sleeping quarters. Outlets from ventilation shall not be near ventilation or machinery inlets and shall not pose a danger to other vessels alongside. Tanks shall be manufactured from material not susceptible to corrosion in anaerobic decomposition conditions and shall be provided with means to view and/or measure its contents. Tank Capacity shall comply with national legislations.

185. Standard Discharge Connection for sewage disposal

To enable pipes of reception facilities to be connected with the ship's discharge pipeline, the line shall be fitted with a standard discharge connection, in accordance with the following table outlined in the following table,

Description	Dimension
Outside diameter	210 mm
Inner diameter	According to pipe outside diameter
Bolt circle diameter	170 mm

Slot in flange	4 holes 18 mm in diameter, equidistantly placed on a bolt circle of the above diameter, slotted to the flange periphery with the slot width of 18 mm
Flange thickness	16 mm
Bolts and nuts: quantity, diameter	4, each of 16 mm in diameter and of suitable length
The flange shall be designed to accept pipes up to a maximum internal diameter of 100mm and shall be of steel or other equivalent material having a flat face. This flange, together with a gasket of oil-proof material, shall be suitable for a service pressure of 600 kPa.	
For ships having a moulded depth of 5 m and less, the inner diameter of the discharge connection may be 38 mm.	

186. Garbage Management Plan

Disposal of garbage at sea is prohibited, except as otherwise stated under MARPOL Annex V and national legislations. All vessels are required to comply with the applicable provisions of MARPOL Annex V. Ships more than 100 gross tonnage carrying 15 or more persons onboard shall be provided with a Garbage Management Plan and vessels more than 400 gross tonnage carrying 15 or more persons onboard shall be provided with a Garbage Record Book in the form specified in MARPOL Annex V.

187. Placarding

All vessels shall display garbage disposal placards which notify the crew and any passengers about the appropriate disposal of garbage onboard. Such placards shall be written in English and the working language of the crew.

188. Garbage record

The master shall maintain a record and receipts of all garbage transferred ashore. Records and receipts shall be kept onboard the vessel for at least 12 months.

189. Anti-Fouling Systems

The use of organotin compounds which act as biocides in anti-fouling systems is prohibited on all ships. Ships more than 400 gross tonnage shall be issued with a Certificate and ships less than 400 gross tonnage and less than 24 metres in length shall be issued with the Declaration as per Annex III of the International Antifouling System Convention.

190. Ballast Water Management

Ships more than 400 gross tonnage shall comply with the survey and certification requirements of the Ballast Water Management Convention, as applicable, and be issued with a Near Coastal Ballast Water Management Certificate. A Statement of Non-Applicability shall be issued to ships, irrespective of their gross tonnage, in cases when the vessel complies with any one of the conditions as stipulated under Article 3.2 of the Ballast Water Management Convention and national legislations.

Chapter XVI

Minimum Safe Manning

191. Safe Manning Document

Department shall issue the Safe Manning Document under the provisions of Regulation V/14 of the International Convention for the Safety of Life at Sea (SOLAS) 1974, as amended and in pursuance of Myanmar Merchant Shipping Act.

192. Ships' manning

.1 All ships shall be sufficiently and efficiently manned for the safety of life at sea.

.2 Department shall ensure that the manning of seagoing ships from a safety standpoint includes the minimum number and grades of personnel necessary for the safe operation and security of the ship, and for the protection of the marine environment.

.3 Company is responsible for ensuring that the ship is manned in compliance with the Safe Manning Document by properly qualified, certificated and medically-fit seafarers in accordance with Regulation I/14 of the STCW Convention and paragraph 6 of the ISM Code.

.4 All ships shall ensure effective crew performance in safety matters, establish the working language with English and record in the ship's logbook.

193. Manning requirements

Minimum safe manning requirements for deck and engine departments shall be as follows: -

.1 Minimum safe manning requirements for Deck Department

	GT < 500			500 << GT < 3000			GT >> 3000		
Capacity	**Grade**	**STCW Reg.**	**No.**	**Grade**	**STCW Reg.**	**No.**	**Grade**	**STCW Reg.**	**No.**
Master	Deck Officer Class IV- Master (NCV) or Deck Officer Class II- Master or Deck Officer Class III- Master	**II/2*** **II/2** **II/1 & II/2***	**1**	Deck Officer Class I or Deck Officer Class II- Master or Deck Officer Class III- Master or Deck Officer Class IV- Master (NCV)	**II/2** **II/2** **II/1 & II/2*** **II/2***	**1**	Deck Officer Class I	**II/2**	**1**

Chief Officer	Deck Officer Class V or Deck Officer Class III- Chief Mate	**II/2*** **II/1 & II/2***	1	Deck Officer Class II or Deck Officer Class V or Deck Officer Class III- Chief Mate	**II/2** **II/2*** **II/1 & II/2***	**1**	Deck Officer Class II	**II/2**	**1**
Second Officer	**-**	**-**	**-**	Deck Officer Class III	**II/1**	**1**	Deck Officer Class III	**II/1**	**1**
AB Seaman Deck	Rating forming Part of Navigation Watch	**II/4**	**2**	Rating forming Part of Navigation Watch	**II/4 Or II/5**	**3**	Rating forming Part of Navigation Watch	**II/4 Or II/5**	**3**
OS	Basic STCW (Chapter VI) Courses	**-**	**1**	Deck Rating	**-**	**-**	Deck Rating	**-**	**-**
Cook	**-**	**-**	**-**	**-**	**-**	**-**	Basic Training	**-**	**1**
TOTAL			**4**			**6**			**7**

.2 Minimum safe manning requirements for Engine Department

	kW < 750			**750 << kW < 3000**			**kW >> 3000**		
Capacity	**Grade**	**STCW Reg.**	**No.**	**Grade**	**STCW Reg.**	**No.**	**Grade**	**STCW Reg.**	**No.**
Chief Engineer	Marine Engineer Officer Class IV	**III/2***	**1**	Marine Engineer Officer Class I or Marine Engineer Officer Class IV	**III/2** **III/2***	**1**	Marine Engineer Officer Class I	**III/2**	**1**
Second Engineer	Marine Engineer Officer Class V	**II/2*** **II/1 & II/2***	**1**	Marine Engineer Officer Class II or Marine Engineer Officer Class V	**III/2** **II/2*** **II/1 & II/2***	**1**	Marine Engineer Officer Class II	**II/2**	**1**
Third Engineer	**-**		**-**	Marine Engineer Officer Class III	**III/1**	**1**	Marine Engineer Officer Class III	**III/1**	**1**

AB Seaman Engine	Rating forming Part of Engine-Room Watch	**III/4**	**2**	Rating forming Part of Engine-Room Watch	**III/4 Or III/5**	**3**	Rating forming Part of Engine-Room Watch	**III/4 Or III/5**	**3**
Engine Rating	Basic STCW (Chapter VI) Courses	**-**	**-**	**Engine Rating**	**-**	**-**	**-**		**-**
TOTAL			**4**			**6**			**6**

194. Additional requirements for Ships' Manning

.1 Every person in charge of or performing radio duties on a ship required to participate in the GMDSS shall hold an appropriate certificate related to the GMDSS.

.2 Masters, Officers and any person with immediate responsibility for loading, discharging, care in transit, handling of cargo, tank cleaning or other cargo-related operations on Tankers shall hold in respective certificate.

.3 All crew shall hold the Seafarers' Identification and Record Book.

195. Seagoing service

.1 Seagoing service means service onboard a ship relevant to the issue or revalidation of a certificate or other qualification.

.2 Department shall determine approved seagoing service and watch keeping service as per national legislation.

.3 Master is responsible to make entry information into the Seafarers' Identification and Record Book for embarkation and disembarkation of any crew member served onboard the ship.

196. Medical standards

.1 Department shall establish standards of medical fitness for seafarers and procedures for the issue of a medical certificate in accordance with the provisions of this regulation and section A-I/9 of the Seafarers' training, certification and Watchkeeping Code, as amended.

.2 All crew holding a valid Certificate issued under the provision of national legislation and International Convention on Standards of Training, certification and Watchkeeping for seafarers, 1978, as amended.

Chapter XVII

Insurance

197. Certificate of Entry

Ship owner shall carry the Certificate of Entry, which is issued by International Group P&I associations or P&I associations Insurance companies recognized by Department.

198. A current certificate of insurance, or other document evidencing the currency of the insurance policy, must be carried on-board the ship and must detail the relevant limits of cover.

199. The certificate of insurance or documents must be readily available for inspection by compliance officers.

200. Certification

All ships shall carry a valid dedicated certificate of insurance for third party liability in respect of:

.1 any liability which may be incurred in respect of the death or bodily injury to any person caused by or arising out of the use of the vessel (including, but not limited to: passengers, crew or any other persons engaged on the business of the vessel);

.2 any liability which may be incurred in respect of loss or damage to property belonging to any third party arising out of the use of the vessel;

.3 salvage and wreck removal cost;

.4 pollution damage and costs of preventing or reducing damage resulting from the discharge or escape of dangerous or polluting goods.

201. The certificate of insurance shall contain but not be limited to:

.1 the vessel's particulars and any limitations imposed by the insurer;

.2 the full name and address of the person to whom the policy is issued; and

.3 the date on which the policy comes into force and the date on which it expires.

202. The certificate of insurance shall be valid at all times during the vessel's period of operations.

203. Every insurer issuing a certificate of insurance shall keep a record for a period of one year from the date of expiry of the policy.

204. Insurers shall, upon request and free of any charges, provide copies of a certificate of insurance to the Department.

Chapter XVIII

Forms of Certificates and Records of Equipment

205. The following certificates and records of equipment shall be drawn up under this Guidance:

.1 Load Line Certificate;

.2 Cargo Ship Safety Construction Certificate;

.3 Cargo Ship Safety Equipment Certificate;

.4 Record of Equipment for Cargo Ship Safety Equipment (Form E);

.5 Cargo Ship Safety Radio Certificate;

.6 Record of Equipment for Cargo Ship Safety Radio (Form R);

.7 Exemption Certificate;

.8 Safe Manning Certificate;

.9 Document of compliance special requirements for ships carrying dangerous goods;

.10 Document of Authorization approval of ship's plans for the carriage of bulk grain;

.11 Document of compliance for the carriage of solid bulk cargoes;

.12 Interim Document of Compliance;

.13 Document of Compliance;

.14 Interim Safety Management Certificate;

.15 Safety Management Certificate;

.16 Interim International Ship Security Certificate;

.17 International Ship Security Certificate;

.18 Oil Pollution Prevention Certificate;

.19 Supplement to the International Oil Pollution Prevention Certificate (Form A)

.20 Supplement to the International Oil Pollution Prevention Certificate (Form B)

.21 Sewage Pollution Prevention Certificate;

.22 Anti-Fouling Certificate;

.23 Bunker Certificate.

.24 All certificates and records of equipment specified in sub-paragraph (a) are subject to amendments in accordance with the respective conventions as adopted by IMO.