Authority for Transport in Malta

Code of Practice for the Safety of Commercial Vessels

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(issued in terms of the Commercial Vessels Regulations 2002)

Code of Practice for the construction, machinery, equipment, stability, operation, manning, examination, certification and maintenance of vessels in commercial use for the carriage of cargo, equipment and passengers and other vessels employed in port services and the servicing of ships.

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ANNEXES

1 FOREWORD

1.1 The Code has been developed for application to commercial vessels plying for hire or reward within ports, internal and territorial waters of Malta. The Code does not apply to pleasure craft not employed in commercial use, fishing boats and vessels owned or operated on non-commercial service.

1.2 The Code is an acceptable Code of Practice for application to vessels in accordance with the Commercial Vessels Regulations, 2002.

1.3 Vessels are required to comply with the various regulations issued under the Merchant Shipping Act which are relevant to the class of vessel to which they belong.

1.4 The Code sets required standards of safety and pollution prevention which are appropriate to the size and type of the vessel.

1.5 Compliance with the standards required by the Code will entitle a vessel to be issued with the certification required and applicable to the vessel upon satisfactory completion of the corresponding surveys, inspections and examinations.

The certification demanded by the Code is summarised in Annex 1 of the Code (List of certificates to be issued).

1.6 The primary aim in developing the Code is to set standards of safety and protection for all on board. The level of safety it sets to achieve is considered to be commensurate with the current expectations of crew and passengers. The code relates essentially to the construction of a vessel, its machinery, equipment, stability and to the correct operation of a vessel so that safety and environmental protection standards are maintained.

1.7 The Code deals with manning and the qualifications needed by members of the crew.

1.8 Designers and builders of new vessels will need to pay special regard to the intended area of operation and the working conditions to which a vessel will be subjected when selecting materials and equipment to be used in its construction.

1.9 The builder, repairer and owner of a vessel, as appropriate, should take all reasonable measures to ensure that a material or appliance fitted in accordance with the requirements of the Code is suitable for the purpose, having regard to its location in the vessel, the area of operation of the vessel and the weather conditions which may be encountered.

1.10 Any requirement for goods or materials to comply with a specified standard should be satisfied by compliance with:

.1 a relevant standard or code of practice of a national standards body or equivalent;

.2 any relevant international standard recognised for use by the Authority;

.3 a relevant specification acknowledged for use as a standard by a public authority of another country;

.4 traditional procedures of manufacture where these are subject to a written technical description sufficiently detailed to permit assessment of the goods or materials for the use specified;

.5 a specification sufficiently detailed to permit assessment for goods or materials of an innovative nature (or subject to innovative processes of manufacture such that they cannot comply with a recognised standard or specification) and which fulfils the purpose provided by the specified standard:

provided that the proposed standard, code of practice, specification or technical description provides, in use, equivalent levels of safety, suitability and fitness of purpose.

1.11 It is important to stress that, whilst all reasonable measures have been taken to develop standards which will result in the production of safe and seaworthy vessels, total safety at sea can never be guaranteed. As a consequence, the owner of a vessel shall take out a policy of insurance for all persons who are part of the vessel's complement from time to time. Such insurance should provide cover which is reasonable for claims which may arise. A copy of the valid certificate of insurance should either be displayed or available for inspection by persons on board the vessel.

1.12 Compliance with the Code in no way obviates the need for an owner and/or master to comply with additional local requirements where these are applied under relevant legal authority.

1.13 The owner/master of a vessel is responsible for health and safety of anyone working on the vessel. Health and safety standards to comply with local requirements.

Every employer should be aware of any risks affecting workers and has to ensure that appropriate measures are taken to minimize them, by improving procedures or equipment where necessary. Employers should instruct those affected about the risks and how to ensure their own safety and the safety of others.

1.14 It is recognized that the Code may be required to be revised in the light of experience gained in its application. Chapter 3 (Application and Interpretation) makes a provision for the Code to be revised.

2 DEFINITIONS

"Administration" means the Government of the State whose flag the vessel is entitled to fly.

"Annual examination/survey" means a general or partial examination of the vessel, its machinery, fittings and equipment, as far as can readily be seen, to ascertain that it has been satisfactory maintained as required by the Code and that arrangements, fittings and equipment provided are as documented in the appropriate form(s).

The hull of the vessel should be examined out of the water at intervals not exceeding 3 years. The certifying authority may stipulate a lesser interval in consideration of hull construction material or the age or the type and service of the vessel.

"Approved" in respect of materials or equipment means approved by the Administration or approved by an administration or organisation which is formally recognized by the Administration under Merchant Shipping legislation or approved by the Authority.

"Authority" means the Authority for Transport in Malta as established by the Authority for Transport in Malta Act (Cap. 499).

"Authorised Surveyor" means a person appointed as a surveyor of ships under Article 367 of the Merchant Shipping Act (Cap 234).

"Cargo" for the purpose of this Code means all items which are transported by the vessel except fuel for the vessel, ballast, consumables to be used on board, permanent outfit and equipment of the vessel, stores and spare gear for the vessel, crew and their personal effects and passengers and their personal effects and for which either a charge or no charge is made.

"Certificate" means the certificate appropriate to the vessel to which the Code is applied.

"Certificate of Insurance" means a certificate of insurance issued by an insurer in terms of the provisions contained in Annex 6 of the Code of Practice.

"Certifying Authority" means the Authority for Transport in Malta or any other person authorised by it.

"Charter" means an agreement between the owner and another party which allows the other party to operate the vessel, and the "Charterer" is that other party. It is the responsibility of the owner to ensure that vessels comply with the requirements prescribed in the Code.

"Code" means this Code, unless another Code is specified**.**

"Commercial vessel" means a vessel engaged in or intended for use in any trade, business or calling or plying for hire or reward within the ports, internal waters and territorial waters of Malta; for the purposes of this Code, unless otherwise specified, the term "vessel" shall have the same meaning as commercial vessel.

"Existing vessel" means a vessel which is not a new vessel.

"Freeboard" means the distance measured vertically downwards amidships from the lowest point of the upper edge of the freeboard deck to the waterline in still water, or from the upper edge of the deck line to the upper edge of the related load line, as appropriate.

"Garbage" means all kinds of victual, domestic and operational waste generated during the normal operation of the vessel and liable to be disposed of continuously or periodically, except sewage originating from vessels.

"ICLL" means the International Convention on Load Lines, 1966 as amended.

"IMO" means the International Maritime Organisation.

"Insurer" means an assurance company established in terms of the Laws of Malta.

"Length" unless expressly provided otherwise, means either 96% of the total length on a waterline at 85% of the least moulded depth measured from the top of the keel, or the length from the fore side of the stem to the axis of the rudder stock on that waterline, whichever is the greater. In a vessel with a rake of keel, the waterline on which this length is measured should be parallel to the design waterline.

"Length Overall" means the overall length from the foreside of the foremost fixed permanent structure to the aftside of the aftermost fixed permanent structure of the vessel.

"MARPOL" means the International Convention for the Prevention of Pollution from Ships, 1973, as amended.

"Mile" means a nautical mile of 1852 metres.

"New Commercial Vessel" means a vessel to which the Commercial Vessels Regulations, 2002 and the Code apply, the keel of which was laid or the construction or lay-up started on or after the date when such regulations came into force, or an existing vessel not already being a vessel to which such regulations apply, but obtained and proposed to be newly used as such a vessel on or after that date.

"Owner means the registered owner or the owner or the managing operator of the registered owner or owner or disponent owner, or Master of the vessel.

"Passenger" shall have the same meaning as described in Chapter 30 of the Code.

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

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

"Persons with Reduced Mobility" means anyone who has a particular difficulty when using public transport, including elderly persons, disabled persons, persons with sensory impairments and wheelchair users, pregnant women and persons accompanying small children.

"Policy" means a policy of insurance which is issued by an insurer in respect of the risks described in regulation 19(3)(k) of these regulations.

"Public Transport" means conveyance, either publicly or privately owned, provided to the general public or special service (but not including charter or sightseeing service) on a scheduled route between at least two different locations on a regular and continuous basis.

"Regulations" means the Commercial Vessels Regulations, 2002.

"SOLAS" means the International Convention for the Safety of Life at Sea, 1974, as amended.

3 APPLICATION AND INTERPRETATION

3.1 Application

3.1.1 Compliance with the Code satisfies the requirements of the Commercial Vessels Regulations 2002. The Regulations permit the Code to be applied to any commercially operated vessel whilst operating in Maltese territorial waters. The Code does not apply to pleasure craft not employed in commercial use, fishing boats and vessels owned or operated on non-commercial service. It is however recommended that such craft should as far as practicable comply with the requirements of the Code.

3.1.2 The Code should apply on the date of the coming into force of the Commercial Vessels Regulations 2002 to:

.1 Vessels which carry passengers;

.2 Vessels which carry cargo ;

.3 Vessels which carry cargo and/or passengers;

.4 Pilot boats;

.5 Vessels which do not carry cargo and/or passengers and which are in commercial use (tugboats, workboats, barges, dredgers, floating cranes etc).

3.1.3 The Code applies to monohull and multihull vessels.

3.1.4 It is the responsibility of the owner to ensure that a vessel is properly maintained and examined in accordance with the Code.

3.2 Interpretation

Where there is a question of application of the Code, or of the interpretation of a part of the Code, the owner of the vessel concerned should in the first instance seek clarification from an Authorised Surveyor. In situations where it is not possible to resolve an issue of interpretation, a decision may be obtained on written application to the Authority.

3.3 Area of Operation

A vessel may be considered for the issue of a Commercial Vessel Certificate allowing it to operate at sea within an assigned area, route and landing place.

3.4 Certification

To be issued with certification for a particular area and type of operation, a vessel should comply with all the corresponding requirements of the Code to the satisfaction of the Authority.

3.5 Verification by the Authority

Certificates presented in conjunction to a request for the issuance of a Commercial Vessel Certificate may be subject to a verification inspection and survey by person or persons authorised by the Authority.

3.6 Updating of the Code

The requirements of the Code will be reviewed as required from time to time and, if necessary revised within five years of its coming into force through the enabling legislation. Any amendments which are required before such time will be promulgated by the issue of relative Notices.

3.7 Equivalent Standards

Proposals for the application of alternative standards considered to be at least equivalent to the requirements of the Code should be submitted to the Authority for approval. Equivalence may be achieved provided the Authority is satisfied by trials or otherwise that the alternative is at least as effective as that required by the Code.

3.8 Exemptions

Exemptions should be granted only by the Authority.

Applications for exemption should be made to the Authority and be supported by justification for the exemption. The granting of exemptions should be regarded as exceptional.

3.9 Existing vessels

In the case of an existing vessel which does not comply fully with the Code safety standards but for which the safety standards are reasonable and practicable, the Authority may give consideration to a proposal from the owner to phase in requirements within an agreed time scale.

When an existing vessel does not meet the Code safety standard for a particular feature and it can be demonstrated that compliance is neither reasonable nor practicable, proposals for alternative arrangements should be submitted to the Authority for approval. In considering individual cases, the Authority should take into account the vessel's service history and other factors which are judged to be relevant to the safety standard which can be achieved.

Generally, repairs, alterations and refurbishment should comply with the standards applicable to a new vessel.

4 MANNING

4.1 Every vessel to which this Code applies should be sufficiently and efficiently manned as deemed fit for the safety of navigation and for the safety of life at sea.

4.2 In addition to the qualifications required the master and, where necessary, other members of the crew of a vessel, must have recent and relevant experience of the type and size of vessel and of the type of operation in which she is engaged.

4.3 In determining the minimum manning scales for a vessel account shall also be taken of the levels of equipment available, the nature of the vessel's intended area of operation and the workload likely to be undertaken.

4.4 The Authority will provide every vessel with an appropriate minimum safe manning document as evidence of the minimum safe manning considered necessary to satisfy the provisions of 4.1.

4.5 Annex 5 describes the requirements for minimum qualifications for persons serving on commercial vessels.

5 RADIO QUALIFICATIONS

5.1 Every vessel should carry, as a minimum, one person who holds an appropriate radio operator's certificate which is suitable for the radio installation and equipment on board, and reflects the operating area of the vessel.

5.2 Acceptable qualifications shall be those prescribed in the Wireless Telegraphy (Certificates of Operators) Regulations, 1999.

6 MEDICAL FITNESS CERTIFICATES

6.1 Every person applying for employment on a commercial vessel shall provide proof of physical and mental fitness by being in possession of a certificate from a doctor approved by the Authority attesting that he has passed an examination covering in particular visual and auditory acuity, colour vision, mobility of the upper and lower limbs, the neuro-psychiatric state and cardiovascular condition.

6.2 Medical certificates must be revalidated at periods not exceeding 5 years. The medical practitioner may prescribe a lesser period of validity.

6.3 On reaching the age of 61 years, the holder of a certificate must, within the following three months and subsequently annually, undergo the examination referred to above; the Authority shall attest on the certificate that the holder has satisfied this obligation.

7 CONSTRUCTION AND STRUCTURAL STRENGTH

7.1 General Requirements

7.1.1 A vessel for which the area of operation is unrestricted in terms of the Commercial Vessels Regulations, that is a vessel which is permitted to operate in all areas within Maltese territorial waters, should normally be fitted with a watertight deck over the length of the vessel and be of adequate structural strength to withstand the sea and weather conditions likely to be encountered in the area of operation.

7.1.2 A vessel which is not fitted with a watertight weather deck in accordance with 7.1.1 should normally be restricted to service in a limited area (and in favourable weather). An open boat should be provided with adequate reserves of buoyancy and stability for the vessel loaded with cargo and/or its full complement of persons to survive the consequences of swamping.

7.1.3 In any event, an open boat should not carry cargo, or a combination of passengers and cargo, weighing in excess of 1000kg. (One passenger is assumed to weigh 75kg).

7.1.4 A vessel which is constructed to a standard which imposes limiting conditions on its operational service should be specially considered.

7.1.5 The declared area(s) of operation and any other conditions which restrict the use of the vessel at sea should be recorded on the Commercial Vessel Certificate issued to the vessel.

7.1.6 The choice of hull construction material affects fire protection; reference should be made to Chapter 18 (Structural Fire Protection).

7.2 Structural Strength

7.2.1 General

The design of hull structure and its construction should provide strength and service life for the safe and effective operation of a vessel to withstand the sea and weather conditions encountered in the area of operation.

7.2.2 Construction materials

7.2.2.1 A vessel may be constructed of timber, fibre reinforced plastic (FRP), aluminium alloy or steel or combinations of such materials.

7.2.2.2 Proposals to use any other construction material should be submitted to the Authority for consideration and approval.

7.2.2.3 Requirements for materials used for the construction of inflatable and rigid inflatable boats are given in Section 7.7.2**.**

7.2.3 New vessels

7.2.3.1 New vessels will be considered to be of acceptable strength if built under survey and are certified to be in accordance with hull certification standards set by a recognised Classification Society.

A Classification certificate should be provided.

Recognised Classification Societies are those approved by the Maltese Flag Administration.

7.2.3.2 New vessels not built in accordance with 7.2.3.1 may be specifically considered provided full information, including calculations, drawings and details of materials is presented to the Authority for approval and, subject to a satisfactory survey by an Authorised Surveyor (Appointed Surveyor of Ships in terms of the Merchant Shipping Act).

A Certificate of Survey should be provided.

7.2.3.3 New vessels classed by one of the Classification Societies listed in 7.2.3.1 after construction has been completed in accordance with the standards of the Society, will be accepted as being of adequate strength for the service conditions covered by the classification notification.

A classification certificate should be provided.

7.2.3.4 The hull of a new vessel which has not been built under the survey of a Classification Society will be considered to be of acceptable strength after a satisfactory examination by an Authorised Surveyor and if it has been built:-

.1 in accordance with current hull construction rules for the vessel type published by one of the Classification Societies; or

.2 in general good accord with the standard of a vessel of similar configuration and manner of use and which has a record of at least five years history of safe operation in an area where the sea and weather conditions are no less severe than those likely to be encountered in the area of operation.

A Certificate of Survey should be provided.

7.2.3.5 Where applicable a valid International Load Line Certificate or Assignment of Freeboard Certificate should be provided.

7.2.4 Existing Vessels

An existing vessel will be considered to be of acceptable strength if it is in a good state of repair and is:-

7.2.4.1 Built to one of the standards of 7.2.3 for new vessels.

A Certificate of Survey should be provided.

7.2.4.2 Built to the standards defined by 7.2.3.1 and by 7.2.3.3 for new vessels and where no longer in class, are subjected to a full structural survey by an Authorised Surveyor to determine its condition.

A Certificate of Survey should be provided.

7.2.4.3 Of a design with a record of at least five years history of safe operation in an area where the sea and weather conditions and manner of use are no less severe than those likely to be encountered in the area of operation.

A Certificate of Survey should be provided.

7.2.4.4 In possession of a valid International Load Line Certificate or Assignment of Freeboard Certificate appropriate to the area of operation.

A Certificate of Survey should be provided.

7.2.4.5 Not built in accordance with any of the above but where full information, including calculations, drawings and details of materials has been presented and accepted by the Authority and subject to a satisfactory survey by an Authorised Surveyor.

A Certificate of Survey should be provided.

7.3 Decks

7.3.1 Weather Deck

7.3.1.1 A watertight deck referred to in 7.1.1 should extend from stem to stern and have positive freeboard throughout, in any condition of loading of the vessel.

7.3.1.2 A weather deck may be stepped, recessed or raised provided the stepped, recessed or raised portion is of watertight construction.

Minimum requirements for freeboard are given in Chapter 15 (Freeboard and Freeboard Marking).

7.3.2 Recesses

7.3.2.1 Any recess in the weathertight weather deck should be of weathertight construction and should be self draining under all normal conditions of heel and trim of the vessel.

7.3.2.2 A swimming pool open to the elements should be treated as a recess.

7.3.2.3 The means of drainage provided should be capable of efficient operation when the vessel is heeled to an angle of 10^{o} in the case of a motor vessel and 30^{o} in the case of a sailing vessel.

The drainage arrangements should have the capability of draining the recess (when fully charged with water) within 3 minutes when vessel is upright and at the load line draught. Means should be provided to prevent the backflow of seawater into the recess.

7.3.2.4 When it is not practical to provide drainage which meets the requirements of 7.3.2.3 alternative safety measures may be proposed for approval by the Authority.

7.4 Watertight Bulkheads

7.4.1 New Vessels

7.4.1.1 A new vessel of 15 metres in length and over or which is certified to carry 15 or more persons or which is certified to operate in all areas should be provided with watertight bulkheads.

Watertight bulkheads should be fitted in accordance with the following requirements:

.1 The strength of watertight bulkheads should be in accordance with the requirements of one of the Classification Societies;

.2 Generally, openings in watertight bulkheads should comply with the standards prescribed in SOLAS regulations II-1;

.3 When pipes, cables, etc penetrate watertight bulkheads, they should be provided with valves and/or watertight glands as appropriate;

.4 A door fitted in a watertight bulkhead should be of watertight construction and be kept closed at sea, unless opened at the discretion of the master.

7.4.1.2 For any other vessel the provision of watertight bulkheads is not mandatory, but when such a bulkhead is fitted for the safety of the vessel it should satisfy the requirements of 7.4.1.1.

7.4.2 Existing Vessels

7.4.2.1 Watertight bulkheads in existing vessels should comply with the requirements of 7.4.1 as far as it is practicable to do so.

7.4.2.2 In individual cases, when the Authority considers that the requirements of 7.4.1.1 cannot be met, the Authority may consider a justification for exemption from the specified requirements.

In considering an individual case the Authority will take into consideration the vessel's past performance in service and the declared area(s) of operation and any other condition which restricts the use of the vessel at sea, which will be recorded on the Commercial Vessel Certificate.

7.5 Enclosed Compartments within the hull and below the Freeboard Deck provided with Access through Openings in the Hull

7.5.1 Compartment(s) below the freeboard deck, provided for recreational purposes, oil fuelling, fresh water or other purposes to do with the business of the vessel and having access openings in the hull, should be bounded by watertight divisions without any openings (i.e. doors, manholes, ventilation ducts or any other opening), separating the compartment(s) from any other compartment below the freeboard deck.

7.5.2 Openings in the hull should comply with SOLAS regulations II-1/25-10 – External openings in cargo ships.

7.6 Rigging on Sailing Vessels

7.6.1 General

7.6.1.1 The overall sail area and spar weights and dimensions should be as documented in the vessel's stability information booklet. Any rigging modifications that increase the overall sail area, or the weight/dimension of the rig aloft, must be accompanied by an approved updating of the stability information booklet.

7.6.1.2 The condition of the rig should be monitored in accordance with a planned maintenance schedule. The schedule should include, in particular, regular monitoring of all gear associated with safe work aloft and on the bowsprit.

7.6.2 Masts and spars

7.6.2.1 Dimensions and construction materials for spars should be in accordance with the recommendations of one of the Classification Societies or a recognised national or international standard.

7.6.2.2 The associated structure for masts and spars (including fittings, decks and floors) should be constructed to absorb the forces involved.

7.6.3 Running and standing rigging

7.6.3.1 Wire rope used for standing rigging (stays or shrouds) should not be flexible wire rope (fibre rope core).

7.6.3.2 The strength of all blocks, shackles, rigging screws, cleats and associated fittings and attachments points should exceed the breaking strain of the associated running or standing rigging.

7.6.3.3 Chain plates for standing rigging should be constructed to support and absorb the forces involved. Only one shroud or stay should load an individual attachment point, unless the design specifically allows for more.

7.6.4 Sails

7.6.4.1 Adequate means of reefing or shortening sail should be provided.

7.6.4.2 Vessels that are only engaged in short day sailing need not carry storm canvas.

7.6.4.3 All other vessels should either be provided with separate storm sails or have specific sails designated and constructed to act as storm canvas. (The latter option is standard practice in large vessels).

7.7 Inflatable Boats

The following requirements should apply to an inflatable or rigid inflatable boat which is proposed for operation under the Code.

7.7.1 General

7.7.1.1 Generally, an inflatable boat or rigid inflatable boat which is to operate as an independent vessel under the Code (and is not a tender operating from a vessel) should be of a design and construction which meet the requirements of SOLAS Chapter III and the Annex to the IMO Resolution A.689 (17) – Testing of Life-Saving Appliances – which are appropriate to the type of boat, and subject to the variations which are given in the Code.

An inflatable boat or rigid inflatable boat built for commercial use to an approved national or international standard will also be accepted.

7.7.1.2 When production of boats is covered by a quality system recognised by the Authority and boats are built in batches to a standard design, prototype tests on one boat may be accepted for a boat of the same design submitted for compliance with the Code.

7.7.1.3 A boat should be of strength to withstand the sea and weather conditions likely to be encountered in the area of operation.

7.7.1.4 An approved boat will only be permitted to operate in favourable weather conditions.

7.7.2 Construction Materials

Materials should satisfy the requirements of SOLAS Chapter III, except that fire-retarding characteristics are not required for the hull material.

7.7.3 New inflatable boats

7.7.3.1 A new inflatable boat or rigid inflatable boat should satisfy the requirements of SOLAS Chapter III and be tested in accordance with the requirements of IMO Resolution A.689 (17) as appropriate to the intended use of the boat.

As a minimum, tests to verify strength of structure should include drop and towing. When lifting arrangements are provided in a boat, a lifting (overload) test should be carried out at ambient temperature with the boat loaded with the mass of the full complement of persons and equipment for which it is to be approved. After each test, the boat should not show any signs of damage or strain.

7.7.3.2 A new boat of a type certified as a rescue boat under the Merchant Shipping Act or provided with a letter of compliance for use as a fast rescue boat for offshore stand-by vessels, or any equivalent certification or compliance, should be accepted as complying with the construction requirements of the Code.

7.7.3.3 A new boat which is not built in accordance with either 7.7.3.1 or 7.7.3.2 may be specially considered, provided that full information (including calculations, drawings, details of materials and construction) is presented to and approved by the Authority and tests should be conducted to verify strength of structure (see 7.7.3.1).

7.7.3.4 A permanent shelter provided for the protection of persons on board should be of a construction adequate for the purpose and the area of operation.

7.7.4 Existing inflatable boats

An existing inflatable boat or rigid inflatable boat will be considered to be of acceptable structural strength if it is in a good state of repair and is:-

.1 built to one of the standards described in 7.7.3 for a new boat; or

.2 of a design with a record of at least five years history of safe operation in an area where the sea and weather conditions are no less severe than those likely to be encountered in the area of operation.

8 WEATHERTIGHT INTEGRITY

8.1 General

8.1.1 A decked vessel should be designed and constructed in a manner which will prevent the ingress of seawater.

8.1.2 For new vessels and existing vessels, the standards for achieving weathertight integrity should comply with the ICLL as far as it is reasonable and practicable.

8.1.3 In any case the intention should be to achieve a standard of safety which is at least equivalent to the standard of ICLL.

8.1.4 In individual cases, when the Authority considers that the requirements of ICLL or the Code cannot be met, the Authority may consider and approve alternative arrangements to achieve adequate safety standards.

8.1.5 For an existing vessel, the Authority should take into account the vessel's past performance in service and the declared area(s) of operation and any other conditions which restrict the use of the vessel at sea. Conditions which restrict the use of the vessel at sea should be recorded on the Commercial Vessel Certificate issued to the vessel.

8.2 Hatchways, Hatches, Skylight Hatches and other Openings

8.2.1 General requirements

8.2.1.1 A hatchway, which gives access to spaces below the weather deck, should be of efficient construction and be provided with efficient means of weathertight closure.

8.2.1.2 A cover to a hatchway should be hinged, sliding, or permanently secured by other equivalent means to the structure of the vessel and be provided with sufficient locking devices to enable it to be positively secured in the closed position.

8.2.1.3 A hatchway with a hinged cover which is located in the forward portion of the vessel should normally have the hinges fitted to the forward side of the hatch, as protection of the opening from boarding seas.

8.2.1.4 Hatches which are used for escape purposes should be capable of being opened from both sides. An escape hatch should be readily identified and easy and safe to use, having due regard to its position and access to and from the hatch.

8.2.1.5 Hatches which are to be kept closed for safety reasons when the vessel is at sea should have prominent "Keep Closed" warning notices to the vessel structure on both sides.

8.2.2 Hatchways which are open at sea

Whereas safety considerations require that hatches should be kept closed when a vessel is at sea, operational needs may exist for specified hatches to be open at sea for lengthy periods. Hatches which need to be opened at sea should be:-

.1 kept as small as practicable, but never more than $1m^2$ in plane area at the top of the coaming;

.2 located on the centre line of the vessel or as close thereto as practicable and compatible with the proper working of the vessel;

.3 fitted such that the access opening is at least 300mm above the top of the adjacent weather deck at the side of the vessel.

8.3 Doors and Companionways

8.3.1 Doorways located above the weather deck

8.3.1.1 A doorway located above the weather deck which gives access to spaces below should be provided with a weathertight door. The door should be of efficient construction, permanently attached to the bulkhead, not open inwards, and sized such that the door overlaps the clear opening on all sides, and has efficient means of closure which can be operated from both sides.

8.3.1.2 Door openings should have coaming heights of at least:

.1 600mm when the door is in the forward quarter length of the vessel and used when the vessel is at sea;

.2 300 mm when the door is in an exposed forward facing location aft of the forward quarter length;

.3 150mm above the surface of the deck when the door is in a protected location aft of the forward quarter length.

8.3.1.3 A doorway should be located as close as practicable to the centre line of the vessel. Weathertight doors should be arranged to open outwards and when located in the side of a house, be hinged at the forward edge. Alternative closing arrangements will be considered provided it can be demonstrated that the efficiency of the closing arrangements and their ability to prevent the ingress of water will not impair the safety of the vessel.

8.3.1.4 An access door leading directly to the engine room from the weather deck should be fitted with a coaming of height 600mm if in a position .1 and 380 mm if in a position .2 described in 8.3.1.2.

8.3.1.5 Coaming height, construction and securing standards for weathertight doors which are provided for use only when the vessel is in port or at anchor in calm sheltered waters and are locked closed when the vessel is at sea, may be considered individually.

8.3.2 Companion hatch openings

8.3.2.1 Companionway hatch openings which give access to spaces below the weather deck should be fitted with a coaming the top of which is at least 300mm above the deck.

8.3.2.2 Washboards may be used to close the vertical opening. When washboards are used they should be so arranged and fitted that they will not be readily or accidentally dislodged in any event. Whilst stowed, provisions are to be made to ensure that they are retained in a secure position.

8.3.2.3 The maximum breadth of an opening in a companion hatch should not exceed 1 metre.

8.4 Skylights

8.4.1 All skylights should be of efficient weathertight construction and should be located on the centre line of the vessel, or as near thereto as practicable, unless it is offset by necessity to provide a means of escape from a compartment below deck.

8.4.2 When a skylight is an opening type it should be provided with efficient means whereby it can be secured in the closed position.

8.4.3 Skylights which are provided as a means of escape should be capable of being operable from both sides. An escape skylight should be readily identified and easy and safe to use, having due regard to its position and access to and from the skylight.

8.4.4 The skylight glazing material and its method of securing within the frame should be of suitable material and strength which meets the appropriate marine standards and to the satisfaction of the certifying authority.

8.4.5 A minimum of one portable cover for each size of glazed opening should be provided which can be efficiently secured in place in the event of breakage of the glazing. The portable cover should be of suitable material and strength to the satisfaction of the certifying authority.

8.5 Portlights and Windows

8.5.1 General

8.5.1.1 Portlights and windows should be of an approved type. They should be of efficient construction and strength appropriate to location in the vessel and the intended area of operation of the vessel.

8.5.1.2 In general all portlights fitted in locations protecting openings to spaces below the weather deck or fitted in the hull or superstructure should be provided with a deadlight which is permanently attached and is capable of securing the opening watertightness in the event of a breakage of the scuttle glazing. Proposal to fit side scuttles with portable deadlights will be subject to special consideration and approval by the Authority, having regard to the location of the side scuttles and ready availability of deadlights to be fitted. Consideration should be given to the provision of operational instructions to the Master as to when deadlights must be applied to side scuttles.

8.5.2 Vessels of 24 metres in length and over

Portlights and windows fitted on vessels of 24 metres in length and over should be in accordance with current rules for the vessel type published by one of the Classification Societies.

8.5.3 Vessels of less than 24 metres in length

Portlights and windows fitted on vessels of less than 24 metres in length should be fitted with shatterproof glass of adequate strength. On existing vessels the glass fitted may be accepted by the Authority where it is satisfied with its condition and installation. Fixtures through which down flooding into the main hull can occur should be provided with weathertight covers. Such covers should preferably be permanently attached but where this is not practical they should be provided with means of securing that can be quickly affected in adverse weather conditions.

8.5.4 New Vessels

In a new vessel, portlights, windows and their frames should meet the requirements of ISO 12216 – Windows, portlights, hatches, deadlights and doors – Strength and tightness requirements or equivalent standard.

8.5.5 Wheelhouse or Navigating Position

.1 polarised or tinted glass should not be used in windows provided for navigational visibility. Portable tinted screens may be provided for nominated windows;

.2 when the vessel is expected to operate in severe weather (relative to the size of the vessel), efficient storm shutters should be provided for all front and side facing windows;

.3 On new vessels windows and their frames should meet the requirements of ISO 12216 or equivalent standard, having due regard to the increased thickness of windows comprising one or more laminations in order to achieve equivalent strength.

8.6 Ventilators and Exhausts

8.6.1 Adequate ventilation is to be provided throughout the vessel. The accommodation is to be protected from the entry of gas and/or vapour fumes from machinery, exhaust and fuel systems.

8.6.2 Ventilators are to be of efficient construction and provided with permanently attached means of weathertight closure. Generally, ventilators serving any space below the freeboard deck or an enclosed superstructure should have a coaming of minimum height:

.1 900mm in the forward quarter length of the vessel; and

.2 760mm elsewhere.

8.6.3 Ventilators should be kept as far inboard as practicable and the height above the deck of ventilator opening should be sufficient to prevent the ingress of water when the vessel heels.

8.6.4 The ventilation of spaces such as machinery space, which must remain open for the supply of air or for the discharge of noxious or flammable gases, requires special attention with regard to the location and height of the ventilation openings above the deck, taking into account the effect of the down-flooding angle. (see Chapter 14 – Intact and Damage Stability).

8.6.5 An engine exhaust outlet which penetrates the hull below the weather deck should be provided with means to prevent back flooding into the hull through the exhaust system. The means may be provided by system design and/or arrangement, built-in valve or a portable fitting which can be applied readily in an emergency.

8.7 Air Pipes

8.7.1 Where located on the weather deck, air pipes should be kept as far inboard as practicable and be fitted with a coaming of sufficient height to prevent down flooding.

Generally, air pipes to tanks should have a minimum coaming height of:

.1 760 mm when sited on the freeboard deck; and

.2 450 mm elsewhere.

8.7.2 Air pipes serving fuel and other tanks should be of efficient construction and provided with permanently attached means of weathertight closure. Means of closure may be omitted if it can be shown that the open end of an air pipe is afforded adequate protection by other structure(s) which will prevent the ingress of water.

Closing appliances should be of a type which will prevent excessive pressure on the tank boundaries. Provision should be made for relieving a vacuum when tanks are being drawn from or emptied.

On vessels of 24 metres length and over air pipes to fuel tanks should terminate at a height of not less than 760mm above either, the top of the filler pipe for gravity filling tank or, the top of the overflow tank for pressure filling tank.

8.8 Scuppers, Sea Inlets and Discharges

8.8.1 In general the standards of ICLL should be applied to every discharge led through the shell of the vessel as far as it is reasonable and practicable to do so, and in any case, all sea inlet and overboard discharges should be provided with a seacock, valve or other effective means of closure arranged in positions where they are readily accessible at all times.

8.8.2 When an opening is for a log or other sensor which is capable of being withdrawn it should be fitted in an efficient watertight manner and provided with an effective means of closure when such a fitting is removed.

8.8.3 Inlet and discharges from water closets should be provided with shell fittings as required by 8.8.2. When the rim of a toilet is either below or less than 300mm above the deepest waterline of the vessel, anti-syphon measures should be provided.

8.9 Materials for Valves and Associated Piping

8.9.1 Valves which are fitted below the waterline should be of steel, bronze or other non-brittle fire resistant material or equivalent.

8.9.2 The associated piping should, in areas as indicated above, be of steel, bronze, copper or other equivalent material.

8.9.3 Where the use of plastic piping is proposed, it will be considered on an individual basis and full details of the type of piping, its intended location and use, should be submitted to the Authority for approval. The Authority may require tests to be carried out on the plastic piping as necessary, to give approval to its use. In case of plastic piping fitted within an engine space or fire risk area, a means should be provided to stop the ingress of water in the event of the pipe being damaged, operable from outside the space.

8.9.4 The use of flexible piping in any situation should be kept to a minimum compatible with the essential reason for its use. Flexible piping and the means of joining it to its associated hard piping system should be approved as fit for the purpose by the Authority.

9 WATER FREEING ARRANGEMENTS

9.1 General

9.1.1 For new and existing vessels, the standards for water freeing arrangements should comply with ICLL as far as it is reasonable and practicable to do so.

In any case the intention should be to achieve a standard of safety which is at least equivalent to the standard of ICLL.

9.1.2 In individual cases where the requirements of the ICLL cannot be met, the Authority may consider and approve alternative arrangements to achieve adequate safety standards.

In considering an individual case, account will be taken of the vessel's past performance in service and the declared area(s) of operation and any other conditions which restrict the use of the vessel at sea will be recorded on the Commercial Vessel Certificate issued to the vessel.

9.1.3 Section 7.3.2 sets requirements specific to the drainage of recesses.

9.2 Requirements for vessels of less than 24 metres in length

9.2.1 When a deck is fitted with bulwarks such that shipped water may be trapped, the bulwarks should be provided with efficient freeing ports.

9.2.2 The area of the freeing ports should be at least 4% of the bulwark area and be situated in the lower third of the bulwark height, as close to the deck as practicable.

9.2.3 A vessel of less than 12 metres which operates with stern trim and in favourable weather should be provided with freeing ports required by 9.2.2 or may be provided with a minimum of two ports fitted (one port and one starboard) in the transom, each having a clear area of at least 225 sq. cm.

9.2.4 When a non-return shutter or flap is fitted to a freeing port it should have sufficient clearance to prevent jamming and any hinges should have pins or bearings of non-corrodible material. Normally, hinges should be along the upper edge of the non-return shutter or flap.

9.2.5 When a vessel has only small side deck areas in which water can be trapped a smaller freeing port area may be accepted. The reduced area should be based on the volume of water, which is likely to become trapped.

9.2.6 In a vessel in which freeing ports cannot be fitted, other efficient means of clearing trapped water from the vessel should be provided to the satisfaction of the Authority.

9.2.7 Structures and spaces considered to be non weathertight should be provided with efficient drainage arrangements.

9.2.8 Where cargo is to be stowed on deck the stowage arrangement should be such as to not impede the free flow of water from the deck.

10 MACHINERY

10A Machinery - Requirements for vessels less than 24 metres

10A.1 General Requirements

10A.1.1 Generally machinery installations should comply with the requirements given below. Other installations proposed may be specially considered, provided that full information is presented to and approved by the Authority.

10A.1.2 In all vessels, the main propulsion machinery and all auxiliary machinery essential to the propulsion and the safety of the vessel should be designed to operate when the vessel is upright and when inclined at any angle of heel and trim up to and including 15^0 and 7.5^0 respectively either way under static conditions.

10A.1.3 Fuel filling and venting pipes should be constructed of fuel compatible non-kinking material, adequately supported and of sufficient dimensions to prevent spillage during filling.

A venting pipe should be led to the open atmosphere, terminating in a position level with higher than the fuel filling mouth and its open end protected against:-

.1 water ingress – by a goose neck or other efficient means; and

.2 flame ingress – by a suitable gauze diaphragm (which can be detached for cleaning).

10A.2 Diesel Engines

A vessel fitted with either an inboard or outboard diesel engine should be provided with an efficient marinised engine and sufficient fuel storage for its area of operation.

10A.3 Petrol Engines

10A.3.1 New vessels

10A.3.1.1 In the particular case of a proposal to install an inboard petrol engine in a new vessel, full information should be presented to the Authority for approval.

10A.3.1.2 In a vessel which is fitted with a watertight weather deck, a petrol engine may be accepted provided that the engine is a suitable outboard type and:-

.1 a fixed-in-place fuel tank complying with both 10A.3.1.3.1 and 10A.3.1.3.2 is fitted below the deck and spillage during fuel handling will drain directly overboard; or

.2 a fixed-in-place fuel tank complying with only 10A.3.1.3.1 is fitted above the deck and spillage during fuel handling will drain directly overboard;

.3 fuel is supplied to the engine from a portable tank of 27 litres or less in capacity complying with the requirements of ISO 13591 – Portable fuel systems for outboard motors, or other equivalent National Standard.

10A.3.1.3 In a vessel which is an open boat, a marinised petrol engine may be accepted provided that the engine is a suitable outboard type. Fuel tanks should comply with 10A.3.1.2.3. However, in a rigid hull vessel or rigid inflatable boat a safely located fixed-in-place inboard tank may be accepted subject to:-

.1 the tank being constructed of mild steel (hot dipped galvanised after fabrication), or stainless steel, with rounded corners and edges for explosion proofing purposes, and installation complying with 10A.4 (Installation);

Note: (a) Foils, intended to prevent explosions, should not be used in a steel tank; and
(b) The tank should be tested to at least 0.3 bar.

.2 an intrinsically safe or flameproof detector and alarm (or any other standard of safety accepted by the Authority) of hydrocarbon gas being fitted under or adjacent to the tank where hydrocarbon gas is likely to accumulate; and

.3 electrical arrangements complying with Chapter 11.

10A.3.1.4 A small marinised petrol engine (not exceeding 10 horse power) manufactured with an integral fuel tank can be accepted for either outboard propulsion or portable plant provided a safety warning sign displayed with details of appropriate precautions to be taken when filling the fuel tank.

The installation requirements of 10A.4 do not apply.

10A.3.2 Existing vessels

10A.3.2.1 In an existing vessel only, an inboard petrol engine may be accepted provided that the engine is located in an effective enclosed space to which a fixed fire extinguishing system is fitted and:-

.1 provision is made to ventilate the engine space thoroughly without risk of ignition before the engine is started; and

.2 a fixed-in-place inboard petrol tank complies with 10A.3.1.3.2, 10A.3.1.3.3 and 10A.1.3; or

.3 a portable petrol tank complies with 10A.3.1.2.3.

10A.3.2.2 In an existing vessel outboard petrol engines may be accepted, provided fuel requirements comply with 10A.3.1.2.3 or 10A.3.1.4.

10A.3.2.3 In an existing inflatable boat or rigid inflatable boat, a petrol engine installation should meet the requirements of 10A.3.1.3 or 10A.3.1.4.

10A.4 Installation

10A.4.1 The machinery, fuel tank(s) and associated piping systems and fittings should be of a design and construction adequate for the service in which they are used and should be so installed and protected as to reduce to a minimum danger to persons during normal movement about the vessel, due regard being paid to moving parts, hot surfaces and other hazards.

10A.4.2 Petrol tanks (except those integral with small engines – see 10A.3.1.4) for new and existing vessels should have all connections and fittings at the top of the tank. (See ISO 10088:1992 – Permanently installed fuel systems and fixed fuel tanks).

10A.4.3 Means should be provided to isolate a source of fuel which may feed a fire in an engine space fire situation. A valve or cock, which is capable of being closed from a position outside the engine space, should be fitted in the fuel feed pipe as close as possible to the fuel tank.

10A.4.4 In a fuel supply system to an engine unit, when a flexible section of piping is introduced, connections should be of a screw type or equivalent approved type. Flexible pipes should be fire resistant/metal reinforced or otherwise protected from fire. Materials and fittings should be of a suitable recognised national or international standard.

10A.4.5 In the case of an existing vessel fitted with a diesel engine in which the flexible section of piping installed does not meet the requirements of 10A.4.4, the requirements should be met when existing fittings in the fuel supply system are replaced.

10A.4.6 When the main engine(s) fuel system is provided with water separator filter(s) of a type which has plastic or heat and shock resistant glass bowl(s), thermal shut-off valve(s) should be fitted to the inlet side of the filter(s). The setting of the thermal shut-off valve(s) should be appropriate to the failure temperature of the bowl material.

10A.4.7 Saveall(s) or equivalent means of containment of spillage should be provided below fuel pump(s) and filter(s).

10A.5 Engine starting

10A.5.1 An engine should be provided with either mechanical or hand starting or electric starting with independent batteries or other means of starting acceptable to the Authority.

10A.5.2 When the sole means of starting is by battery, the battery should be in duplicate and connected to the starting motor via a “change over switch” so that either battery can be used for starting the engine. In normal circumstances it should not be possible to run both batteries in parallel.

For cold starting of the engine the use of both batteries in parallel can be accepted.

Charging facilities should be available for the batteries when the engine is running.

10A.6 Portable Plant

10A.6.1 When portable plant powered by a petrol engine is provided, the unit should be stored on the weather deck.

10A.6.2 A deck locker or protective enclosure for the portable plant should have no opening(s) to an enclosed space within the hull of the vessel and the locker or protective enclosure should be adequately ventilated and drained.

10A.6.3 Petrol tanks provided for the engine should comply with the appropriate requirements of 10A.3.1.2.3 and 10A.3.1.4.

10A.6.4 Gas welding and cutting equipment, if carried should be stowed in a secure manner on the open deck at a safe distance away from any potential source of fire and should have the capability of being readily jettisoned overboard if necessary.

10A.7 Stowage of Petrol

When spare petrol is carried on board in portable containers for any purpose, the containers should be clearly marked and should be stowed on the weather deck where they can be readily jettisoned and where spillage will drain directly overboard. The quantity of petrol and number of containers should be kept to a minimum.

10B Machinery - Requirements for vessels of 24 metres and over but less than 50 metres length

10B.1 General requirements

10B.1.1 The machinery and its installation should be in accordance with current rules for the vessel type published by one of the Classification Societies. Either the vessel should be in class or a Certificate of Survey issued by an Authorised Surveyor should be provided to the Authority. For existing and new vessels which operate with periodically unattended machinery spaces, the machinery and its installation should meet the standards of SOLAS regulations II-1/Part E – Additional requirements for periodically unattended machinery spaces, so far as it is reasonable and practicable to do so.

10B.1.2 The requirements for main propulsion are based upon the installation of diesel powered units. When other types of main propulsion are proposed, the arrangements and installation should be specially considered.

10B.1.3 Notwithstanding the requirements of section 10B.1.1, in a fuel supply system to an engine unit, when a flexible section of piping is introduced, connections should be of a screw type or equivalent approved type. Flexible pipes should be fire resistant/metal reinforced or otherwise protected from fire. Materials and fittings should be of a suitable recognised national or international standard. In the case of an existing vessel fitted with a diesel engine in which the installation of a flexible section of piping does not immediately meet the requirements, the requirements should be met when existing fittings in the fuel supply system are replaced.

10B.2 Installation

10B.2.1 Notwithstanding the requirements referred to in 10B.1, the machinery, fuel tanks and associated piping systems and fittings should be of a design and construction adequate for the service for which they are intended, and should be so installed and protected as to reduce to a minimum any danger to persons during normal movement about the vessel, due regard being made to moving parts, hot surfaces, and other hazards.

10B.2.2 Means should be provided to isolate any source of fuel which may feed a fire in an engine space fire situation. A fuel shut-off valve(s) should be provided which is capable of being closed from a position outside the engine space. The valve(s) should be fitted as close as possible to the fuel tank(s).

10B.2.3 When a glass fuel level gauge is fitted it should be of the “flat glass” type with self closing valves between the gauge and the tank.

10C Machinery – Requirements for vessels of 50 metres in length or 500 GT and over

For existing and new vessels, the machinery and its installation should meet the standards of SOLAS regulations II-1/Part C – Machinery installations and II-1/Part E – Additional requirements for periodically unattended machinery spaces (when appropriate). So far as it is reasonable and practicable to do so.

In any case the intention should be to achieve a standard of safety which is at least equivalent to the standard of SOLAS. Equivalence may be achieved by incorporating increased requirements to balance deficiencies and thereby achieve the required overall standard.

11 ELECTRICAL INSTALLATIONS

11.1 General requirements

11.1.1 The electrical arrangements should be such as to minimise the risk of fire and electric shock.

11.1.2 Tanks, machinery or other metallic objects which do not have good electrical continuity with the water surrounding the vessel should have special earthing arrangements to reduce such risks.

11.1.3 In an existing vessel, the electrical arrangements should meet the general principles for safety, be in good condition and have a recorded history of safe operation to the satisfaction of the Authority. Electrical installations should be constructed to a recognised standard for marine use.

11.2 Requirements for vessels of less than 50 metres in length and under 500 GT

11.2.1 General requirements

The electrical equipment and its installation should in general be in accordance with current rules for the vessel type published by one of the Classification Societies.

11.2.2 Installation

Particular attention should be paid to the provision of overload and short circuit protection of all circuits, except engine starting circuits supplied from batteries.

Electrical devices working in potentially hazardous areas into which petroleum vapour or other hydrocarbon gas may leak, should be provided with protection against the risk of igniting the gas.

11.2.3 Batteries

Batteries of a type suitable for marine use and not liable to leakage should be used.

A battery cut-off switch should be provided for all systems. It is preferred that this switch acts as an isolator i.e. it is double pole. If a battery changeover switch is fitted and is provided with an “off” position, this may serve as the cutout switch also.

Batteries should be secured firmly to avoid movement when the vessel is subjected to sudden acceleration or deceleration, a large angle of heel, trim etc.

Areas in which batteries are stowed should be provided with adequate ventilation to prevent an accumulation of gas which is emitted from batteries of all types.

Guidance on battery installation and ventilation is contained in The Institution of Electrical Engineers Regulations for Electrical and Electronic Equipment of Ships with Recommended Practice for their Implementation, 6th Edition 1990 and subsequent supplements and amendments.

11.2.4 Cables

Electric cables should be constructed to a recognised standard for marine use as appropriate for the type of vessel and its function and intended area of operation.

Cables which are not provided with electrical protection should be kept as short as possible and should be “short circuit proofed” e.g. single core with additional insulated sleeve over the insulation of each core. Normal marine cable which is single core will meet this requirement without an additional sleeve, since it has both conductor insulation and a sheath.

All wiring should be carried out with flame retardant cable. Note that when selecting cables, particular attention should be given to environmental factors such as temperature and contact with damaging substances e.g. polystyrene, which degrades PVC insulation.

Adequate provision should be made for securing electrical connections e.g. by use of locking washers.

11.2.5 Lighting

A single hazardous event should not be capable of disabling all lighting systems.

Lighting circuits should be distributed throughout the spaces so that a total blackout cannot occur due to the failure of a single protective device.

Where general lighting is provided by a single centralised source, an alternative source of lighting should also be provided sufficient to enable persons to make their way to the open deck or to permit work on essential machinery.

An emergency source of lighting should be provided which should be independent of the general lighting system and sufficient to enable persons to make their way up to the open deck and evacuate the vessel if necessary.

Emergency lighting should be provided to illuminate the survival craft launching and embarkation areas and manoeuvre both rescue equipment and rescue areas.

11.2.6 Hazardous spaces

Where practicable, electrical equipment should not be installed in a space where petroleum vapour or other hydrocarbon gas may accumulate. When equipment is installed in such a space it must comply with a recognised standard for prevention of ignition of the flammable atmosphere.

Any compartment which contains a gas consuming appliance or any compartment into which flammable gas may leak or accumulate, should be provided with a hydrocarbon gas detector and alarm. The detector and alarm should be designed to comply with a recognised standard.

11.3 Requirements for vessels of 50 metres in length and over or 500 GT and over

For existing and new vessels, the electrical equipment and its installation should meet the standards of SOLAS regulations II-1/Part D – Electrical installations and II-1/Part E – Additional requirements for periodically unattended machinery spaces (when appropriate), so far as it is reasonable and practicable to do so.

In any case, the intention should be to achieve a standard of safety which is at least equivalent to the standard of SOLAS. Equivalence may be achieved by incorporating increased requirements to balance deficiencies and thereby achieve the required overall standard.

12 STEERING GEAR, RUDDER AND PROPELLER SYSTEMS

12.1 Steering Gear

12.1.1 A vessel should be provided with efficient means of steering.

12.1.2 The control position should be located so that the person conning the vessel has a clear view for the safe navigation of the vessel.

12.1.3 Where steering is effected by remote control, an arrangement should be in place for emergency steering in the event of failure of the remote control.

12.1.4 If emergency steering is totally impractical, alternative safety measures and/or procedures to deal with any steering failure situation should be proposed for approval by the Authority. The Authority may consider the application of restrictions to the service area of the vessel.

12.1.5 Steering systems should comply with a recognised standard.

12.2 Rudder System

12.2.1 As appropriate to the vessel, the rudder, rudder stock construction and supporting structure materials and design should correspond to the operating conditions for the vessel. Recognised design standards should be used.

12.2.2 Construction and fitting standards should be to the satisfaction of the Authority.

12.3 Propeller System

12.3.1 As appropriate to the vessel, the propeller line shaft(s) construction materials and design in total (including shaft brackets, propeller securing, bearings, stern-tube and thrust block) and supporting structures should correspond to the operating conditions for the vessel. Recognised design standards should be used.

12.3.2 Construction and fitting standards should be to the satisfaction of the Authority.

12.4 Additional requirements for vessels of 24 metres and over but less than 50 metres in length and under 500 GT

12.4.1 The steering gear and its installation should in general be in accordance with current rules for the vessel type published by one of the Classification Societies. Either the vessel should be in class, or a certificate of compliance issued by an Authorised Surveyor should be provided to the Authority.

In the event that the above requirements cannot be met on an existing vessel, the Authority may be requested to consider and approve alternative arrangements to achieve adequate safety standards.

12.4.2 For rudder steering systems, the steering gear should be capable of turning the rudder from 35^0 on one side to 35^0 on the other side at the maximum ahead service speed of the vessel. When appropriate to the safe steering of the vessel, the steering gear should be power operated in accordance with the requirements of the Authority.

12.5 Additional requirements for vessels of 50 metres in length and over or 500 GT and over

For existing and new vessels, the steering gear and its installation should meet the standards of SOLAS regulations II-1/Part C – Machinery installations, so far as it is reasonable and practicable to do so.

In any case, the intention should be to achieve a standard of safety which is at least equivalent to the standard of SOLAS. Equivalence may be achieved by incorporating increased requirements to balance deficiencies and thereby achieve the required overall standard.

13 BILGE PUMPING ARRANGEMENTS

13.1 General Requirements

A decked vessel should be provided with efficient means for removal of bilge water entering any compartment below the weather deck (other than a tank permanently used for carriage of liquids which is provided with efficient means of pumping or drainage). An open boat should be provided with efficient arrangements for dealing with bilge water.

13.2 Vessels of less than 15 metres in length

13.2.1 A vessel should have at least two bilge pumps with a combined capacity of not less than 140 litres per minute. One pump may be power driven and the other(s) should be hand pump(s) suitable for the suction lift head and capacity not less than 70 litres per minute.

The arrangements should be such that any pump is available for duty in an emergency. This will necessitate placing the pumps in as widely separated spaces or compartments as possible, considering that any single event hazard such as collision, flooding of one compartment, engine failure, blackout or fire, should not disable all the pumping systems.

13.2.2 The suction pipes should be so arranged that any compartment can be drained.

13.2.3 A bilge pump (other than a portable pump) should be capable of being operated with all hatchways and companionways closed.

13.2.4 When considered necessary, to protect a bilge suction line from obstruction, an efficient strum box should be fitted.

13.2.5 When considered necessary, to prevent back flooding, bilge suction valves should be of non-return type.

13.2.6 Other means of providing efficient bilge pumping (e.g. portable power or hand pumps) may be considered provided that full information is submitted to and approved by the Authority.

13.3 Requirements for vessels of 15 metres in length and over but less than 50 metres in length and under 500 GT

13.3.1 The bilge pumping equipment and its installation should, in general, be in accordance with current rules for the vessel type published by one of the Classification Societies. Either the vessel should be in class or a Certificate of Survey issued by an Authorised Surveyor should be provided to the Authority.

In the event that the above requirements cannot be met on an existing vessel, the Authority may be requested to consider alternative arrangements to achieve adequate safety standards.

13.3.2 A vessel should have at least two bilge pumps with a combined capacity of not less than 210 litres per minute. One pump should be power driven with a capacity not less than 140 litres per minute, and the other(s) may be hand pump(s) suitable for the suction lift head and of capacity not less than 70 litres per minute.

The arrangements should be such that any one pump is available for duty in an emergency. This will necessitate placing the pumps (as well as source of power if pumps are power pumps) in widely separated spaces or compartments considering that any single event hazard such as collision, flooding of one compartment, engine failure, blackout or fire, should not disable all the pumping systems.

13.3.3 The suction pipes should be so arranged that any compartment can be drained when the vessel is heeled up to an angle of 10^0.

13.3.4 A bilge pump (other than a portable pump) should be capable of being operated with all hatchways and companionways closed.

13.3.5 When considered necessary, to protect a bilge suction line from obstruction, an efficient strum box should be fitted.

13.3.6 When considered necessary, to prevent back flooding, bilge suction valves should be of non-return type.

13.3.7 In the case of a vessel where the propulsion machinery space may be unmanned at any time, a bilge level alarm should be fitted. The alarm should provide an audible and visual warning in the wheelhouse or steering/control position. The audible and visual alarm may be accepted elsewhere if it is considered that such a location may be more appropriate.

13.3.8 Pumping and piping arrangements for bilges into which fuel or other oils of similar or higher fire risk could collect, under either normal or fault conditions, should be kept clear of accommodation spaces and separate from accommodation bilge systems. Bilge level alarms meeting the requirements of 13.3.7 should be fitted to all such bilges in spaces which are unmanned at any time.

13.3.9 To prevent pollution, bilge alarms in compartments containing pollutants should not automatically start bilge pumps.

13.3.10 An auto start bilge pump serving a clean compartment should be fitted with an audible and visual alarm in the wheelhouse or steering/control position so that the reason for pumping may be investigated.

13.3.11 Other means of providing efficient bilge pumping (e.g. portable power or hand pumps) may be considered provided that full information is submitted to and approved by the Authority.

13.4 Requirements for vessels of 50 metres in length and over or 500 GT and over

For existing and new vessels, the bilge pumping and its installation should meet the standards of SOLAS regulations II-1/Part B – Subdivision and Stability, as far as it is reasonable to do so.

In any case the intention should be to achieve a standard of safety which is at least equivalent to the standard of SOLAS. Equivalence may be achieved by incorporating increased requirements to balance deficiencies and thereby achieve the required overall standard.

14 INTACT AND DAMAGE STABILITY

14.1 New Vessels

14.1.1 General

The standard of stability to be achieved by a new vessel should be dependent on:

- Length;
- Maximum number of persons to be carried;
- Maximum quantity of cargo (where applicable);
- Area of operation.

14.1.1.1 on its length, maximum number of persons permitted to be carried, whether cargo is to be carried and the area of operation.

14.1.1.2 A vessel of 15 metres in length and over or a vessel of less than 15 metres in length which carries cargo, or a combination of passengers and cargo, weighing more than 1000 kg should be provided with stability information which is approved by the Authority and kept on board the vessel.

14.1.1.3 A vessel of less than 15 metres in length which carries cargo, or a combination of passengers and cargo, weighing not more than 1000 kg and which is not fitted with a lifting device should be subject to a simplified assessment of stability and is not required to be provided with an approved stability information booklet. Stability for the vessel should be assessed and accepted by the Authority.

14.1.1.4 For stability requirements for a decked vessel fitted with a lifting device see 14.5, and for a decked vessel engaged in towing see 14.6.

14.1.1.5 Stability standards of a vessel of unusual form and/or arrangement and a vessel type which is not covered by the Code should be submitted to the Authority for approval. Such proposals are to be endorsed by a certifying authority.

14.1.2 Intact stability of new vessels of less than 15 metres in length which carry cargo or a combination of passengers and cargo weighing more than 1000 kg and new vessels of 15 metres and over

14.1.2.1 The lightship weight, vertical centre of gravity (KG) and longitudinal centre of gravity (LCG) of a monohull vessel should be determined from the results of an inclining experiment.

14.1.2.2 The lightship weight and longitudinal centre of gravity (LCG) of a multihull vessel should be obtained by a displacement check or by weighing. The vertical centre of gravity (KG) should be determined either by calculation or by experimental means, noting however that a conventional inclining experiment may not produce satisfactory results.

14.1.2.3 The lightship weight should be increased by a margin for growth, which should be 5% of the lightship weight positioned at the lightship LCG and vertical centre of the weather deck amidships or lightship KG, whichever is the higher. (The lightweight margin should not be used in practice to increase maximum cargo dead-weight.).

14.1.2.4 Curves of statical stability (GZ Curves) should be produced for:

.1 Loaded departure, 100% consumables;

.2 Loaded arrival, 10% consumables;

.3 Anticipated service conditions;

.4 Conditions involving lifting appliances (when appropriate).

In addition, simplified stability information in the form of a Maximum KG Curve should be provided, including a worked example to illustrate its use.

14.1.2.5 The curves of statical stability for the loaded conditions should meet the following criteria:

.1 The area under the righting lever curve (GZ curve) should be not less than 0.055 metre-radians up to 30^0 angle of heel and not less than 0.09 metre-radians up to 40^0 angle of heel or the angle of down-flooding if this angle is less; and

.2 The area under the GZ curve between the angles of heel of 30^0 and 40^0 or between 30^0 and the angle of down-flooding if this is less than 40^0, should be not less than 0.03 metre-radians;

.3 The righting lever (GZ) should be at least 0.20 metres at an angle of heel equal to or greater than 30^0 metre-radians;

.4 The maximum GZ should occur at an angle of heel of not less than 25^0 ;

.5 After correction for free surface effects, the initial meta-centric height (GM) should not be less than 0.5 metres.

14.1.2.6 If a vessel of catamaran or multihull type does not meet the stability criteria given in 14.1.2.5, the vessel should meet the following criteria:

.1 the area under the righting lever curve (GZ Curve) should not be less than 0.085 metre-radians up to φ_{Gzmax} when $\varphi_{Gzmax} = 15^0$ and 0.055 metre-radians up to φ_{Gzmax} when $\varphi_{GZmax} = 30^0$.

When the maximum righting lever, GZmax, occurs between $\varphi = 15^0$ and $\varphi = 30^0$ the required area under the GZ Curve up to $\varphi_{GZmax,}$ should not be less than:
$A = 0.055 + 0.002(30^0 - \varphi_{GZmax})$ metre-radians
Where φ_{GZmax} is the angle of heel in degrees at which the righting lever curve reaches its maximum;

.2 the area under the righting lever curve between $\varphi = 30^0$ and $\varphi = 40^0$ or between $\varphi = 30^0$ and the angle of down-flooding φ_f, if this angle is less than 40^0, should not be less than 0.03 metre-radians;

.3 the righting lever GZ should not be less than 0.2m at an angle of heel of 30^0;

.4 the maximum righting lever should occur at an angle not less than 15^0 ; and

.5 the initial meta-centric height GM, should not be less than 0.35m.

14.1.2.7 A catamaran or multi-hull type vessel failing to comply with the criteria of either 14.1.2.5 or 14.1.2.6 may be given special consideration. In such a case calculations should be submitted to the Authority for assessment.

14.1.3 Intact stability of vessels of less than 15 metres in length which carry cargo or a combination of passengers and cargo

14.1.3.1 A vessel should be tested in the fully loaded condition (which should correspond to the freeboard assigned) to ascertain the angle of heel and the position of the waterline which results when all persons which the vessel is to be certified to carry are assembled along one side of the vessel. For the test:

.1 The master may be assumed to be in the steering position;

.2 Each person may be substituted by a mass of 75kg;

.3 If the vessel carries cargo or a combination of cargo and passengers, the combined weight of the cargo, passengers and crew (other than the master) should be transferred to one side of the vessel;

.4 If seating is provided at the side of the vessel, passengers should be seated and, if there is either insufficient seating or no seating, passengers and crew should stand close to the side of the vessel without leaning on the bulwark or rails.

The vessel will be judged to have an acceptable standard of stability if the test shows that:

.5 The angle of heel does not exceed 7^0 ; and

.6 In the case of a vessel with a watertight weather deck extending from stem to stern as described in Chapter 7 (Construction and Structural Strength), the freeboard to the deck is not less than 75mm at any point; or

.7 In the case of an open boat as described in Chapter 7 (Construction and Structural Strength), the freeboard to the top of the gunwale is not less than 250mm at any point.

14.1.4 Open boats

14.1.4.1 An open boat (see Chapter 2 for definition) when loaded to its assigned freeboard mark should have sufficient buoyancy to be able to remain afloat and near upright when totally flooded. The open boat should be deemed by a certifying authority to have sufficient buoyancy when detailed calculations are presented and confirmed to show that the total buoyancy is not less than:
Volume of displacement (to the freeboard mark draught) x 1.1 (cubic metres).

14.1.4.2 An open boat that was already in service and covered by a Licence/Permit prior to the coming into force of the Regulations shall generally comply with the relevant requirements of the Code. An open boat shall be deemed to have an acceptable standard of stability if the test shows that the angle of heel does not exceed 10^0 when at least 70% of the intended carrying capacity is placed on one side. Such boats are exempted from the requirements of 14.1.4.1.

14.1.4.3 An open boat that was put in service on or after 1 October 2002, should comply with the requirements of the Code as far as this is reasonable and practicable. Operators who operate vessels in this category may submit a formal request for any exemptions

requested giving full details and justification. The justification should be based on technical grounds and signed by a Government Appointed Surveyor.

14.1.5 Intact stability of new sailing vessels

14.1.5.1 Monohulls

Requirements for a new vessel are:

.1 Curves of statical stability (GZ curves) for at least the loaded departure with 100% consumables and the loaded arrival with 10% consumables should be produced.

.2 Generally, the GZ curve required by 14.1.4.1.1 should have a positive range of not less than 90^0. A positive range of less than 90^0 may be considered but subject to the imposition of operational limitation(s).

.3 In addition to the requirements of 14.1.4.1.2 the angle of steady heel should be greater than 15^0 (see figure). The angle of steady heel is obtained from the intersection of a "derived wind heeling lever" curve with the GZ curve required by 14.1.4.1.1

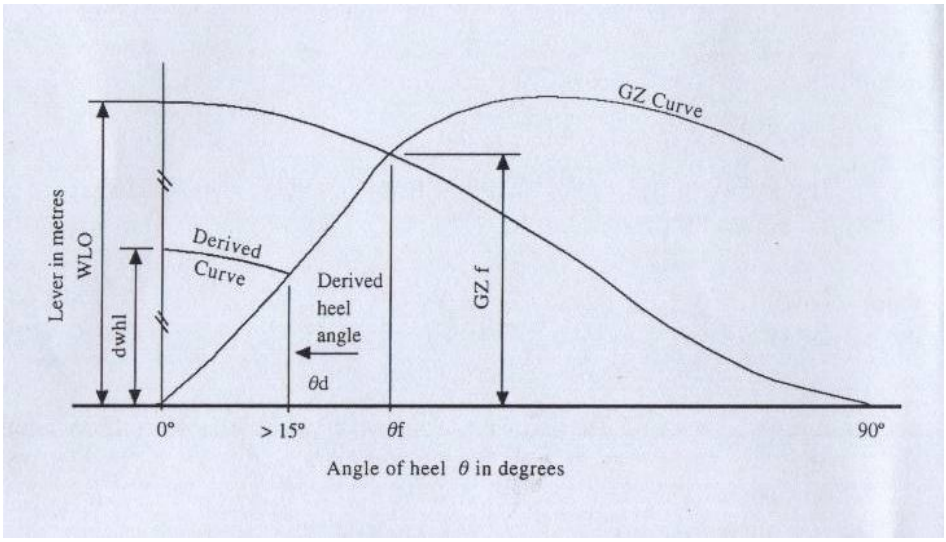
In the figure:

'dwhl' = the "derived wind heeling lever" at any angle φ^0.

= $0.5 \times WLO \times Cos^{1.3}\varphi$

where WLO = $\frac{GZ_f}{Cos^{1.3}\varphi_f}$

Noting that:



WLO is the magnitude of actual wind heeling lever at 0^0 which would cause the vessel to heel to the 'down flooding angle' (φ_f) or 60^0 whichever is least.

GZ_f is the lever of the vessel's GZ at the 'down flooding angle' (φ_f) or 60^0 whichever is least.

φ_d is the angle at which the "derived wind heeling lever" curve intersects the GZ curve. (If φ_d is less than 15^0 the vessel will be considered having insufficient stability for the purpose of the Code).

φ_f the 'down-flooding angle' is deemed to occur when openings having an aggregate area, in square metres, greater than:

$$\frac{\text{vessel's displacement in tonnes}}{1500}$$

are immersed.

Moreover, it is the angle at which the lower edge of the actual opening which results in critical flooding becomes immersed. All regularly used openings for access and for ventilation should be considered when determining the down-flooding angle. No opening regardless of size which may lead to progressive flooding should be immersed at an angle of less than 40^0. Air pipes to tanks can, however, be disregarded.

If as a result of immersion of openings in a deckhouse a vessel cannot meet the required standard, those deckhouse openings may be ignored and the openings in the weather deck used instead to determine φ_f. In such cases the GZ curve should de derived without the benefit of the buoyancy of the deckhouse.

Provided the vessel complies with the prescribed requirements and it is sailed with an angle of heel which is no greater than the 'derived angle of heel', it should be capable of withstanding a wind gust equal to 1.4 times the actual wind velocity (i.e. twice the actual wind pressure) without immersing the 'down flooding openings', or heeling to an angle greater than 60^0.

14.1.5.2 Multihulls

Reference should be made to section 14.1.1.5 where new multihull sailing vessels are to be certified in accordance with this Code.

14.2 Existing vessels

14.2.1 General

The standard of stability required to be achieved by an existing vessel is generally to be as required for a new vessel.

14.2.2 Intact stability of existing vessels of less than 15 metres in length which carry cargo or a combination of passengers and cargo weighing more than 1000kg and existing vessels of 15 metres in length and over

Unless a vessel is already provided with stability information which is approved and relevant to the vessel in its present condition, the vessel should be treated as if it is a new vessel.

14.2.3 Intact stability of existing vessels of less than 15 metres in length which carry cargo or a combination of passengers and cargo weighing not more than 1000kg and are not fitted with lifting devices

14.2.3.1 Generally, a vessel should be treated as if it is a new vessel.

14.2.3.2 An existing open boat should meet the requirement of 14.1.3.2. In the case of an open vessel for which hull form lines are not available, it should be sufficient to show the

certifying authority that the total buoyancy is not less than:

.1 Length (waterline) x Breadth (maximum) x Draught x 0.7 (cubic metres);

.2 The dimension should be taken at the waterline corresponding to the assigned freeboard.

14.2.3.3 When a vessel fails to meet the standards applied to a new vessel a lesser standard may be accepted by the certifying authority, provided that the vessel, in its present condition, has a record of at least five years history of safe operation in the service area whilst carrying out similar types of operations.

Such a vessel should be restricted to a service area defined from a nominated departure point(s), except that provision may be made for the vessel to be moved between designated operating sites subject to specified conditions being met. The nominated departure point(s) and permitted movement between operating sites should be recorded on the certificate for the vessel together with any condition which may be applied e.g. favourable weather; no cargo when moving between operating sites.

14.2.4 Existing sailing vessels

14.2.4.1 Existing monohull sailing vessels

The standard of stability required to be achieved by an existing monohull sailing vessel is generally to be as required for a new vessel.

Existing approved stability information will continue to be acceptable provided that verifiable evidence is available.

14.3 Damage stability

14.3.1 Damage stability of new vessels of 15 metres in length and over or which are certified to carry 15 or more persons

14.3.1.1 A vessel should be provided with watertight bulkheads (see 7.4) which are arranged such that minor hull damage which results in the free-flooding of any one compartment, will not cause the vessel to float at a waterline which is less than 75mm below the weather deck at any point. Minor damage should be assumed to occur anywhere in the length of the vessel but not on a watertight bulkhead. Standard permeabilities should be used in this assessment as follows:

Space	Permeability %
Stores	60
Stores but not a substantial quantity thereof	95
Accommodation	95
Machinery	85
Liquids	95 or 0 whichever results in the more onerous requirements

14.3.1.2 In the damaged condition, the residual stability should be such that the angle of equilibrium does not exceed 7^0 from the upright, the resulting righting lever curve has a range to the down-flooding angle of at least 15^0 beyond the angle of equilibrium, the maximum righting lever within that range is not less than 100mm and the area under the curve is not less than 0.015 metre-radians.

14.3.1.3 A vessel of 85 metres and over should meet a 2 compartment standard of subdivision, calculated using the deterministic standard for subdivision.

14.3.2 Damage stability requirements for existing vessels

14.3.2.1 An existing vessel should be assessed to the requirements for a new vessel. A summary of the findings should be submitted to the Authority.

14.3.2.2 When an existing vessel does not meet a standard which is required for a new vessel, the summary of findings should include a review of the consequences of overcoming the deficiency, including compensatory measures which exist or are proposed.

14.3.2.3 The Authority should accept an existing vessel on the basis of assessment made. The Authority will consider the application of operational limitations as compensation for deficiencies which cannot be overcome reasonably.

14.4 Inflatable boats (New and Existing)

The requirements apply to a new or an existing inflatable boat or rigid inflatable boat.

Unless an inflatable boat or rigid inflatable boat is completely in accordance with a standard production type, for which the certifying authority is provided with a certificate of approval for the tests which are detailed below, the tests required to be carried out on a boat floating in still water are:

14.4.1 Stability tests

The tests should be carried out with the engine and fuel tank fitted or replaced with an equivalent mass. Each person may be substituted by a mass of 75kg for the purpose of the tests.

14.4.1.1 The number of persons and the amount of cargo and stores for which an inflatable boat or rigid inflatable boat is to be certified should be moved to one side; half the number of persons to be carried should be seated on the buoyancy tube.

This procedure should be repeated with the persons and the cargo on the other side and similar tests should be carried out with persons and cargo successfully at each end of the inflatable boat or rigid inflatable boat.

In each case the freeboard to the top of buoyancy tube should be recorded. Under these conditions the freeboard should be positive around the entire periphery of the inflatable boat or rigid inflatable boat.

14.4.1.2 Two persons should recover a third person from the water into the inflatable boat or rigid inflatable boat.

The third person should feign to be unconscious and be back towards the inflatable boat or rigid inflatable boat so as not to assist the rescuers. Each person involved should wear an approved lifejacket.
The stability of the inflatable boat or rigid inflatable boat should remain positive throughout the recovery.

14.4.2 Damage tests

The tests should be carried out with an inflatable boat or rigid inflatable boat loaded with a number of persons and cargo for which it is to be certified. The engine, fuel tank and full fuel should be fitted, or replaced by an equivalent mass, and all equipment appropriate to the use of the inflatable boat or rigid inflatable boat.

The tests will be successful if, for each condition of simulated damage, the persons for which the inflatable boat or rigid inflatable boat is to be certified are supported within the inflatable boat or rigid inflatable boat. The conditions are:

.1 With forward buoyancy compartment deflated;

.2 With the entire buoyancy on one side of the inflatable boat or rigid inflatable boat deflated;

.3 With the entire buoyancy on one side of the bow compartment deflated (where the division of the inflated tube is appropriate to this test).

14.4.3 Buoyancy test

14.4.3.1 It should be demonstrated that an inflatable boat or rigid inflatable boat, when fully swamped, is capable of supporting its fully laden displacement.

14.4.3.2 In the swamped condition the inflatable boat or rigid inflatable boat should not be seriously deformed.

14.4.3.3 The drainage system should be demonstrated at the conclusion of this test.

14.5 Vessels fitted with a deck crane or other lifting device

14.5.1 Reference should be made to Chapter 29 (Requirements specific to use of vessel), Section 29.5 for requirements for safety standards other than stability for a vessel fitted with a deck crane or other lifting device.

14.5.2 A vessel fitted with a deck crane or other lifting device should be a decked vessel and comply with the general requirements of this Chapter as appropriate.

In addition, the following requirements should be complied with:

.1 With the vessel in the worst anticipated service condition for lifting operations, a practical test should be undertaken to establish the maximum angle of heel and the minimum freeboard on the low side.

.2 With the crane or other lifting device operating at its maximum load moment, the angle of heel generally should not exceed 7^0 or that angle of heel which results in a freeboard on the low side of 250mm, whichever is the lesser angle. (Consideration should be given to the operating performance of cranes or other lifting devices of the variable load-radius type).

.3 When an angle of heel greater than 7^0 but not exceeding 10^0 occurs, the certifying authority may accept the lifting condition providing that all the following criteria are satisfied when the crane or other lifting device is operating at its maximum load moment:

i. The range of stability from the angle of static equilibrium is equal to or greater than 20^0;

ii The area under the curve of residual righting lever, up to 40^0 from the angle of static equilibrium or the down-flooding angle, if this is less than 40^0, is equal to or greater than 0.1 metre-radians;

iii The minimum freeboard fore and aft throughout the lifting operations should not be less than half the assigned freeboard at amidships. For vessels with less than 1000mm assigned freeboard amidships the freeboard fore or aft should not be less than 500mm.

14.5.3 Information and instructions to the shipper on vessel safety when using a deck crane or other lifting device should be included in the stability information booklet. The information and instructions should include:

.1 The maximum permitted load and outreach which satisfy the requirements of 14.5.2, or the Safe Working Load (SWL), whichever is the lesser (operating performance data for a crane or other lifting device of variable load-radius type should be included as appropriate);

.2 Details of all openings leading below deck which should be secured weathertight;

.3 The need for all personnel to be above deck before lifting operations commence.

14.5.4 Requirements for a lifting system which incorporates counterbalance weight(s) should be specially considered by the Authority.

14.6 Vessels engaged in towing

14.6.1 Reference should be made to Chapter 29 (Requirements specific to use of vessel), Section 22.2 for requirements for safety standards other than stability for a vessel engaged in towing.

14.6.2 Generally, a vessel engaged in towing should be a decked vessel and comply with the general requirements of this Chapter as appropriate to the vessel.

14.6.3 The danger to safety of deck edge immersion makes an open boat unsuitable for towing other vessels or floating objects.

14.7 Approval of intact and damage stability

14.7.1 A vessel not required to have an approved stability information booklet

A vessel for which stability is assessed on the basis of practical tests defined in this Chapter, conducted by a competent person(s), should be approved by the certifying authority. In order to give approval, the certifying authority should be satisfied that the requirements have been met by witnessing the practical tests, accepting the results obtained and keeping a detailed record of the procedure of the tests and results which were accepted.

The certifying authority should file the detailed record of the test in the records retained for the vessel.

14.7.2 A vessel required to have an approved stability information booklet

14.7.2.1 The owner(s) should be responsible for the inclining test of a vessel to be undertaken by competent persons and for the calculation of the lightship particulars which are used in the stability calculations.

14.7.2.2 The certifying authority should witness the inclining test of a vessel and be satisfied as to conditions and the manner in which the test is conducted. The certifying authority should report formally to the owner(s) that the inclining test was conducted and valid results obtained, to the satisfaction of the authorised person who witnessed the test.

14.7.2.3 The owner(s) of a vessel should be responsible for the submission of the stability information booklet prepared by a competent person(s), the content and form in which stability information is presented, its accuracy and its compliance with the requirements of this Chapter for the standard required for the vessel.

The owner(s) should submit three (3) copies of the booklet to the certifying authority for approval.

14.7.2.4 When satisfied with the form and content of the stability information booklet (including satisfaction with the competency of the person(s) who produced the booklet, methods and procedures used for calculations, the stability standard achieved and instructions which may be given to the master but excluding accuracy of calculations), the certifying authority should stamp the booklet with an official stamp which contains the name of the certifying authority, the date of approval, a file (or record) reference, number of pages in the booklet and “APPROVED FORM AND CONTENT”.

Two (2) copies of the approved booklet should be returned to the owner(s). The owner(s) should be instructed to confirm that one (1) copy has been placed on the vessel and will be retained on the vessel at all times for use by the master. The second booklet is for the record of the owner(s).

The certifying authority should retain the third copy of the approved booklet in the records kept for the vessel.

14.7.3 A vessel required to have approved damage stability information

14.7.3.1 The owner(s) of a vessel should be responsible for the submission of the damage stability calculations prepared by a competent person(s), their accuracy (including methods and procedures used for calculations) and compliance with the requirements of 14.3 as appropriate.

The owner(s) should submit two (2) copies of the calculations to the certifying authority for approval.

14.7.3.2 The certifying authority should approve the results of the damage stability cases provided the results meet the standard defined in 14.3.

Approval (of the results but not the accuracy of the calculations) should be given in a formal letter from the certifying authority to the owner(s) and a copy of the calculations returned, marked with the name of the certifying authority, the date and “RESULTS APPROVED”.

14.7.4 Monitoring of accuracy of intact and damage stability calculations

A certifying authority should carry out controlled monitoring of the accuracy of intact and damage calculations submitted to them by the owner(s)/competent person(s). Monitoring includes detailed checks by independent calculations.

In the event that monitoring reveals errors in the calculations for a vessel, the certifying authority should be entitled to reimbursement by the owner(s) of the cost incurred by it in either overseeing and/or carrying out remedial measures necessary to rectify the errors and approve the calculations.

14.8 Stability documents

14.8.1 A vessel should be provided with stability information for the master which is approved by the Authority.

14.8.2 The content, form and presentation of stability information and stability information booklet as applicable should be based on a model appropriate for the vessel type and approved by the Administration.

14.8.3 A vessel with previously approved stability information which undergoes a major refit or alterations should be subjected to a complete reassessment of stability and provided with newly approved stability information.

A major refit or major alteration is one which results in either a change in the lightship weight of 2% and above and/or the longitudinal centre of gravity of 1% and above (measured from the aft perpendicular) and/or the calculated vertical centre of gravity rises by 0.25% and above (measured from the keel).

14.8.4 Sailing vessels should have mounted in a suitable position for the ready reference of the crew a copy of the Curves of Maximum Steady Heel Angle to Prevent down-flooding in Squalls. This should be a direct copy taken from that contained in the approved stability booklet.

15 FREEBOARD AND FREEBOARD MARKING

15.1 General

15.1.1 Other than an inflatable boat or a rigid inflatable boat covered by 15.4 and a vessel operating in protected waters and/or restricted service covered by 15.5, a vessel should have a deck line and freeboard mark on each side of the vessel at midships.

15.1.2 The freeboard for the vessel and its marking should be approved by a person or organisation authorised by the Authority to assign freeboard.

Every vessel shall be provided with either:

.1 An International Load Line Certificate; or

.2 An Assignment of Freeboard Certificate.

15.1.3 The freeboard assigned should be compatible with the strength of hull structure and fittings, intact and damage stability requirements for the vessel.

The assigning authority should provide the owner of the vessel with a copy of the particulars of the freeboard assigned and a copy of the record particulars retailing to the conditions of assignment.

15.2 Minimum Freeboard

The freeboard should be not less than that determined by the following requirements:

15.2.1 New vessels which carry cargo or a combination of passengers and cargo weighing not more than 1000kg

A new vessel, other than an inflatable or rigid inflatable boat covered by 12.4, when in still sea water of relative density 1.025 and fully loaded with cargo and non-cargo deadweight items certified to be carried (each person taken as 75kg) should be upright and:

.1 A vessel with a continuous watertight weather deck (see Chapter 7 – Construction and Structural Strength) which is neither stepped nor recessed nor raised, have a freeboard measured down from the lowest point of the weather deck of not less than 300mm for vessels of 7 metres in length or under and not less than 750mm for vessels of 18 metres in length or over. For a vessel of intermediate length the freeboard should be determined by linear interpolation;

.2 A vessel with a continuous watertight weather deck (see Chapter 7 – Construction and Structural Strength) which is stepped, recessed or raised, have a freeboard measured down from the lowest point of the weather deck of not less than 200mm for vessel of 7 metres in length or under and not less than 400mm for vessels of 18 metres in length or over. For a vessel of intermediate length the freeboard should be determined by linear interpolation. The raised portion(s) of the watertight weather deck should extend across the full breadth of the vessel and the average freeboard over the length of the vessel should comply with .1 above for a vessel with a continuous watertight weather deck;

.3 In the case of an open boat, have a clear height of side (i.e. the distance between the waterline and the lowest point of the gunwale*) of not less than 400mm for vessels 7 metres in length or under and not less than 800mm for vessels 18 metres in length or over. For a vessel of intermediate length the clear height of side should be determined by linear interpretation.

* The clear height of the side should be measured to the top of the gunwale or capping or to the top of the wash strake if one is fitted above the capping.

15.2.2 Existing vessels which carry cargo or a combination of passengers and cargo weighing not more than 1000kg

15.2.2.1 Generally, an existing vessel should comply with 15.2.1;

15.2.2.2 In the case of an existing vessel which is unable to comply with 15.2.1 the Authority should consider a lesser standard of “operational freeboard” or “clear height of side”;

In such a case it will be necessary for the owner to provide the Authority with a detailed account of the operational history of the vessel. This detailed account should include sea areas normally visited. Loaded draught/freeboard/height of side, number of persons usually carried, number of years employed in this mode, together with other details which may be considered relevant;

The area of operation for the vessel may be restricted to correspond to the service history. The area of operation should be recorded on the certificate.

15.2.3 New and existing vessels which carry cargo or a combination of passengers and cargo weighing more than 1000kg and/or vessels of 24 metres in length and over

15.2.3.1 Freeboard should be assigned in accordance with the Merchant Shipping Act and should comply with the relevant requirements prescribed in the ICLL.

15.2.3.2 Draught Marks

A vessel should have a scale of draught marks marked clearly at the bow and stern, port and starboard, and be adequate in number for assessing the condition and trim of the vessel. The marks should be permanent and easily read.

15.2.4 All vessels

A vessel should be assigned a freeboard which corresponds to the draught of the vessel in sea water when fully loaded (each person taken as 75kg), minus 25mm, but which in no case should be less than the freeboard required by 15.2.1, 15.2.2, 15.2.3.

15.3 Freeboard Mark and Loading

15.3.1 The freeboard mark applied should be an all seasons mark positioned port and starboard at amidships in the load line length. The mark should be permanent and be of contrasting colour to the hull of the vessel in way of the mark.

15.3.2 A vessel should not operate in a condition which will result in its freeboard marks being submerged when it is at rest and upright in calm water.

15.4 Inflatable Boats and Rigid Inflatable Boats which carry cargo or a combination of Passengers and Cargo weighing not more than 1000kg

15.4.1 The freeboard of an inflatable boat or rigid inflatable boat should be not less than 300mm measured from the upper surface of the buoyancy tubes and not less than 250mm at the lowest part of the transom with the inflatable boat or rigid inflatable boat in the following conditions and with the drainage socks (if fitted) tied up:

.1 the inflatable boat or rigid inflatable boat with all its equipment;

.2 the inflatable boat or rigid inflatable boat with all its equipment, engine and fuel, or replaced by an equivalent mass;

.3 the inflatable boat or rigid inflatable boat with all its equipment, cargo and number of persons (each person taken as 75kg) for which it is to be certified, so arranged that a uniform freeboard is achieved at the side buoyancy tubes;

.4 the inflatable boat or rigid inflatable boat with all its equipment, cargo and number of persons for which it is to be certified, engine and fuel, or replaced by an equivalent mass, and the inflatable boat retrimmed as necessary to represent a normal operating condition.

15.4.2 A freeboard mark is not required. The minimum freeboards recorded during the tests of 15.4.1 and the permissible maximum weight which can be carried should be recorded on the certificate for the vessel.

15.5 Vessels operating in protected waters and/or a restricted service

15.5.1 A freeboard mark is not required for a vessel which carries cargo or a combination of passengers and cargo weighing not more than 1000kg unless the safety standards set for the special case require it. The minimum freeboard and permissible maximum weight which can be carried should be recorded on the certificate for the vessel.

16 LIFE-SAVING APPLIANCES

16.1 General requirements

16.1.1 Life-saving appliances should be provided in accordance with Table 1 – Life-Saving Appliances.

16.1.2 All equipment fitted should be of a type which has been approved by the Administration in accordance with the Merchant Shipping Act.

16.1.3 Additional life-saving equipment which is provided should meet the requirements of 16.1.2.

When personal safety equipment is provided for use in water sports activities, arrangements for its stowage should ensure that it will not be used mistakenly as life-saving equipment in an emergency situation.

16.1.4 All life-saving equipment carried should be suitably and sufficiently fitted with retro-reflective material. The performance of the retro-reflective material fitted should be tested at regular intervals and when life-saving appliances are being serviced.

16.1.5 In the case of vessels engaged on voyages of such a nature and duration that, in the opinion of the Authority, the application of the requirements of this Chapter of the Code is unreasonable or impractical, the Authority may approve alternative standards that are considered equally effective under the circumstances.

16.1.6 Liferaft embarkation arrangements should comply with the following:

.1 Where the distance between the embarkation deck and the top of the liferaft buoyancy tube exceeds 1 metre with the vessel in its lightest condition, an embarkation ladder is to be provided.

.2 Where the distance between the embarkation deck and the top of the liferaft buoyancy tube exceeds 4.5 metres with the vessel in its lightest condition, at least one launching appliance for launching a davit-launched liferaft is to be provided on each side of the vessel.

16.1.7 Galvanised steel falls used in launching life-saving appliances should be turned end for end at intervals of not more than 30 months and renewed either when necessary due to deterioration of falls or at 5 years, whichever is the lesser. However, in lieu of turning “end for end" the Authority may accept a specified period between inspections of falls and renewal either when necessary due to deterioration or at 4 years, which ever is the lesser.

16.2 Servicing of inflatable liferafts, inflatable lifejackets and inflatable rescue boats

16.2.1 Every inflatable liferaft and inflatable lifejacket should be serviced:

.1 at intervals not exceeding twelve months; however, in cases where it appears proper and reasonable, the Authority may extend this period up to a maximum of seventeen months;

.2 at a service station approved by the manufacturer and by the Authority;

.3 hydrostatic release units which have been approved for a service life of 2 years and which should be replaced at the end of their life need not be serviced after 1 year;

.4 maintenance of equipment should be carried out in accordance with the instructions for on board maintenance.

16.2.2 All repairs and maintenance of inflatable rescue boats should be carried out in accordance with the manufacturer's instructions. Emergency repairs may be carried out on board the vessel; however, permanent repairs should be effected at an approved service station.

16.2.3 The stowage and installation of all life-saving appliances should be in accordance with manufacturer's recommendations and to the satisfaction of the certifying authority (Class Surveyor or Authorised Surveyor).

16.2.4 All life-saving appliances should be in working order and be ready for immediate use before any voyage is commenced and at all times during the voyage.

16.2.5 For a vessel equipped with stabilizer fins or having other projections in the sides of the hull, special consideration should be given and provisions made as necessary to avoid possible interference with the safe evacuation of the vessel in an emergency.

16.2.6 Means should be provided to prevent overboard discharge of water into survival craft during abandonment.

Table 1- LIFE-SAVING APPLIANCES

VESSEL LENGTH IN METRES	Restricted Operation < 24m	< 24m	≥ 24m < 50m & < 500 GT < 85 m	≥50m OR ≥500 GT < 85 m	≥85 m
LIFEBOATS	--	--	--	--	YES
LIFE RAFTS/RIGID BUOYANT APPARATUS	YES	YES	YES	YES	YES
RESCUE BOAT	--	--	--	YES	YES
INFLATABLE BOAT	--	YES	--	--	--
LIFEBUOYS (TOTAL)	2	< 15 Persons 2 or 15 ≥ Persons 4	4	8	8
LIFEBUOYS WITH LIGHT AND SMOKE	--	--	2	2	2
LIFEBUOYS WITH LIGHT	1	1 or 2	--	2	2
LIFEBUOYS WITH BUOYANT LINE	1	1 or 2	2	2	2
LIFEJACKETS	YES	YES	YES	YES	YES
LINE THROWING APPLIANCE	--	--	1	1	1
PARACHUTE FLARES	--	4	6	6	6
RED HAND FLARES	2	6	6	6	6
SMOKE SIGNALS (Buoyant or Hand Held)	2	2	2	2	2
PORTABLE VHF	1	1	2	2	3
406 MHz EPIRB	--	--	1	1	1
SART	--	1	1	2	2
MEANS TO RECOVER PERSONS FROM WATER	1	1	1	1	1
GENERAL ALARM	--	YES	YES	YES	YES
LIGHTING	--	YES	YES	YES	YES
POSTERS & SIGNS SHOWING SURVIVAL CRAFT & EQUIPMENT OPERATING INSTRUCTIONS	YES	YES	YES	YES	YES
LIFE SAVING SIGNALS TABLE (SOLAS No.1) at Wheelhouse or control position	YES	YES	YES	YES	YES
TRAINING MANUAL	YES	YES	YES	YES	YES
INSTRUCTIONS FOR ON BOARD MAINTENANCE	YES	YES	YES	YES	YES

16.3 EQUIPMENT

16.3.1 Lifeboats

16.3.1.1 When lifeboats are required to be carried their acceptance is conditional upon the provision of suitable stowage and launching arrangements.

16.3.1.2 When lifeboats are provided on each side of the vessel, the lifeboat(s) on each side should be of capacity to accommodate the total number of persons on board.

16.3.1.3 Where it is impractical to carry lifeboats on a vessel, alternative arrangements may be considered as in 16.3.1.4 and 16.3.1.5.

16.3.1.4 For vessels of 85m in length and over, when it is impractical to carry lifeboats on each side of the vessel, alternative arrangements will be considered provided the required subdivision index meets the requirements of 14.3.1.3.

16.3.1.5 A lifeboat will also be acceptable as a rescue boat provided it meets the requirements for rescue boats defined in SOLAS Chapter III.

16.3.2 Liferafts

16.3.2.1 The liferafts carried are to be stowed in GRP containers and must contain the necessary emergency "SOLAS B PACK".

16.3.2.2 Liferafts carried should be of equal, or as near equal, capacity as possible.

16.3.2.3 Liferaft approval includes approval of their stowage, launching and float-free arrangements.

16.3.2.4 A vessel should be provided with liferafts of such number and capacity that, in the event of any one liferaft being lost or rendered unserviceable, there is sufficient capacity remaining for all persons on board.

16.3.2.5 For a vessel of less than 85m in length, one or more liferafts are to be provided on each side of the vessel of sufficient aggregate capacity to accommodate the total number of persons aboard. Liferafts are to be readily transferable for launching on either side of the vessel.

If liferafts are not readily transferable, additional liferafts should be fitted so that liferafts having a total capacity of 100% of the vessel's complement are provided on each side of the vessel.

16.3.2.6 For a sailing vessel, when it is impractical to stow the liferafts required by 16.3.2.5 at the ship's side, alternative arrangements can be accepted to provide liferafts having a capacity of 150% of the vessel's complement stowed on the centreline, subject to them being readily transferable to either side of the vessel.

16.3.2.7 When lifeboats are provided in accordance with 16.3.1.2 sufficient liferafts are to be fitted on each side of the vessel capable of accommodating 50% of the total number of persons on board. Liferafts are to be readily transferable for launching on either side of the vessel.

If liferafts are not readily transferable, additional liferafts having a total capacity of 100% of the vessel's complement should be provided on each side of the vessel.

16.3.2.8 GRP containers containing liferafts should be stowed on the weatherdeck or in an open space and fitted with hydrostatic release units so that the liferafts will float free of the vessel and automatically inflate.

16.3.3 Rigid buoyant apparatus

16.3.3.1 In lieu of complying with the requirements of 16.3.2, and depending on the area of operation, vessels may be allowed to carry instead of liferafts, approved type rigid buoyant apparatus.

16.3.4 Rescue boat and inflatable boat

16.3.4.1 For a vessel of 50m in length and above or 500 GT and above a rescue boat meeting SOLAS requirements should be provided. The approved rescue boat should have a capacity for not less than 6 persons.

16.3.4.2 The acceptance of an approved rescue boat is conditional upon the provision of suitable stowage and launching arrangements. When a power operated crane is used as a launching device, it should be capable of operation by hand in the event of a power failure.

16.3.4.3 For a vessel of less than 50m in length and less than 500 GT, when an approved rescue boat is not carried on board alternative arrangements may be considered. These include:

.1 a rescue boat of a SOLAS approved type which is towed by the main vessel; or

.2 a boat which is suitable for rescue purposes carried on board but which is of a non-SOLAS approved type. The boat should have a capacity for not less than 4 persons and may be a rigid, rigid inflatable or inflatable tender. Tubes of a non-SOLAS inflatable boat should have a minimum of 3 buoyancy compartments built in.

16.3.5 Lifejackets

16.3.5.1 One adult lifejacket should be provided for each person on board plus spare adult lifejackets sufficient for at least 10% of the total number of persons or two, whichever is the greater.

Each lifejacket should be fitted with a light and whistle.

16.3.5.2 Children's Lifejackets

In addition to the adult lifejackets, a sufficient number of children's lifejackets should be provided for children on the vessel.

On passenger vessels the number of approved children's lifejackets on board should not be less than 15% of the total number of persons for which the vessel is certified to carry.

16.3.6 Lifebuoys

16.3.6.1 Lifebuoys port and starboard provided with combined light and smoke signals should be capable of quick release from the navigating bridge. When this is impractical, they may be stowed at the side of the vessel and provided with conventional release arrangements.

16.3.6.2 The attached buoyant line required on each of two of the lifebuoys is to have a minimum length of 18 metres on vessels less than 24 metres in length.

On vessels of 24 metres in length and over the attached buoyant line required on each of two of the lifebuoys is to have a minimum length of 30 metres.

16.3.7 Means to recover a person from the water

16.3.7.1 The retrieval system may be of an approved type or a system specifically adapted to the vessel which can accomplish the same function.

The requirement to lift the man-over-board in a horizontal position, while desirable, is considered secondary to the speed of retrieval in order that the person does not become hypothermic.

16.3.8 Portable VHF

If a fixed VHF is fitted on vessels operating solely in sheltered waters a portable VHF is not required.

Portable (hand-held) VHF set(s) are to be waterproofed as far as practicable to prevent the ingress of water.

Brief and clear operating instructions should be provided for the hand-held VHF set(s) provided.

16.3.9 406 Mhz EPIRB

The EPIRB should be installed in an easily accessible position ready to be manually released, capable of being placed in the liferaft and also capable of floating free with automatic activation if the vessel sinks.

16.3.10 SART (Radar Transponder)

The SART is to be stowed in an easily accessible position so that it can be rapidly placed on any survival craft.

16.3.11 General Alarm

16.3.11.1 Every vessel should be provided with a general emergency alarm system capable of sounding the general alarm signal normally consisting of seven or more short blasts followed by one long blast on the ship's whistle or siren. The system should be capable of operation from the navigation bridge or control position as appropriate and should be audible throughout all accommodation and normal working spaces and open decks.

16.3.11.2 For a vessel of less than 50 metres in length and less than 500 GT this alarm may consist of the ship's whistle or siren.

16.3.11.3 For a vessel of 50 metres and above or 500 GT and above the requirement of 16.3.11.2 are to be supplemented by an electrically operated bell or Klaxon system, which is to be powered from the vessel's main supply and also the emergency source of power.

16.3.11.4 For a vessel of 85 metres in length and above, in addition to the requirements of 16.3.11.3 a public address system or other suitable means of communication should be provided.

16.3.11.5 A general alarm system need not be provided on a vessel of less than 15 metres in length.

16.3.12 Lighting

16.3.12.1 Alleyways, internal and external stairways and exits giving access to and including the muster and embarkation stations should be adequately lighted. For a vessel of 50 metres in length and above or 500 GT and above the lighting should be supplied from the emergency source of power.

16.3.12.2 Adequate lighting is to be provided in the vicinity of survival craft, launching appliance(s) (when provided) and the overside area of the sea in way of the launching position(s). The lighting should be supplied from the emergency source of power.

16.3.13 Training Manual

16.3.13.1 A training and instruction manual should contain instructions and information on the life-saving appliances provided in the vessel and also contain information on the best methods of survival.

16.3.13.2 It may take the form of instructions from the manufacturers of the life-saving equipment provided with the following explained in detail:

.1 donning of lifejackets;
.2 boarding, launching and clearing the survival craft from the vessel;
.3 illumination in launching areas;
.4 use of all survival equipment;
.5 use of all detection equipment;
.6 with the assistance of illustrations, the use of radio life-saving appliances;
.7 use of sea anchors;
.8 recovery of persons from the water;
.9 hazards of exposure and the need for warm clothing;
.l0 best use of the survival craft facilities in order to survive;
.11 methods of retrieval, including the use of helicopter rescue gear (slings, baskets, stretchers) breeches-buoy and shore life-saving apparatus;
.12 instructions for emergency repair of the life-saving appliances;
.13 personal survival at sea.

16.3.14 Instructions for on board maintenance

16.3.14.1 These should contain instructions for on board maintenance of the life-saving appliances and should include the following where applicable:

.1 a check list for use when carrying out the required inspections;
.2 maintenance and repair instructions;
.3 schedule of periodic maintenance;
.4 list of replaceable parts;
.5 list of sources for spare parts;
.6 log of records of inspection and maintenance.

16.3.15 Emergency Instructions

16.3.15.1 Clear instructions to be followed in the event of an emergency should be provided and exhibited in conspicuous places throughout the vessel including the navigation bridge, machinery spaces, accommodation spaces and open decks.

16.3.15.2 The emergency instructions should specify details of the general emergency alarm prescribed in 16.3.11 and action to be taken by crew, passengers or other persons on board when the alarm is sounded. Instructions on the signal for fire on board and the order to abandon ship should be specified.

16.3.15.3 The attention of the passengers or industrial personnel should be drawn to the emergency instructions required in 16.3.15.1.

16.3.16 Emergency training and drills

16.3.16.1 In all vessels training in the procedures specified in accordance with 16.3.15.1 should be carried out at least once a month. The Authority may accept other equivalent procedures or training arrangements for specific vessels.

16.3.16.2 Training drills should as far as practicable be conducted as if these were an actual emergency.

16.3.16.3 Where lifeboats are fitted each lifeboat should be launched with its assigned operating crew aboard and manoeuvred in the water at least once every three months during an abandon ship drill.

16.3.16.4 As far as reasonable and practicable, rescue boats other than lifeboats which are also rescue boats, should be launched each month with their assigned crew aboard and manoeuvred in the water. In all cases this requirement should be complied with at least once every three months.

16.3.16.5 On board training in the use of the vessel's lifesaving appliances, including survival craft equipment, should be given as soon as possible but not later than two weeks after a crew member or person joins the vessel.

16.3.16.6 The dates when training in the procedures specified in 16.3.16 are held should be recorded in the vessel's logbook.

17 FIRE SAFETY

17.1 Stowage of Petrol and Other Highly Flammable Liquids

17.1.1 Special consideration should be given to safe conditions of carriage of petrol and other highly flammable liquids either in hand portable containers/tanks or in the tanks of vehicles (such as personal water craft and motor cars) which may be transported from time to time.

17.1.2 The quantity of petrol and / or highly flammable liquids carried should be kept to a minimum.

17.1.3 Containers used for the carriage of flammable liquids should be constructed to a recognised standard appropriate to the contents and each container clearly marked to indicate its contents.

17.1.4 Enclosed spaces designated for the safe carriage of petrol or similar fuel or vehicles with fuel in their tanks should be fitted with:-

.1 A fixed fire detection and fire alarm system complying with the requirements of SOLAS regulations II-2/Part A;

.2 A manually activated deluge water spray system of capacity to cover the total area of deck and container/vehicle support platform(s) (if any) at a rate of 3.51m^2 per minute; or

.3 For a space in which the provision of a deluge system would be inappropriate/impractical, alternative provisions should be made to the satisfaction of the Administration. (Consideration should be given to the provision of a water spray from at least one fire hose fitted with a jet/spray nozzle being brought to bear on any part of the fuel stowage from the entrance(s) to the space);

.4 Adequate provision for drainage of water introduced to the space by 17.1.4.2. Drainage should not lead to machinery or other spaces where a source of ignition may exist;

.5 A ducted mechanical continuous supply of air ventilation, which is isolated from other ventilated spaces, to provide at least 6 air changes per hour (based on the empty space) and for which reduction of the airflow should be signalled by an audible and visual alarm on the navigating bridge and at the “in port” control station(s). The ventilation system should be capable of rapid shut down and effective closure in event of fire.

17.1.5 Electrical equipment should be located well clear of those areas where flammable gases are likely to accumulate within the space and be so constructed as to prevent the escape of sparks, i.e. IP54. Electrical equipment less than IP54 should each be provided with an easily accessible and identified means of double pole isolation outside the space, with a fixed flammable gas detector/detectors fitted in the compartment and comprising alarm features on the navigating bridge and elsewhere in the accommodation. Where any of these requirements are not practical, then the electrical arrangements should be installed to a suitability certified standard, i.e. flameproof, intrinsically safe etc.

17.1.6 The location of fuel stowage, quantities of fuel and procedures to be followed in an emergency should be approved and recorded on the fire safety plan and/or safety manual, as appropriate.

17.1.7 Reference should be made to Chapter 24 if there is a requirement to provide for helicopter operations to/from the vessel.

17.2 Fire Control Plan(s)

17.2.1 A fire control (general arrangement) plan(s) should be permanently exhibited for the guidance of the Master and crew of the vessel. The content of the plan(s) should adequately show and describe (in English) the principle fire prevention and protection equipment and materials. As far as practical, symbols used on the plans should comply with a recognised international standard.

For each deck, the plan(s) should show the position of control stations; sections of the vessel which are enclosed respectively by "A" class divisions and "B" class divisions location of flammable liquid storage (see 17.1.4); particulars of and locations of fire alarms, fire detection systems, sprinkler installations, fixed and portable fire extinguishing appliances; fireman's outfit(s); means of access and emergency escapes for compartment and decks; locations and means of control of systems and openings which should be closed down in a fire emergency.

17.2.2 The plan(s) required in 17.2.1 should be kept up to date. Up-dating alterations should be applied to all copies of the plan(s) without delay. Each plan should include a list of alterations and the date on which each alteration was applied.

17.2.3 A duplicate set of the plan(s) should be permanently stored in a prominently marked weathertight enclosure readily accessible to assist non-vessel fire-fighting personnel who may board the vessel in a fire emergency.

17.2.4 Instructions valid to the maintenance and operation of all the equipment and installations on board for the fighting and containment of fire should be kept in one document holder, readily available in an accessible location.

18 STRUCTURAL FIRE PROTECTION

18.1 Vessels of less than 50 metres in length and under 500GT

18.1.1 The boundaries of a space containing internal combustion propulsion machinery or oil fired boilers on a new vessel should be:

.1 Gas tight;

.2 Capable of preventing the passage of smoke and flame to the end of the 60 minute standard fire test; and

.3 So insulated where necessary with a suitable non-combustible material, that if the division is exposed to a standard fire test, the average temperature on the unexposed side of the division should not increase by more than 139°C above the initial temperature within a period of 30 minutes.

When boundaries are constructed of materials other than steel or aluminium, calculation methods may be used where appropriate to determine compliance with 18.1.1.2 and 18.1.1.3.

18.1.2 Fuel tanks and associated pipes and fittings should be located to reduce to a minimum the risk of fire or explosion. Spaces containing such items should be provided with an adequate and efficient ventilation system.

18.1.3 In a vessel provided with a gas extinguishing system within an enclosed machinery space, arrangements should be provided for the closure of all openings to the machinery space which can admit air. Additionally, means should be provided for stopping all ventilation fans supplying the machinery space along with the event of a fire within the machinery space. The fuel cut off valves should be located as close to the tank as possible (see 10B.2).

The above arrangements should be capable of being operated from outside the machinery space.

18.1.4 The arrangement of the hull should be such that all under-deck compartments are provided with a satisfactory means of escape. In the case of the accommodation, two means of escape from every restricted space or group of spaces should be provided. Only in an exceptional case should one means of escape be accepted, and then only if the means of escape provided leads directly to the open air and it can be demonstrated that the provision of a second means of escape would be detrimental to the overall safety of the vessel. No escape route should be obstructed by furniture or fittings.

18.1.5 Thermal or acoustic insulation fitted should be of a type which is not readily ignitable and, where fitted within a machinery space which does not contain either internal combustion propulsion machinery or oil fired boilers, the surface of the insulation is to be impervious to oil/oil vapour. Insulation provided within a machinery space, which contains either internal combustion propulsion machinery or oil fired boilers, must be of a non-combustible type and the surface of the insulation is also to be impervious to oil/oil vapour.

18.1.6 Paints, varnishes and other finishes which offer an undue fire hazard, should not be used in the engine room or galley or in other areas of high fire risk. Elsewhere such finishes should be kept to a minimum.

18.1.7 Upholstery composites (fabric in association with any backing or padding material) used throughout the vessel should be of an approved standard to ensure ignition resistance.

18.1.8 Organic foams used in upholstered furniture and mattresses should be of the combustion-modified type.

18.1.9 Suspended textile materials such as curtains or drapes should have type B performance when tested to British Standard 5867:Part 2:1980, or be of equivalent standard.

18.1.10 An open flame gas appliance provided for cooking, heating or any other purpose should comply with the requirements of an approved national standard or equivalent.

The installation of an open flame gas appliance should comply with the appropriate provisions of Annex 4.

18.1.11 A fire detection and fire alarm system should be fitted. It should be provided with a control panel located within the wheelhouse, and with audible alarms provided in locations where they are most likely to be heard. The system should comprise smoke, heat or other suitable detectors fitted in the machinery space and galley as a minimum and, in vessels of 30 metres in length and over, suitable detectors should be fitted in all enclosed spaces except those which afford no substantial fire risk.

In the exceptional case of a space/compartment having only one means of escape (18.5), the integrity of the escape route should be protected by the installation of smoke detectors which should give early warning of danger by means of audible and visible alarms in the space/compartment.

18.1.12 Ventilation trunking emanating from either a machinery space or a galley should not, in general, pass through the accommodation spaces. Where this is unavoidable, the trunking should be constructed to the satisfaction of one of the recognised Classification Societies listed. The trunking within the accommodation should be fitted with:

.1 Fire insulation to "A-60" standard to a point at least 5 metres from the machinery space or galley; and

.2 Automatic fire dampers located in the deck or bulkhead within the accommodation where the trunking passes from the machinery space or galley into the accommodation.

18.2 Vessels of 50 metres in length and over or 500 GT and over

18.2.1 Definitions

Terms used in this Chapter should have the same meaning as defined in SOLAS, except as follows:

"Low flame spread" means that the surface thus described will adequately restrict the spread of flame, this being determined to the satisfaction of the Administration by an established procedure;

"Main vertical zone" means those sections into which the hull, superstructure and deck-houses are divided by "A" class divisions, the mean length of which on any deck does not normally exceed 40 metres; and

"Not readily ignitable" means that the surface thus described will not continue to burn for more than 20 seconds after removal of a suitable impinging test flame.

18.2.2 Existing Vessels

The requirements for vessels of less than 50 metres in length or under 500 GT, as applied to existing vessels, should be complied with and, in addition:

.1 Evidence of precautions taken to reduce the passage of flame throughout accommodation and service spaces should be submitted to the Administration for approval. Such precautions may include the enclosure of stairways and appropriate protection of escape routes.

.2 A fixed fire detection system and fire alarm system of an approved type and complying with the requirements of SOLAS regulations II-2/Part A should be so installed and arranged to detect the presence of fire in all accommodation and service spaces, except those which afford no substantial fire risk.

.3 A vessel at all times when at sea, or in port (except when out of service), should be manned or equipped to ensure that any initial fire alarm is immediately received by a responsible member of the crew.

.4 Furniture in corridors and escape routes should be of a type and quantity not likely to obstruct escape.

18.2.3 New Vessels

New vessels should comply with the following:

18.2.4 Ventilation Systems

Ventilation ducts should be of non-combustible material. Short ducts, however, not generally exceeding 2m in length and with a cross-section not exceeding 0.02m^2 need not be non-combustible, subject to the following conditions:

.1 They should be of a suitable material having regards to the risk of fire;

.2 They should be used only at the end of the ventilation device; and

.3 They should not be situated less than 600mm, measured along the duct, from an opening in an “A” or “B” class division including continuous “B” class ceilings.

18.2.5 Where ventilation ducts with a free cross-sectional area exceeding 0.02m^2 pass through class “A” bulkheads or decks, the opening should be lined with a steel sheet sleeve unless the ducts passing through the bulkheads or decks are of steel in the vicinity of passage through the deck or bulkhead and the ducts and sleeves should comply in this part with the following:

.1 Sleeves should have a thickness of at least 3mm and length of at least 900mm. When passing through bulkheads, this length should be divided preferably into 450mm on each side of the bulkhead. The ducts, or sleeves lining such ducts, should be provided with fire insulation. The insulation should have at least the same fire integrity as the bulkhead or deck through which the duct passes;

.2 Ducts with a free cross-sectional area exceeding 0.075m^2 should be fitted with fire dampers in addition to the requirement of .1 above. The fire damper should operate automatically but should also be capable of being closed manually from both sides of the bulkhead or deck. The damper should be provided with an indicator which shows whether the damper is opened or closed. Fire dampers are not required, however, where ducts pass through spaces surrounded by "A" class divisions, without serving those spaces, provided those ducts have the same fire integrity as the divisions which they pierce.

18.2.6 Ducts provided for the ventilation of a machinery space of category "A" or a galley, should not pass through accommodation spaces, service spaces or control stations unless they comply with the conditions specified in .1 to .4 or .5 and .6 below:

.1 They are constructed of steel having a thickness of at least 3mm and 5mm for duct widths or diameters of up to and including 300mm and 760mm and over respectively and, in the case of ducts with widths or diameters between 300mm and 760mm thickness, should be obtained by interpolation;

.2 They are suitably supported and stiffened;

.3 They are fitted with automatic fire dampers close to the boundaries penetrated; and

.4 They are insulated to "A-60" standard from a machinery space or galley to a point at least 5m beyond each fire damper; or

.5 They are constructed of steel in accordance with .1 and .2 above; and

.6 They are insulated to "A-60" standard throughout accommodation spaces, service spaces or control stations.

Except that penetrations of main zone divisions should also comply with the requirements of 18.2.10.

18.2.7 Ventilation ducts with a free cross-sectional area exceeding 0.02m^2 passing through "B" class bulkheads should be lined with steel sheet sleeves of 900mm in length divided preferably into 450mm on each side of the bulkheads, unless the duct is of steel for this length.

18.2.8 For a control station outside machinery spaces, practical measures should be taken to ensure that ventilation, visibility and freedom from smoke are maintained so that, in the event of fire, the machinery and equipment contained in the control station may be supervised and continue to function effectively. Alternative and separate means of air supply should be provided; air inlets of the two sources of supply should be so disposed that risk of both inlets drawing in smoke simultaneously is minimised. These requirements need not apply to control stations situated on, and opening on to, an open deck, or where local closing arrangements would be equally effective.

18.2.9 Exhaust duct(s) from a galley range should be constructed of "A" class divisions where it passes through accommodation spaces and/or spaces containing combustible materials. An exhaust duct should be fitted with:

.1 A grease trap readily removable for cleaning;

.2 A fire damper located in the lower end of the duct;

.3 Arrangements for shutting off the exhaust fans, operable from within the galley; and

.4 Fixed means for exhausting a fire within the duct.

18.2.10 When it is necessary for a ventilation duct to pass through a main vertical zone division, a fail-safe automatic closing fire damper should be fitted adjacent to the division. The damper should also be capable of being manually closed from each side of the division. The operating position should be readily accessible and be marked in red light-reflecting colour. The duct between the division and the damper should be of steel or other equivalent material and, if necessary, insulated to comply with the requirements of SOLAS regulation II-2/18.1.1. The damper should be fitted on at least one side of the division with a visible indicator showing whether or not the damper is in the open position.

18.2.11 Inlets and outlets of ventilation systems should be capable of being closed from outside the space being ventilated.

18.2.12 Power ventilation of accommodation spaces, service spaces, control stations and machinery spaces should be capable of being stopped from an easily accessible position outside the space being served. This position should not be readily cut off in the event of a fire in the spaces served. The means provided for stopping the power ventilation of a machinery space should be entirely separate from the means provided for stopping ventilation of other spaces.

18.3 Structure

18.3.1 The hull, superstructures, structural bulkheads, decks and deckhouses should be constructed of steel or other equivalent material.

18.3.2 However, in cases where any part of the structure is of aluminium alloy, the following should apply:

.1 Insulation of aluminium alloy components of "A" or "B" class divisions, except structure which, in the opinion of the Administration, is non-load-bearing, should be such that the temperature of the structural core does not rise more than 200ºC above the ambient temperature at any time during the applicable fire exposure to the standard fire test.

.2 Special attention should be given to the insulation of aluminium alloy components of columns, stanchions and other structural members required to support lifeboat and liferaft stowage, launching and embarkation areas, and "A" and "B" class divisions to ensure that for members:

i supporting lifeboat and liferaft areas and "A" class divisions, the temperature rise limitation specified in .1 above should apply at the end of one hour; and

ii supporting "B" class divisions, the temperature rise limitation specified in .1 above should apply at the end of half and hour.

18.3.3 Crowns and casings of a machinery space of category "A" should be of steel construction adequately insulted and openings therein, if any, should be suitable arranged and protected to prevent the spread of fire.

18.3.4 In a vessel of less that 1000GT, crowns and casings of a machinery space of category "A" need not be of steel provided they are "A-60" divisions and provision is made for boundary cooling through two fire hoses supplied simultaneously from the emergency fire pump with drainage of cooling water over-side through scuppers of suitable capacity.

18.4 Main Vertical Zones and Horizontal Zones

18.4.1 Hull superstructure and deckhouses in way of accommodation and service spaces should be subdivided into main vertical zones by "A" class divisions. These divisions should have insulation values in accordance with Tables 1 and 2.

18.4.2 As far as practical, the bulkheads forming the boundaries of the main vertical zones should be in line with watertight subdivision bulkheads.

18.4.3 Such bulkheads should extend from deck to deck and to the shell or other boundaries.

18.4.4 When "A" class division for the purpose of providing an appropriate barrier between sprinklered and non-sprinklered spaces subdivides a main vertical zone, the divisions should be insulated in accordance with the fire insulation and integrity values given in Tables 1 and 2.

18.5 Bulkheads within a Main Vertical Zone

18.5.1 All bulkheads within accommodation and service spaces which are not required to be "A" class divisions should be at least "B" class or "C" class divisions as prescribed in Tables 1 and 2.

18.5.2 All such divisions may be faced with combustible materials in accordance with the provisions of 18.12.

18.5.3 All corridor bulkheads where not required to be "A" class or "B" class divisions should extend from deck to deck except:

.1 When continuous "B" class ceilings or linings are fitted on both sides of the bulkhead, the proportion of the bulkhead behind the continuous ceilings or linings should be of material which, in thickness and composition, is acceptable in the construction of "B" class divisions but which should be required to meet "B" class integrity standards only in so far as is reasonable and practical in the opinion of the Administration;

.2 Throughout spaces protected by an automatic sprinkler, fire detection and fire alarm system complying with the provisions of 18.14.1, the corridor bulkheads of "B" class materials may terminate at a ceiling in the corridor provided such a ceiling is of material which, in thickness and composition, is acceptable in the construction of "B" class divisions. Notwithstanding the requirements of 18.6, such bulkheads and ceilings should be required to meet "B" class integrity standards only in so far as is reasonable and practical. All doors and frames in such bulkheads should be so constructed and erected to provide substantial fire resistance.

18.5.4 All bulkheads required to be "B" class divisions, except corridor bulkheads, should extend from deck to deck and to the shell or other boundaries unless continuous "B" class ceilings or linings are fitted on both sides of the bulkhead, in which case the bulkhead may terminate at the continuous ceiling or lining.

18.6 Fire integrity of bulkheads and decks

18.6.1 In addition to complying with the specific provisions for fire integrity of bulkheads and decks mentioned elsewhere in this Chapter, the minimum fire integrity of bulkheads and decks should be as prescribed in Tables 1 and 2.

18.6.2 The following requirements should govern application of the Tables:

.1 Tables 1 and 2 should apply respectively to the bulkheads and decks separating adjacent spaces.

.2 For determining the appropriate fire integrity standards to be applied to divisions between adjacent spaces, such spaces are classified according to their fire risk as shown in categories (1) to (9) below. The title of each category is intended to be typical rather than restrictive. The number in parentheses preceding each category refers to the applicable column or row in the Tables.

(1) Control Stations
- Spaces containing emergency sources of power and lighting.
- Wheelhouse and chartroom.
- Spaces containing the vessel's radio equipment.
- Fire extinguishing rooms, fire control rooms and fire-recording stations.
- Control room for propulsion machinery when located outside the machinery space.
- Spaces containing centralized fire alarm equipment.

(2) Corridors and lobbies

(3) Accommodation spaces
- Spaces so defined, excluding corridors.

(4) Stairways

- Interior stairways, lifts and escalators (other than those wholly contained within the machinery space(s)) and enclosures thereto.

- In this connection, a stairway which is enclosed only at one level, should be regarded as part of the space from which it is not separated by a fire door.

(5) Service spaces (low risk)

- Lockers and store-rooms not having provisions for the storage of flammable liquids and having areas less than 4m^2 and drying rooms and laundries.

(6) Machinery spaces of category "A"

- Spaces so defined.

(7) Other machinery spaces

- Spaces so defined, excluding machinery spaces of category "A".

(8) Service spaces (high risk)

- Galleys, pantries containing cooking appliances, paint and lamp rooms, lockers and store-rooms having areas of 4m^2 or more, spaces for the storage of flammable liquids, and workshops other than those forming part of the machinery spaces.

(9) Open decks

- Open deck spaces and enclosed promenades having no fire risk. Air spaces (the space outside superstructures and deckhouses).

.3 In determining the applicable fire integrity standard of a boundary between two spaces within a main vertical zone or horizontal zone which is not protected by a sprinkler system complying with the provisions of 18.14.1 or between such zones neither of which is so protected, the higher of the two values given in the tables should apply.

.4 In determining the applicable fire integrity standard between two spaces within a main vertical zone or horizontal zone which is protected by a sprinkler system complying with the provisions of 18.14.1 or between such zones both of which are so protected, the lesser of the two values given in the Tables should apply. Where a sprinklered zone and a non-sprinklered zone meet within accommodation and service spaces, the higher of the two values given in the Tables should apply to the division between the zones.

18.6.3 Continuous "B" class ceilings or linings, in association with the relevant decks or bulkheads, may be accepted as contributing, wholly or in part, to the required insulation and integrity of a division.

18.6.4 External boundaries which are required to be of steel or other equivalent material may be pierced for the fitting of windows and side scuttles provided that there is no requirement for such boundaries to have "A" class integrity elsewhere in this section. Similarly, in such boundaries, which are not required to have class integrity, doors may be of combustible materials, substantially constructed.

Table 1 – Fire integrity of bulkheads separating adjacent spaces

Spaces	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Control stations (1)	A-0_c	A-0	A-60	A-0	A-15	A-60	A-15	A-60	*
Corridors and lobbies (2)		C_e	B-0_e	A-0_a B-0_e	B-0_e	A-60	A-0	A-15 A-0_d	*
Accommodation spaces (3)			C_e	A-0_a B-0_e	B-0_e	A-60	A-0	A-15 A-0_d	*
Stairways (4)				A-0_a B-0_e	A-0_a B-0_e	A-60	A-0	A-15 A-0_d	* *
Services spaces (low risk) (5)					C_e	A-60	A-0	A-0	*
Machinery spaces of category “A” (6)						*	A-0	A-60	*
Other machinery spaces (7)							A-0_b	A-0	*
Service spaces (8)								A-0_b	*
Open decks (9)									

Table 2 – Fire integrity of decks separating adjacent spaces

Spaces above	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**
Control stations (1)	A-0_c	A-0	A-0	A-0	A-0	A-60	A-0	A-0	*
Corridors and lobbies (2)	A-0	*	*	A-0	*	A-60	A-0	A-0	*
Accommodation spaces (3)	A-60	A-0	*	A-0	*	A-60	A-0	A-0	*
Stairways (4)	A-0	A-0	A-0	*	A-0	A-60	A-0	A-0	*
Services spaces (low risk) (5)	A-15	A-0	A-0	A-0	*	A-60	A-0	A-0	*
Machinery spaces of category "A" (6)	A-60	A-60	A-60	A-60	A-60	*	A-60_f	A-60	*
Other machinery spaces (7)	A-15	A-0	A-0	A-0	A-0	A-0	*	A-0	*
Service spaces (8)	A-60	A-30 A-0_d	A-30 A-0_d	A-30 A-0_d	A-0	A-60	A-0	A-0	*
Open decks (9)	*	*	*	*	*	*	*	*	*

Notes: To be applied to both Tables 1 and 2, as appropriate.

a. For clarification on which applies, see 18.5 and 18.8.
b. Where spaces are of the same numerical category and subscript $_b$ appears, a bulkhead or deck of the rating shown in the Tables is only required when the adjacent spaces are for a different purpose, e.g. in category (9), a galley next to a galley does not require a bulkhead but a galley next to a paint room requires an "A-0" bulkhead.
c. Bulkheads separating the wheelhouse and chartroom from each other may be "B-0" rating.
d. See 18.6.3 and 18.6.4.
e. For the application of 18.4.1,"B-0" and "C", where appearing in Table 1, should read as "A-0".
f. Fire insulation need not be fitted if the machinery space in category (7), in the opinion of the Administration, has little or no fire risk.
* Where an asterisk appears in the tables, the division is required to be of steel or other equivalent material but is not required to be of "A" class standard.
For the application of 18.4.1 an asterisk, where appearing in table 2, except for category (9), should read as "A-0".

18.7 Means of escape

18.7.1 Stairways and ladders should be arranged to provide ready means of escape to the lifeboat and liferaft embarkation deck from all accommodation and service spaces other than machinery spaces. In particular, the following provisions should be complied with:

.1 Below the lowest open deck two means of escape, at least one of which should be independent of watertight doors, should be provided from each watertight compartment, main vertical zone or similarly restricted group of spaces. Exceptionally one of the means of escape may be dispensed with, due regard being paid to nature and location of spaces and to the number of persons who might normally be accommodated or employed there.

.2 Above the lowest open deck there should be at least two means of escape from each main vertical zone or similarly restricted group of spaces.

.3 Within each main vertical zone there should be at least one readily accessible enclosed stairway providing continuous fire shelter, where practical at all levels up to the appropriate lifeboat and liferaft embarkation decks or the highest level served by the stairway, whichever level is the highest. The width, number and continuity of the stairways should be satisfactory for the number of persons likely to use them.

.4 Access from the stairway enclosures to the lifeboat and liferaft embarkation areas should avoid high fire risk areas.

.5 Stairways serving only a space and a balcony in that space should not be considered as forming one of the required means of escape.

.6 If a radio room or wheelhouse has no direct access to the open deck, two means of escape should be provided, one of which may be a window of sufficient size or another means.

18.7.2 Two means of escape should be provided from each machinery space. In particular, the following provisions should be complied with:

.1 The two means of escape should consist of either:

(a) two sets of steel ladders as widely separated as possible, leading to doors in the upper part of the space similarly separated and from which access is provided to the appropriate lifeboat and liferaft embarkation decks. One of these ladders should provide continuous fire shelter from the lower part of the space to a safe position outside the space; or

(b) one steel ladder leading to a door in the upper part of the space from which access is provided to the embarkation deck and additionally, in the lower part of the space and in a position well separated from the ladder referred to, a steel door capable of being operated from each side and which provides access to a safe escape route from the lower part of the space to the embarkation deck.

.2 One of the means of escape may be dispensed with, due regard being paid to the width and disposition of the upper part of the space.

.3 Two means of escape should be provided from a machinery control room located within a machinery space, at least one of which should provide continuous fire shelter to a safe position outside the machinery space.

18.7.3 In no case should lifts be considered as forming one of the required means of escape.

18.8 Protection of stairways and lifts in accommodation and service spaces

18.8.1 A stairway should be of steel frame construction except where the Administration sanctions the use of other equivalent material, and should be within enclosures formed of "A" class divisions, with positive means of closure at all openings, except that:

.1 A stairway which penetrates a single deck only may be protected at one level only by at least "B" class divisions and self-closing door(s); and

.2 Stairways may be fitted in the open in a public space, provided they lie wholly within such public space.

18.8.2 A stairway enclosure should have direct communication with the corridors and be of sufficient area to prevent congestion, having in view the number of persons likely to use them in an emergency. In so far as is practical, stairway enclosures should not give direct access to cabins, service lockers, or other enclosed spaces containing combustibles in which a fire is likely to originate.

18.8.3 A lift trunk should be so fitted to prevent the passage of flame from one tween-deck to another and should be provided with means of closing to permit the control of draught and smoke.

18.9 Openings in "A" class divisions

18.9.1 Except for hatches between store and baggage spaces, and between such spaces and the weather decks, all openings should be provided with permanently attached means of closing which should be at least as effective for resisting fires as the divisions in which they are fitted.

18.9.2 The construction of all doors and door frames in "A" class divisions, with the means of securing them when closed, should provide resistance to fire as well as the passage of smoke and flame, as far as practical, equivalent to that of the bulkheads in which the doors are situated. Such doors and door frames should be constructed of steel or other equivalent material. Watertight doors need not be insulated.

18.9.3 It should be possible for each door to be opened and closed from each side of the bulkhead by one person only.

18.9.4 Fire doors in main vertical zone bulkheads and stairway enclosures, other than power operated watertight doors and those which are normally locked, should be of the self-closing type capable of closing against an inclination of 3.5º opposing closure. The speed of door closure should, if necessary, be controlled to prevent undue danger to persons. All such doors, except those that are normally closed, should all be capable of release from a control station, either simultaneously or in groups, and also individually from a position at a door. The release mechanism should be so designed that the door will automatically close in the event of disruption of the control system; however, approved power-operated watertight doors will be considered acceptable for this purpose. Hold-back hooks not subject to control station release should not be permitted. When double swing doors are permitted, they should have a latch arrangement, which is automatically engaged by the operation of the door release system.

18.9.5 When a space is protected by an automatic sprinkler system complying with the provisions of 18.14.1 or fitted with a continuous "B" class ceiling, openings in decks not forming steps in main vertical zones nor bounding horizontal zones should be closed reasonable tight and such decks should meet the "A" class integrity requirements in so far as is reasonable and practical.

18.10 Openings in "B" class divisions

18.10.1 Doors and door frames in "B" class divisions and means of securing them should provide a method of closure which should have resistance to fire as far as practical equivalent to that of the divisions except that a ventilation opening may be permitted in the lower portion of such doors. When such an opening is in or under a door the total net area of the opening(s) should not exceed 0.05m^2. When such an opening is cut in a door it should be fitted with a grill made of non-combustible material. Doors should be non-combustible or of substantial construction.

18.10.2 When a sprinkler system complying with the provisions of 18.14.1 is fitted:

.1 Openings in decks not forming steps in main vertical zones nor bounding horizontal zones should be closed reasonable tight and such decks should meet the "B" class integrity requirements in so far as is reasonable and practical in the opinion of the Administration; and

.2 Openings in corridor bulkheads of "B" class materials should be protected in accordance with the provisions of 18.5.

18.11 Windows and side scuttles

18.11.1 All windows and side scuttles in bulkheads within accommodation service spaces and control stations should be so constructed to preserve the integrity requirements of the type of bulkheads in which they are fitted.

18.11.2 Notwithstanding the requirements of Tables 1 and 2 all windows and side scuttles in bulkheads separating accommodation and service spaces and control stations from weather should be constructed with frames of steel or other suitable material. A metal glazing bead or angle should retain the glass.

18.12 Restricted use of combustible materials

18.12.1 Except in baggage rooms, or refrigerated compartments of service spaces, all linings, grounds, draught stops, ceilings and insulation should be of non-combustible materials.

18.12.2 Vapour barriers and adhesives used in conjunction with insulation, as well as insulation of pipe fittings, for cold service systems need not be non-combustible, but they should be kept to the minimum quantity practicable and their exposed surfaces should be low flame spread.

18.12.3 The following surfaces should be low flame spread:

.1 Exposed surfaces in corridors and stairway enclosures, and of bulkheads, wall and ceiling linings in all service spaces and control stations;

.2 Concealed or inaccessible spaces in accommodation, service spaces and control stations; and

.3 Exposed surfaces of bulkheads, wall and ceiling linings in accommodation spaces not protected by a system complying with 18.14.1 or 18.14.2.

18.12.4 The total volume of combustible facings, mouldings, decorations and veneers in any accommodation and service space not protected by a system complying with 18.14.1 or 18.14.2, should not exceed a volume equivalent to 2.5mm veneer on the combined area of the walls and ceilings.

18.12.5 Veneers used on surfaces and linings covered by the requirements of 18.12.3 should have a calorific value not exceeding 45MJ/m^2 of the area for the thickness used.

18.12.6 Furniture in the corridors and escape routes should be of a type and quantity not likely to obstruct access.

18.12.7 Primary deck coverings, if applied within accommodation and service spaces and control rooms, should be of material which will not readily ignite.

18.12.8 Upholstery composites (fabric in association with any backing or padding material) used throughout the vessel should be of an approved standard to ensure ignition resistance.

.1 Organic foams used in upholstered furniture and mattresses should be of the combustion modified type; and

.2 Suspended textile materials such as curtains and drapes should of an approved type.

18.13 Details of construction

18.13.1 In accommodation and service spaces, control stations, corridors and stairways:

.1 Air spaces enclosed behind ceilings, panelling or linings should be suitably divided by close-fitting draught stops not more that 7m apart; and

.2 In the vertical direction, enclosed air spaces, including those behind linings of stairways, trunks, etc, should be closed at each deck.

18.13.2 Without impairing the efficiency of the fire protection, the construction of ceilings and bulkheads should allow a fire patrol to detect any smoke originating in concealed and inaccessible places, except where there is no risk of fire originating in such places.

18.13.3 When gaseous fuel is used for domestic purposes, the arrangements for the storage, distribution and utilisation of the fuel should be such that, having regard to the hazards of fire and explosion which the use of such fuel may entail, the safety of the vessel and the persons on board are preserved.

In particular, open flame appliances provided for cooking, heating or any other purposes should comply with the requirements of an approved standard; the installation of open flame gas appliances should comply with the appropriate provisions of Annex 4.

18.14 Fire detection, fire alarm and sprinkler systems

18.14.1 Each separate zone in all accommodation and service spaces, except spaces which afford no substantial fire risk such as void spaces, sanitary spaces, etc, and, having regard for 18.12.4, should be provided throughout with either:

.1 A fixed fire detection and fire alarm system of an approved type and complying with the requirements of SOLAS regulation II-2/13, installed and arranged to detect the presence of fire in such spaces; or

.2 An automatic sprinkler, fire detection and fire alarm system of an approved type and complying with the requirements of SOLAS regulation II-2/12 and installed and arranged to protect such spaces. In addition, a fixed fire detection and fire alarm system of an approved type complying with the requirements of SOLAS regulation II-2/13 should be installed and arranged to provide smoke detection in corridors, stairways and escape routes within accommodation spaces; or

.3 A manual dry pipe sprinkler system of an approved type either complying with the requirements of IMO Resolution MSC.44(65) or, to the satisfaction of the Administration, an equivalent standard which provides increased security against damage caused by accidental discharge from sprinklers. The system should be installed and arranged to protect such spaces. In addition, a fixed addressable fire detection and alarm system of an approved type complying with the requirements of SOLAS regulation II-2/13 should be installed and arranged to detect the presence of fire in such spaces.

18.14.2 Manually operated call points complying with the requirements of SOLAS regulation II-2/13 should be installed.

18.14.3 At all times, vessels when at sea and in port (except when out of service) should be manned and/or equipped to ensure that any initial fire alarm is immediately received by a responsible member of the crew.

19 FIRE APPLIANCES

19A Vessels of less than 50 metres in length and under 500 GT

19A.1 General Requirements

19A.1.1 Fire appliances of an approved type should be provided to the extent listed in Table 1 and, in any case, to the satisfaction of the Authority and the specific requirements of 19A.2.

19A.1.2 Fire appliances provided in addition to those required by 19A.1.1 should be of an approved type.

19A.1.3 The location, installation, testing and maintenance of all equipment should be to the satisfaction of the Authority.

19A.2 Specific Requirements

19A.2.1 Provision of water jet

At least one jet of water should be able to reach any part of the vessel normally accessible to persons on board while the vessel is being navigated and, any storeroom and any part of a storage compartment when empty.

19A.2.2 Fire Pumps

19A.2.2.1 The power driven fire pump should have a capacity of:

$$2.6 \times \{1+ 0.066 \times (L[B+D])^{0.5}\}^2 \ m^3/\ hour$$

where: L is the length
B is the greatest moulded breadth
D is the moulded depth measured to the bulkhead deck at amidships.

When discharging at full capacity through 2 adjacent fire hydrants, the pump should be capable of maintaining a water pressure of $0.2N/mm^2$ at any hydrant, provided the fire hose can be effectively controlled at this pressure.

19A.2.2.2 The second fire pump should have a capacity:

.1 for a hand pump, sufficient to produce a throw of at least 6 metres through a fire hose with a 10 mm diameter nozzle and which can be directed on any part of the vessel; or

.2 for a power driven pump, at least 80% of that required in 19A.2.2.1 and be fitted with an input to the fire main.

19A.2.3 Fire main and hydrants

19A.2.3.1 A fire main, water service pipes and fire hydrants should be fitted.

19A.2.3.2 The fire main and water service pipe connections to the hydrants should be sized for the maximum discharge rate of the pump(s) connected to the main.

19A.2.3.3 The fire main, water service pipes and fire hydrants should be constructed such that they will:

.1 not be rendered ineffective by heat;
.2 not corrode;
.3 be protected against freezing.

19A.2.3.4 When a fire main is supplied by 2 pumps, 1 in the machinery space and 1 elsewhere, provision should be made for isolation of the fire main within the machinery space and for the second pump to supply the fire main and hydrants external to the machinery space.

The isolation valve(s) should be fitted outside the machinery space in a position easily accessible in the event of a fire.

19A.2.3.5 The fire main should have no connections other than those necessary for fire fighting or washing down.

19A.2.3.6 Fire hydrants should be located for easy attachment of fire hoses, protected from damage and distributed so that the fire hoses provided can reach any part of the vessel.

19A.2.3.7 Fire hydrants should be fitted with valves which allow a fire hose to be isolated and removed when a fire pump is working.

19A.2.4 Fire Hoses

19A.2.4.1 Fire hoses should not exceed 18 metres in length and generally, the diameter of a lined hose for use with a powered pump should not be less than 45mm.

19A.2.4.2 Fire hoses and associated tools and fittings should be kept in readily accessible and known locations close to the hydrants or connections on which they will be used. Hoses supplied from a powered pump should have jet/spray nozzles (incorporating a shut-off facility) of diameter 19mm, 16mm or 12mm depending on fire fighting purposes. (For accommodation and service spaces, the diameter of nozzles need not exceed 12mm.).

19A.2.4.3 Hydrants or connections in interior locations on the vessel should have hoses connected at all times. For use within accommodation and service spaces proposals to provide smaller diameter of hoses and jet/spray nozzles will be considered.

19A.2.4.4 The number of fire hoses and nozzles provided should correspond to the functional fire safety requirement but, be at least 3.

19A.2.5 Portable fire extinguishers for use in accommodation and service spaces

19A.2.5.1 The number, location, fire extinguishing medium type and capacity should be selected according to the perceived fire risk but at least 3 portable fire extinguishers should be provided. As far as practical, the fire extinguishers provided should have a uniform method of operation.

19A.2.5.2 Portable fire extinguishers of carbon dioxide type should not be located or provided for use in accommodation spaces.

19A.2.5.3 Except for portable extinguishers provided in connection with a specific hazard within a space when it is manned (such as a galley), portable extinguishers generally should be located external to but adjacent to the entrance of the space(s) in which they will be used. Extinguishers should be stowed in readily accessible and marked locations.

19A.2.5.4 Spare charges should be provided on board for at least 50% of each type and capacity of portable fire extinguishers on board. When an extinguisher is not of a type which is rechargeable when the vessel is at sea, an additional portable fire extinguisher of the same type (or its equivalent) should be provided.

19A2.6 Fire extinguishing in machinery spaces

19A.2.6.1 In a machinery space containing internal combustion type machinery fire appliances should be provided at least to the extent listed in item 7 of Table 1- Fire Appliances.

19A.2.6.2 In a machinery space containing an oil fired boiler, oil fuel settling tank or oil fuel unit, a fixed fire extinguishing system complying with SOLAS regulations II-2/Part A should be installed.

19A2.6.3 Portable fire extinguishers should be installed and the number, location, fire extinguishing medium type and capacity should be selected according to perceived fire risk in the space.

Spare charges or spare extinguishers should be provided as per 19A.2.5.4.

In any case, portable fire extinguishers for extinguishing oil fires should be fitted as follows:

.1 in a boiler room – at least 2;
.2 in a space containing any part of an oil fuel installation – at least 2;
.3 in a firing space – at least 1.

19A.3 Minimum requirements for vessels not exceeding 24 metres in length

Where it is considered unreasonable or unpractical to comply with the requirements of 19A.1 and 19A.2 the following vessels should have on board the following fire fighting equipment:

.1 One manual fire pump (outside engine space) or one power driven fire pump (outside the engine space), with sea and hose connections, capable of delivering one jet of water to any part of the vessel through hose and nozzle. One fire hose of adequate length with 10mm nozzle and suitable spray nozzle.

Vessels of less than 15 metres in length and carrying 14 or less persons may in lieu of the above be provided with an approved multi-purpose fire extinguisher.

.2 Fixed fire extinguishing in engine space which may consist of a portable extinguisher suitably secured and arranged to discharge into the space.

.3 Not less than two approved multi-purpose fire extinguishers.

.4 Two fire buckets with lanyards.

.5 One fire blanket in galley or cooking area.

19B Vessels of 50 metres in length and over or 500 GT and over

19B.1 Existing Vessels

An existing vessel should comply with SOLAS regulations II-2/Part A as appropriate to the vessel and its equipment.

In no case should the standards applied be less than those applied to a vessel of less than 50 metres in length and under 500 GT.

Table 1 – Fire Appliances – Vessels of less than 50 metres in length and under 500 GT

1	PROVISION OF WATER JET – sufficient to reach any part of vessel	**1**
2	POWER DRIVEN FIRE PUMP – engine or independent drive	**1**
3	ADDITIONAL HAND OR INDEPENDENT POWER DRIVEN FIRE PUMP AND ITS SEA CONNECTION – not located in the same space as item 2 or a machinery space containing internal combustion type machinery	**1**
4	FIRE MAIN & HYDRANTS – to achieve item 1 with a single length of hose	**Sufficient**
5	HOSES – with jet/spray nozzles each fitted with a shut-off facility	**3**
6	FIRE EXTINGUISHERS – portable, for use in accommodation and service spaces	**3**
7	FIRE EXTINGUISHERS – for a machinery space containing internal combustion type machinery – the options are: (a) a fixed fire extinguishing system complying with SOLAS regulations II-2/Part A: and (b) (i) 1 portable extinguisher for oil fires for each 74.6kW power; or (ii) 2 portable extinguishers for oil fires together with either: 1 foam extinguisher of 45 lts capacity; or 1 CO_2 extinguisher of 16kg capacity	**7 (max)** **2+1**
8	FIREMAN'S OUTFIT – to include one breathing apparatus of the air hose type	**1**
9	FIRE BLANKET – in galley	**1**

20 RADIO EQUIPMENT

20.1 General requirements

20.1.1 No provision in this Chapter should prevent the use by a vessel or survival craft in distress of any means at its disposal to attract attention to make known its position and to obtain help.

20.1.2 Radio equipment carried by a vessel should be capable of fulfilling the following functional requirements with respect to distress and safety communications when the vessel is at sea:

.1 Provide for the safety of the vessel by:

- Performing ship-to-shore distress alerting;
- Transmitting ship-to-shore distress alerting;
- Transmitting and receiving on-scene communications, including appropriate search and rescue co-ordinating communications;
- Transmitting locating signals.

.2 Assist other vessels in distress by:

- Receiving shore-to-ship distress alerting;
- Receiving ship-to-shore distress alerting.

.3 Receive navigational and meteorological warning and urgent safety information.

20.2 Radio Installations

20.2.1 All vessels to which the Code applies should be fitted with a fixed VHF Radiotelephone with Digital Selective Calling (DSC).

Where it is unreasonable or impracticable to do so the Authority may consider alternative arrangements.

20.3 Operational performance

20.3.1 All radio communications equipment should be of a type which is approved by the relevant authority.

20.4 Installation

20.4.1 The radio installation should:

.1 Be so located to ensure the greatest possible degree of safety and operational availability;

.2 Be protected against harmful effect of water, extremes of temperature and other adverse environmental conditions;

.3 be clearly marked with the call sign, the vessel station identity and any other codes applicable to the use of the radio installation.

20.4.2 Aerials should be mounted as high as is practicable to maximise performance.

20.4.3 A card or cards giving a clear summary of the radio-telephone distress, urgency and safety procedures should be displayed in full view of the radio-telephone operating position(s).

20.5 Sources of energy

20.5.1 There should be available at all times, while the vessel is at sea, a supply of electrical energy sufficient to operate the radio installation and to charge any batteries used as part of a reserve source or sources of energy for the radio installation.

20.5.2 A reserve source of energy, independent of the propelling power of the vessel and its electrical system, should be provided for the purpose of conducting distress and safety radio communications for a minimum of one hour in the event of failure of the vessel's main and, if provided, emergency sources of electrical power.

20.5.3 When a reserve source of energy consists of a rechargeable accumulator battery, a means of automatically charging such batteries should be provided which is capable of recharging them to minimum capacity requirements within 10 hours.

20.5.4 The siting and installation of accumulator batteries should ensure the highest degree of service and safety.

20.6 Watches

20.6.1 A vessel while at sea, should as far as practicable maintain a continuous listening watch on:

.1 VHF Channel 16;

.2 for such periods and channels as may be required within an area of operation;

.3 on VHF Digital Selective Calling (DSC), on channel 70.

20.7 Radio Logs

20.7.1 Every master or person carrying out a listening watch in accordance with 20.6.1 should enter in the log, with his name, the details of all incidents connected with the radio service which occur during his watch which may appear to be of importance to safety of life at sea.

The entries may be entered in a dedicated radio log or in the deck log.

Radio logs should be available for inspection by the officers authorised by the Authority to make such inspection.

21 NAVIGATIONAL LIGHTS, SHAPES AND SOUND SIGNALS

21.1 Every vessel should comply with the requirements of the International Regulations for Preventing Collisions at Sea, 1972 as amended.

21.2 Sound signalling equipment should comply with the regulations. A vessel of less than 12 metres in length is not obliged to carry the sound signalling equipment required by the regulations provided that some other means of making an efficient sound signal is provided.

21.3 If it can be demonstrated to the certifying authority, that for a particular vessel, full compliance with the regulations is impracticable, proposals for an equivalent arrangement should be made to the Authority.

22 NAVIGATION, AIS AND VDR EQUIPMENT

22.1 Magnetic Compass

A vessel should be fitted with an efficient magnetic compass and valid deviation card complying with the following requirements as appropriate.

22.1.1 In a steel vessel, it should be possible to correct the compass for co-efficients B, C and D and heeling error.

22.1.2 The magnetic compass or a repeater should be fitted with an electric light and so positioned as to be clearly readable by the helmsman at the main steering position.

22.1.3 Means should be provided for taking bearings as nearly as practicable over an arc of the horizon of 360^0. This requirement may be met by the fitting of a pelorus or, in a vessel other than a steel vessel, a hand bearing compass.

22.2 Echo Sounder

22.2.1 A vessel should be fitted with an echo sounder.

22.3 Additional Equipment

22.3.1 A vessel should be provided with the following additional equipment:

.1 An electronic navigational positioning system appropriate to the area of operation;

.2 A distance measuring log;

.3 A gyro compass or spare magnetic compass;

.4 A rudder angle indicator;

.5 9 GHz radar;

.6 Binoculars.

22.4 AIS and VDR

22.4.1 AIS and VDR requirements shall as a minimum be as prescribed in the Vessel Traffic Monitoring and Reporting Requirements Regulations (S.L. 352.20).

22.4.2 The following vessels shall be fitted with an AIS:

.1 Passenger ships of 300 gross tonnage and over;

.2 All tankers and bunker barges, irrespective of size; and

.3 Any other type of vessel of 300 gross tonnage and over.

22.4.3 Cargo ships of 3000 gross tonnage and over shall be fitted with a Voyage Data Recorder.

22.5 Alternative Arrangements

22.5.1 Where it is considered unreasonable or impracticable to have on board the equipment prescribed in this Chapter, alternative arrangements should be proposed for approval by the Authority. The Authority may consider the application of restrictions to the service area of the vessel.

23 MISCELLANEOUS EQUIPMENT

23.1 Nautical Publications

.1 Every vessel shall have on board charts and publications appropriate to the work of the vessel and its intended area of operation and a copy of the International Code of Signals.

.2 Charts and publications should be kept up to date.

.3 The owner is to ensure that copies of Notices to Mariners, Port Notices and Navigational Warnings are forwarded to the vessel.

23.2 Signalling Lamp

Every vessel should carry an approved signalling lamp. The signalling lamp may consist of an efficient waterproof electric torch suitable for Morse signalling.

23.3 Measuring Instruments

- Every vessel should carry a barometer.
- Every sailing vessel should carry an anemometer and an inclinometer.

23.4 Searchlight

Every vessel should carry an efficient fixed or portable searchlight suitable for manoeuvre search and rescue operations. This may be the approved signalling lamp prescribed in 23.2.

23.5 Radar Reflector

Where appropriate a vessel should be provided with an efficient radar reflector.

24 ANCHORS AND CABLES

24.1 General

24.1.1 Every vessel shall be provided with at least two anchors of sufficient weight and cables of adequate strength, length and size.

24.1.2 Windlass, capstan, winches, fairleads, bollards, mooring bits and other anchoring, mooring, towing and hauling equipment should be:

.1 properly designed to meet all foreseeable operational loads and conditions;

.2 correctly seated;

.3 effectively secured to a part of the vessel's structure which is suitably strengthened.

24.1.3 Cables

The length of anchor cable attached to an anchor should be appropriate to the area of operation but generally should be not less than 4 x the vessel length overall or 30 metres, whichever is the longer.

The strength, form and material of the anchor cable and its attachments to the anchor and the vessel should be approved by the certifying authority and test certificates provided as required.

When the anchor cable is of fibre rope or wire, there should be not less than 10 metres of chain between the rope and the anchor.

24.2 Vessels not exceeding 24 metres in length

24.2.1 Vessels not exceeding 24 metres in length should be provided with the requirements of 24.1 to the satisfaction of the certifying authority.

24.3 Vessels of 24 metres in length and over

24.3.1 Vessels of 24 metres in length and over will be considered to have adequate equipment if fitted out in accordance with certification standards set by any of the Classification Societies.

24.4 Sailing Vessels

24.4.1 The size of anchors and cables for sailing vessels should take into account the additional windage effect of the masts and rigging.

24.4.2 Typically, for square rigged sailing vessels, experience based guidance on approximate increase in anchor mass and cable strength required is:

For vessels up to 50 metres in length, typically 50% above the requirements for a typical motor vessel having the same total longitudinal profile area of hull and superstructure as the square rigged sailing vessel under consideration.

For vessels 100 metres in length and over, typically 30% above the requirements for a typical motor vessel having the same total longitudinal profile area of hull and superstructure as the square rigged sailing vessel under consideration.

For a square rigged sailing vessel of between 50 and 100 metres in length the increase should be obtained by linear interpolation.

24.5 Towline and Towing Arrangements

24.5.1 A vessel should be provided with a towline of not less than the length and diameter of the anchor cable. The anchor cable or warp may be used as the towline.

24.5.2 Accessible efficient strong securing points should be provided for the attachment of towlines for the vessel to tow and be towed.

25 ACCOMMODATION

25.1 General

25.1.1 An adequate standard of accommodation should be provided to ensure the comfort, recreation, health and safety of all persons on board.

The following standards are described by general principles which need to be expanded to meet the requirements which relate to the use and areas of operation of particular vessels.

25.2 Hand holds and grab-rails

There should be sufficient handholds and grab-rails within the accommodation to allow safe movement around the accommodation when the vessel is in a seaway.

25.3 Securing of heavy equipment

Heavy items of equipment such as batteries, cooking appliances etc., should be securely fastened in place to prevent movement due to severe motions of the vessel.

Stowage lockers containing heavy items should have lids or doors with secure fastening.

25.4 Access / escape arrangements

Means of escape from accommodation spaces should satisfy the requirements of Chapter 8 – Weathertight Integrity and Chapter 17 – Fire Safety.

25.5 Ventilation

Effective means of ventilation should be provided to enclosed spaces which may be entered by persons on board.

25.6 Vessels at sea for more than 24 hours

When a vessel is intended to be at sea for more than 24 hours an adequate standard of accommodation for all on board should be provided. In considering such accommodation, primary concern should be directed towards ensuring the health and safety aspects of persons e.g. the ventilation, lighting, water services, galley services and the access/escape arrangements. In particular the following standards should be observed:

25.6.1 Ventilation

Suitable mechanical ventilation should be provided to accommodation spaces which are situated completely below the level of the weather deck.

As a minimum mechanical ventilation should be capable of providing 6 changes of air per hour when the access openings to the spaces are closed.

25.6.2 Lighting

An electric lighting system should be installed which is capable of supplying adequate light to all enclosed accommodation and working spaces.

25.6.3 Water Services

An adequate supply of fresh drinking water should be provided and piped to convenient positions throughout the accommodation spaces.

In addition, an emergency (dedicated reserve) supply of drinking water should be carried at the rate of 2 litres per person on board.

25.6.4 Sleeping Accommodation

A bunk or cot should be provided for each person on board.

25.6.5 Galley

A galley, suitable for shipboard use, should be fitted with means for cooking and washing basin and have adequate working surfaces for the preparation of food.

There should be secure storage for food in the vicinity of the galley.

25.6.6 Toilet Facilities

Adequate toilet facilities should be provided on board.

In general there should be at least one marine type flushing water closet, one wash hand-basin and one shower for every 12 persons on board.

25.6.7 Stowage of Personal Effects

Adequate stowage facilities for clothing and personal effects should be provided for each person on board.

26 PROTECTION OF PERSONNEL

26.1 Deckhouses and Superstructures

26.1.1 A deckhouse used for accommodation of persons should be of efficient construction and appropriate to the vessel and its area of operation.

In vessels of 24 metres in length and over the structural strength of any deckhouse or superstructure should comply with the standards published by a Classification Society.

26.2 Bulwarks, Guard Rails and Hand Rails

26.2.1 The perimeter of an exposed deck should 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 should be supported efficiently by stays or stanchions. When application of such measures would impede the proper working of the vessel, alternative safety measures should be considered.

26.2.2 To protect persons from falling overboard, and when the proper working of the vessel is not impeded and there are persons frequently on deck, bulwarks or three courses of rails or taut wires should be provided and the bulwark top or top course should be not less than 1000mm above the deck (in accordance with Load Line rules). The distance between the lowest course and the deck should not exceed 230mm and the distance between other courses should not exceed 380mm.

26.2.3 Access stairways, ladderways and passageways should be provided with handrails.

26.2.4 In an inflatable boat or a rigid inflatable boat, handgrips, toeholds and handrails should be provided as necessary to ensure safety of all persons on board during transit and the worst weather conditions likely to be encountered in the intended area of operation.

26.2.5 Where the function of the vessel would be impeded by the provision of bulwarks and/or guard rails complying with 26.2.2, alternative proposals detailed to provide equivalent safety for persons on deck, should be submitted to the Authority for approval.

26.3 Safe Work Aloft and on the Bowsprit of Sailing Vessels

26.3.1 When access to the rig is an operational necessity, provision should be made to enable people to work safely aloft and out on the bowsprit.

26.3.2 The arrangements provided should be based on established safe working practices for the type of vessel. The arrangements may include but not be limited to:

.1 Safety nets below the bowsprit;

.2 Safety grab-rails in wood (or jackstays in metal) fixed along the bowsprit to act as handholds and safety points for safety harnesses;

.3 Mandatory use of safety harnesses aloft and for work on the bowsprit;

.4 Sufficient footropes and horses in wire (or rope) permanently rigged to enable seamen to stand on them whilst working out on the yards or on the bowsprit;

.5 Safety jackstays (in metal) fixed along the top of the yards, to provide handholds and act as strong points for safety harnesses;

.6 Means of safely climbing aloft, such as:

(i) fixed metal steps or ladders attached to the mast; or

(ii) traditional ratlines (rope) or, rattling bars (wood/steel), fixed across the shrouds to form a permanent ladder.

26.3.3 A vessel should be provided with a "Training Manual" which should include details of established safe working practices specific to the vessel, guidance on training for members of the crew and personal clothing and protection from injury.

26.4 Surface of Working Decks

26.4.1 The surface of a working deck should be non-slip.

26.4.2 Acceptable surfaces are: chequered plate; unpainted wood; a non-skid pattern moulded into fibre-reinforced plastic (FRP); non-slip deck paint; or an efficient non-slip covering.

26.4.3 Particular attention should be paid to the surface finish of a hatch cover when it is fitted on a working deck.

26.4.4 In an inflatable boat or rigid inflatable boat the upper surface of the inflated buoyancy tube should be provided with a non-slip finish.

26.5 Recovery of Persons from the Water

26.5.1 Means should be provided for the recovery of a person from the sea to the vessel. The means should assume that the person is unconscious or unable to assist in the rescue.

The means of recovery should be demonstrated to the satisfaction of an authorised surveyor.

26.5.2 If an over-side boarding ladder or scrambling net is provided to assist in the recovery of an unconscious person from the water, the ladder or net should extend from the weather deck to at least 600mm below the lowest operational waterline.

26.5.3 When a vessel is manned by a coxswain and one crew, the demonstration required in 26.5.1 should include the recovery of the crew member from the water. In this demonstration the crew member is assumed to be unconscious.

26.6 Personal Clothing

26.6.1 The owner responsible for the safe operation of the vessel should ensure that the persons on board are properly attired for the voyage to be undertaken.

.1 All persons on board should have suitable protective clothing and equipment appropriate to the prevailing air and sea temperatures and weather conditions.

.2 It is strongly recommended that all persons on board wear footwear provided with non-slip soles, particularly on the open deck.

26.7 Noise

26.7.1 Noise levels should so far as is reasonable and practicable meet the recommendations of an approved national standard. Reference is also made to the IMO Code on Noise Levels on board Ships – Resolution A.468 (XII).

The application of recommended noise levels is intended to protect the crew from the risk of noise-induced hearing loss.

26.7.2 In order to ensure safe navigation, it is desirable that a noise level of 65dB(A) at the navigation position is not exceeded so that sound signals and VHF communications can be heard.

26.7.3 Signs and warning notices should be displayed at all entrances for machinery spaces, where it is recommended that suitable ear protectors should be worn.

26.7.4 Operators of commercial vessels:

.1 shall not operate or play, and shall ensure that no person on board operates or plays, any loud speakers, amplifiers, musical instruments or other similar noisy instruments; and/or

.2 shall not cause, suffer or permit to be made any noise;

at a level which is so loud as to cause a nuisance to others in the vicinity.

27 MEDICAL STORES

An approved medical guide should be referred to for help with diagnosis. Radio medical advice should be sought as appropriate.

27.1 Responsibilities of the Owner and Master

27.1.1 The owner of the vessel is responsible for the cost of any medicine and medical equipment including the cost of periodic replacements in order to keep stocks of any required medicines in date and immediately useable.

27.1.2 The Master is responsible for ensuring that any necessary medical attention given on board the vessel is given either by him or under his supervision by a person appointed by him.

The Master is also responsible for the management of the medical supplies and ensuring that they are maintained in good condition.

27.2 Medical Supplies

Vessels shall have on board the medical supplies and equipment prescribed in Table 1 Medical Supplies and Table 2 Medical Equipment. Lifeboats, rescue boats and life rafts are also required to carry the prescribed stores.

Packaging and containers should contain clear directions for use.

Table 1 – Medical Supplies

REF NO	TREATMENT REQUIREMENTS	RECOMMENDED MEDICINE AND DOSAGE STRENGTH REPRESENTING BEST PRACTICE	RECOMMENDED QUANTITY FOR 10 PERSONS OR FOR A LIFEBOAT/ LIFERAFT
1	**Cardio vascular**		
1.1	Anti-angina preparations	Glyceryl Trinitrate Spray 400 micrograms/metered 200 dose aerosol or transdemal patches 5mg x 2	1 unit
1.2	Anti-haemorrhagics (including uterotonics if there are women with potential for child bearing working on board)	a) Phytomenadione (Vitamin K1) 0.2 ml (1 ampoule) Paediatric injection b) Ergometrine Maleate 500mg inj. Oxytocin 5 units in 1ml ampoule	1 1
2	**Gastro intestinal system**		
2.1	Anti-emetics	Hyoscine hydrobromide 0.3 mg tabs	60
2.2	Anti-diarrhoeals	Codeine Phosphate 30mg tablets	20
3	**Analgesics and Anti-spasmodics**		
3.1	Analgesics	a) Paracetamol 500mg tablets b) Codeine Phosphate (See 2.2)	50 Use 2.2
4	**Nervous system**		
4.1	Seasickness remedies	Hyoscine hydrobromide (See 2.1)	Use 2.1
5	**Medicines for External Use**		
5.1	Skin medicines		
5.1.1	Antiseptic solutions	100ml solution or pre-impregnated wipes containing 0.015% w/v chlorhexidine and 0.15% w/v Cetrimide	1 bottle or 1pack wipes
5.1.2	Burn preparations	Cetrimide Cream 50g tube	1

Table 2 - Medical Equipment

	STATUTORY TREATMENT REQUIREMENTS	RECOMMENDED SPECIFICATION	QUANTITY
1	**Resuscitation Equipment**		
	Mask for mouth to-mouth resuscitation	Laedal Pocket Mask	1
2	**Dressing and suturing equipment**		
	Adhesive elastic bandage	Adhesive Elastic Bandage 7.5cm x 4m	1
	Disposable polyethylene gloves	Large size	5 pairs
	Adhesive dressings	Assorted sterile	20
	Sterile compression bandages and unmedicated dressings	Medium, 10 x 8 cms Large, 13 x 9 cms Extra large, 28 x 17.5 cms	6 2 2
	Adhesive sutures or zinc oxide bandages	75mm adhesive suture strips	6
	Sterile Gauze Compresses	Packet containing 5 sterile gauze pads size 7.5cms x 7.5cms	1
		Recommended Additional Items	
		Scissors stainless steel/or sterile disposable	1 pair
		Calico triangular bandages about 90cm x 127 cm	4
		Medium safety pins, rustless	6
		Sterile paraffin gauze dressings	10
		Plastic burn bags	1

27.3 Passenger Vessels - First Aid Kits

Passenger vessels must carry one first aid kit for every 100 persons or fraction of that number that they are licensed to carry subject to a maximum of 3 kits e.g. 250 persons require three kits.

The first aid kit consists of the following items which should be kept in a separate portable waterproof container.

.1 4 x triangular bandages (90cms x 127cms base);
.2 6x medium sterile bandages with unmedicated dressings, 10 x 8 cms;
.3 2 x large sterile bandages with unmedicated dressings, 13 x 9 cms;
.4 2 x extra large unmedicated dressings, 28cms x 17.5 cms;
.5 6 medium safety pins, rustless;
.6 20 assorted elastic adhesive dressings medicated BPC;
.7 2 x sterile eye pads with attachment;
.8 2 x packages containing 15 grams sterile cotton wool;
.9 5 pairs large size disposable polythene gloves.

27.4 Medicines to be carried on ships transporting dangerous substances

A vessel authorised to carry dangerous substances shall retain on board the correct antidote and equipment to the substance(s) being carried. The correct antidote can be found in the IMO Medical First Aid Guide For Ships (MFAG) 1994 edition and any subsequent supplements or amendments.

The quantities of any medicines to be carried aboard should be based on an estimate of risks, taking account of such factors as number of crew, passengers, length of voyage and risk of accidental exposure.

Where medical supplies or equipment are already included in the vessels medical store, separate stocks are not required.

28 GANGWAYS AND ACCOMMODATION LADDERS

28.1 When provided, gangways and accommodation ladders should be manufactured to a recognised national or international standard and be clearly marked with the manufacturer's name, the model number and the maximum design angle of use and the maximum safe loading by number of persons and by total weight.

28.2 A gangway should be carried on a vessel of 30 metres in length and over.

28.3 Accommodation ladders should be provided on a vessel of 120 metres in length and over.

28.4 Access equipment and immediate approaches should be adequately lit.

29 REQUIREMENTS SPECIFIC TO USE OF VESSEL

29.1 Vessel Engaged in Towing

29.1.1 Reference should be made to Section 14.6 for stability of vessels engaged in towing and Chapter 21, Navigation Lights, Shapes and Sound Signals, for requirements for towing and towed vessels.

29.1.2 An existing vessel which is used for towing and has a proven history of safe operation should be considered on the basis of the safe history and conditions which have been applied to ensure the safety of the vessel and the persons on board.

29.1.3 The design of the towing gear should be such as to minimise the overturning moment due to the lead of the towline. It should have a positive means of quick release which can be relied upon to function correctly under all operating conditions.

29.1.4 When a pushing tug and a barge pushed ahead are rigidly connected in a composite unit, the tug-barge coupling system should be capable of being controlled and powered from the tug.

29.1.5 Every tug should be provided with at least one axe of sufficient size on each side which should be readily available for cutting the towline free in an event of an emergency.

29.1.6 Weathertight Integrity

.1 Doorways in superstructures, deckhouses and exposed machinery casings situated on the weather deck and which enclose accesses to spaces below deck should be provided with efficient weathertight doors. Weathertight doors should be secured in the closed position when the vessel is towing and the doors should be clearly marked to this effect.

.2 Machinery air intakes and machinery space ventilators which must be kept open during towing operations should be served by means of high coaming ventilators as protection from down-flooding.

.3 Generally, airpipes and ventilators should be kept as far inboard as possible and be fitted with automatic means of closure when down-flooding to the compartments served would endanger the safety of the vessel.

29.1.7 The owner should ensure that the master is aware and the vessel is provided with a copy of the Nautical Institute Publication “TUG USE IN PORT- A Practical Guide”.

29.2 Anchoring, mooring and towing arrangements for barges

29.2.1 Every barge should be equipped with at least a suitable anchor for holding the barge in an emergency to the satisfaction of the Authority. It should be securely attached to a cable or wire rope and arranged for release in emergency conditions either by persons on the barge or boarding the barge for such purpose. At least a windlass or winch should be provided as appropriate to assist persons carrying out such operation. Suitable boarding facilities should be provided for personnel from the towing tug to board the barge in an emergency.

29.2.2 The towing and mooring arrangements and procedures should be such as to reduce to a minimum any danger to personnel during towing or mooring operations. Such arrangements should be of adequate strength and suitable for the particular type of barge.

29.2.3 The design and arrangement of towing and mooring fittings or equipment of barges should take into account both normal and emergency conditions.

29.2.4 Sufficient spare equipment to completely remake the towing and mooring arrangements of barges should be available.

29.2.5 Secondary or emergency towing arrangements should be fitted on board the barge so as to be easily recoverable by the towing vessel in the event of parting of the main towing wire or failure of ancillary equipment.

29.3 Pilot Boat

29.3.1 General

29.3.1.1 "Pilot boat" means a boat employed or intended to be employed in pilotage services.

A vessel engaged as a pilot boat may be recognised as either a dedicated pilot boat or a vessel engaged as a pilot boat from time to time.

The requirements of the Code apply generally to all vessels. Requirements for a pilot boat are, in certain matters of safety, either additional or alternative to the requirements of the Code.

29.3.2 Dedicated Pilot boat

29.3.2.1 The normal means of access from the open deck to accommodation space provided for the use of pilots should not be a forward facing weathertight door.

29.3.2.2 Pilot boarding activities should be visible from the pilot boat helmsman's position. Visibility should be adequate in both the vertical and the horizontal planes.

29.3.2.3 A pilot boat should not be fitted with a petrol engine.

29.3.2.4 Pilot vessels should comply with the stability criteria prescribed in Chapter 14.

29.3.2.5 A dedicated pilot boat need not be marked with a freeboard mark.

29.3.2.6 Rescue retrieval equipment should be provided as follows:

.1 Transom steps and/or ladder or equivalent side ladder or scrambling net.

.2 At least 2 buoyant lifelines of not less than 18 metres in length. Each of the lifelines should have a quoit of appropriate weight secured to one end.

.3 Means for the retrieval of any person who falls overboard and means to bring the person in the water to the retrieval point. As far as is reasonable and practicable the arrangement should enable the person to be retrieved in the horizontal position, in order to reduce the risk of heart failure associated with hypothermia.

.4 All ladders and outside fittings such as over-side steps etc. should be of suitable material, design and workmanship. Such equipment should be inspected at regular intervals.

.5 Arrangements should be provided to protect a person in the water from injury by the propeller(s). When it is impractical to fit a guard to the propeller(s), consideration should be given to alternative measures such as the fitting of a drop down gate/ladder to screen propeller(s) or operational procedures which include the means to stop propeller immediately.

.6 Man overboard retrieval exercises should be conducted by each pilot boat crew every 6 months.

29.3.2.7 A pilot boat should be manned by a minimum of 2 adult persons, namely a coxswain, and a deckhand who can assist the pilot when boarding or landing.

All pilot boat crew should hold a valid and approved First Aid Certificate.

29.4 Vessel engaged as a Pilot Boat

29.4.1 A vessel other than a dedicated pilot boat and which from time to time may be employed as a pilot boat shall comply with the Code as applicable to the type of vessel and as far as is reasonable and practicable comply with the requirements of 29.3.

The certificate for such a vessel should be endorsed with a PILOT BOAT ENDORSEMENT.

The certifying authority should be satisfied that the provisions for the safe movement of pilots and other persons on deck during transfers are adequate.

29.5 Cargo

29.5.1 When a vessel is engaged in carrying cargo all such cargo should be stowed and secured in a manner which will not adversely affect the safe operation of the vessel.

29.5.2 Particular attention should be paid to the means for securing the cargo and the strength of securing points, the free drainage of water from cargo stowed on open deck, safe access in way of cargo stows and unobstructed visibility from the wheelhouse.

29.5.3 Cargo hatchways to dry cargo holds or spaces should be of efficient weathertight construction.

In general, a cargo hatch coaming should be not less than 760mm in height. Hatch covers should be designed to withstand (without permanent deformation) a hydrostatic load of not less than 1.5 tonnes/metre^2 overall and be fitted with efficient means to be closed and secured weathertight to the coaming. In any case, the coaming and hatch cover should be sufficiently strong to withstand the hydrostatic loading and/or the loading due to cargo stowed on the hatch cover, whichever loading is limiting.

29.5.4 Proposals for a cargo hatchway with a reduced coaming height or a flush hatch should be subject to special consideration by the certifying authority and may be approved when the safety of the vessel is judged to be at least equivalent to 29.5.3

29.6 Vessel Fitted with a Deck Crane or other lifting Device

29.6.1 Reference should be made to Section 14.5 for requirements for safety standards for vessel stability during lifting operations.

29.6.2 The vessel's structure, the crane or other lifting device and the supporting structure should be of sufficient strength to withstand the loads that will be imposed when operating at its maximum load moment.

29.6.3 Load tests to verify the safe operation of the crane or other lifting device, its foundation and supporting substructures, should be carried out to the satisfaction of the certifying authority. Test should be conducted in accordance with a recognised standard for the installation.

29.7 A Non-Self-Propelled Vessel

29.7.1 A Non-Self-Propelled Vessel, a floating object of defined rigid form, a pontoon barge or similar type of vessel must be issued with a Commercial Vessel Certificate.

The vessel should be assessed for compliance with the parts of the Code which are appropriate to its commercial operation.

Where the provision of draught marks is not required the vessel should be clearly marked so that changes in the condition of the vessel can be readily recognised.

29.8 Tankers and Bunker Barges

Without prejudice to any other provisions contained in the Dangerous Cargo Ships, Marine Terminals and Facilities and Bunkering Regulations 1996 and to the general requirements of the Code, tankers and bunker barges should comply with the following:

29.8.1 Oil Tankers

Phasing-in of double-hull or equivalent design requirements of single-hull oil tankers:

.1 Oil tankers of 5000 tonnes deadweight and above, when carrying heavy grades of oil, shall comply with EC Regulation No 417/2002, as amended by EC Regulation No 1726/2003.

.2 Oil tankers with a deadweight of between 600 and 5000 tonnes shall however comply with the provisions of the Regulation by not later than the anniversary of the date of delivery of the ship in the year 2008.

29.8.2 Pumproom / Pump Compartment

Vessels carrying volatile dangerous liquid cargoes in bulk shall:

.1 be provided with an effective pumproom constructed and outfitted to the standards required by an Administration or standards published by a recognised Classification Society;

.2 for tankers of 150 DWT or less, if such pumproom is located upon the main deck, it shall be fabricated in steel with a watertight door and ventilation, to the standards required by an Administration, standards published by a recognised Classification Society, or such other standards as the Authority may accept from time to time and it shall be erected on a cofferdam of not less than 400 mm height above the main deck;

.3 a non-structural pump module is fitted with an explosion-proof prime mover and fittings may be given special consideration.

29.8.3 Cargo Piping

.1 Bunker barges and tankers employed in the carriage of volatile or non-volatile dangerous liquid cargoes, shall have all cargo piping constructed of steel and well supported.

.2 Piping shall be inspected by the certifying authority, as follows:

(a) visual inspection;

(b) In addition, a vessel of ten years or more from the laying of its keel, or conversion to a tanker or bunker barge shall, at each docking survey, have such lengths of weather deck, cargo piping removed for internal examination as may be determined by the surveyor, but in any case not less than 2 straight lengths of piping and 2 bends except that;

(c) subject to the surveyors discretion, selected piping and bends may be tested by ultrasonic thickness gauging without dismantling;

(d) Discharge piping on the weather deck, pumproom or engine room of vessels of 15 years or more from the laying of its keel, is to be pressure tested to 150% of the piping's rated safe working pressure at each docking survey.

29.8.4 Cargo System Integrity Protection

.1 All cargo pipelines and systems shall be protected by type approved pressure-relief valves appropriate to the hazards involved.

.2 All cargo tanks shall be protected by type approved pressure/vacuum - relief valves appropriate to the hazards involved.

.3 All valves and gauges required to be fitted in paragraphs .1 and .2 of this section shall be inspected and re-calibrated at each Docking Survey by an organisation recognised by the Authority.

29.8.5 Electrical Installations

.1 All electrical equipment shall be type-approved to a recognised standard acceptable to the Authority and the installation shall be as appropriate to the hazard and class of gases involved.

.2 Electrical insulation resistance readings shall be taken by a recognised surveyor at intervals not exceeding 12 months and circuits found with low insulation resistance to be rectified to a level acceptable to the surveyor. Records of such readings shall be maintained on board and made available during inspections.

.3 All electrical wiring systems shall be type approved to a recognised standard acceptable to the Authority, as appropriate to the hazards involved.

.4 Electrical installation to be examined annually by a recognised surveyor or organisation.

29.8.6 Cargo Handling Operations - Lighting

When cargo operations are undertaken between sunset and sunrise, vessels shall be provided with fixed explosion-proof lighting that effectively illuminates:

.1 each cargo manifold;

.2 each cargo transfer operations work area;

Such lighting must be so placed or shielded such that it does not mislead or otherwise interfere with navigation in the adjacent waterways.

29.8.7 Cargo Handling Operations - Spill Avoidance

Vessels shall be fitted with the following equipment and appliances:

.1 effective means of blocking all scuppers and openings which could permit egress of a pollutant to the sea;

.2 continuous sills around the perimeter of the main deck at least 76mm in height above the sheerstrake or manifold, as appropriate;

.3 An approved loading arm for a vessel of over 500 DWT tonnes;

.4 each cargo manifold and loading arm area (i.e. that area on the vessel that is within the area traversed by the free end of the loading arm when moved from its normal stowed or idle position into a position for connection) shall have permanent cachement areas to contain oil discharge of at least the following capacities:

(a) 318 litres if the cachement serves one or more hoses of 102 mm inside diameter;

(b) 477 litres if the cachement serves one or more hoses of 152 mm inside diameter;

(c) 636 litres if the cachement serves one or more hoses 203 mm inside diameter and above;

.5 each cargo pipeline shall have fitted close to the manifold, located where it is clearly visible to an operator, a line pressure gauge which shall be inspected and re-calibrated at each Docking Survey by an organisation recognised by the Authority. Such calibration certificate is to be retained on board at all times in readiness for inspection by the Authority;

.6 all such vessels shall carry an approved Oil Record Book, properly compiled and kept at all times in readiness for inspection by the Authority.

29.8.8 Bunker Cargo Tank Calibration Tables

.1 All cargo tanks shall be calibrated by an organisation or surveyor recognised by the Authority.

.2 A copy of the tank calibration tables certified by such organisation or surveyor shall be kept readily available on board the vessel at all times.

.3 The cargo tank calibration tables shall contain the following:-

(1) name and Official/IMO number of the barge;

(2) list/trim corrections;

(3) cargo tank measurements;

(4) Reference height of every tank;

(5) name and stamp of organisation or surveyor who calibrated the tanks;

(6) date of calibration;

(7) page number on every page and;

(8) tank capacity plan of the vessel.

.4 The tank calibration tables shall be sealed and properly bound to prevent any unauthorised amendments.

.5 The vessel shall have only one latest original certified copy of the tank calibration tables for the cargo tanks available on board for purposes of quantity verification.

.6 A true certified copy of the tank calibrations with identical specifications to those in paragraphs .3 and .4 above shall be deposited with the Authority.

.7 Should there at any time be any change in the tank capacity of a vessel, the owner or operator of such vessel shall not undertake any bunker delivery until new tank calibration tables for the modified tanks are available on board and a certified copy deposited with the Authority. Such tables must comply with the requirements of paragraphs .1 to .4 above and each altered page certified.

29.8.9 Bunker Cargo Tank Sounding Pipes

Each sounding pipe of the cargo tank shall have a reference height which shall be clearly stated in the tank calibration tables and be clearly, legibly and permanently marked on or fitted onto every sounding pipe of a cargo tank.

29.8.10 Bunker Barge Cargo Ullage and Temperature Measuring Devices

.1 Such vessel shall carry at least one approved type set of portable steel gauging tape with a 150 mm weight attached to one end.

.2 Such vessel shall carry on board at least one approved type set of thermometer for manual temperature measuring of the cargo.

.3 Such vessel shall carry temperature/specific gravity/density correction tables for computing bunker supply volume.

29.8.11 Bunker Barge Plans and Diagrams

.1 The general layout plan shall be conspicuously displayed on board and a further full-size true certified copy deposited with the Authority.

.2 The tank capacity plan, piping diagram and trim and stability tables shall be available on board for inspection by any party concerned and a further full-size true certified copy deposited with the Authority.

29.8.12 Bunker Delivery Sampling Equipment

.1 As a minimum, the bunker barge master shall provide to each supplied ship not less than three one-litre samples taken from the bottom of each supplying cargo tank, consisting of at least one sample.

.2 Each sample container shall be sealed with tamper-proof seals with unique numbers and the containers shall be designed with tamper-proof caps.

29.8.13 Fender System

Tankers shall have an effective fendering system approved by the Authority, to minimise any potential damage to either the receiving or mother ship or tanker during cargo and mooring or unmooring operations.

29.8.14 Operational Safety

A bunker barge or tanker shall have readily available on board at all times, a copy of the latest editions of the OCIMF Ship to Ship Transfer Guides, OCIMF Barge Safety Book, the International Safety Guide for Oil Tankers and Terminals (ISGOTT) and the Dangerous Cargo Ships, Marine Terminals and Facilities and Bunkering Regulations, 1996.

29.8.15 Navigation Lights and Signals

In addition to the requirements stipulated in Chapter 21, Navigation Lights, Shapes and Sound Signals; vessels to which this Chapter applies shall also be provided with the lights and flags as prescribed in Dangerous Cargo Ships, Marine Terminals and Facilities and Bunkering Regulations, 1996.

29.8.16 Navigation Equipment

Vessels shall have on board equipment prescribed in regulation 63, paragraph (v) of the Dangerous Cargo Ships, Marine Terminals and Facilities and Bunkering Regulations, 1996.

29.8.17 Fire Fighting Appliances

Vessel to which this Chapter applies shall also carry or be fitted with:

.1 an approved cargo tank protection mobile foam appliance;

.2 an effective fire detection system, complete with alarm, protecting accommodation spaces, service areas, engine room and pumproom;

.3 an effective fixed Co2 or other approved system, protecting engine and pumprooms;

.4 an effective remote emergency stop control designed to shut down the flow of fuel to the cargo pumps, if applicable.

29.8.18 Additional Requirements for tankers

.1 an effective fixed Co2 or other approved system, protecting cargo tanks and tank decks;

.2 a properly maintained oil record book;

.3 additional structural, equipment, devices or fittings which may be required by the Authority, depending on the circumstances and dimensions or intended usage of the vessel.

29.9 Vessels employed in the carriage of Dangerous Goods and/or Hazardous Substances

.1 Dangerous goods and or hazardous or noxious substances to which this Chapter applies include the List of Oils set out in Appendix I to Annex I of MARPOL 73/78, the list of substances set out in appendices II and III to Annex II of MARPOL 73/78, in Chapters 17 and 18 of the IBC Code and in Chapters VI and VII of the BCH Code and Dangerous Goods List contained in the IMDG Code, as amended.

.2 Vessels employed in the carriage of goods described in any substance described in .1 above must be provided with a Certificate of Fitness/Document of Compliance, as applicable indicating the type, quantity and conditions under which such goods/substances may be carried.

.3 The Certificate of Fitness/Document of Compliance described in .2 above shall be issued by an Authorised Surveyor or a Classification Society.

.4 The certifying authority responsible for the issuance of the certificate described in .2 above shall ensure that as far as is reasonable and practicable vessels shall comply with the relevant Articles of SOLAS 74, MARPOL 73/78 and IMO Codes as described in Part 2 Annex 3 of SOLAS Consolidated 1 Edition, 1997 as amended.

.5 The Authority may prescribe, where considered appropriate additional requirements and/or limitations.

30 PASSENGER VESSELS

No vessel to which the Code applies shall carry more than the number of passengers for which the vessel is certified on a voyage or excursion.

30.1 Definitions

"Passenger" means any person carried on a vessel except:

(a) The Master and the members of the crew or other person employed or engaged in any capacity on board a vessel on the business thereof;

(b) A person on board the vessel either in pursuance of the obligation laid upon the master to carry shipwrecked, distressed or other persons, or by reason of any circumstances that neither the master nor the owner nor the charterer could have prevented;

(c) A child under one year of age

"a person employed or engaged in any capacity on board the vessel on the business of the vessel" may reasonably include:

.1 Bona-fide members of the crew over the age of 16 who are properly employed on the operation of the vessel;

.2 Person(s) employed by the owner in connection with business interests and providing a service available to all passengers;

.3 Person(s) employed by the owner in relation to social activities on board and providing a service available to all passengers.

The above persons engaged on the business of the vessel should be considered as crew and therefore included in crewlists.

30.2 Passenger Vessels

.1 The construction and maintenance of hull, main and auxiliary machinery, electrical and automatic plants shall comply with the standards specified for classification by the rules of a recognised organisation or equivalent rules used by an Administration.

.2 Passenger vessels shall also comply with the requirements of the 1974 SOLAS Convention as amended and the 1966 International Convention on Load Lines as amended.

.3 Passenger vessels may be exempted from certain provisions required by .1 and .2 above after taking into consideration the specific local operational conditions (such as restricted trip duration, area of operation, restricted year period).

.4 In addition to the requirements prescribed in .1, .2 and .3 above, passenger vessels which are certified to carry more than 12 passengers, shall comply with the provisions of Directive 2009/45/EC of the European Parliament and of the Council of 6 May 2009 on safety rules and standards for passenger ships, as amended.

.5 In any case the minimum safety standards shall not be less than those prescribed in this Code.

30.3 Passenger Ro-Ro Ferries

.1 In addition to the requirements prescribed in 30.2 companies operating a ro-ro passenger ferry on a regular service shall comply with the requirements of Chapter 34.

30.4 High Speed Craft (HSC)

In addition to the applicable requirements prescribed in 30.2 and 30.3 an HSC shall be provided with:

.1 A valid High-Speed Craft Safety Certificate (SOLAS 1974 reg. X/3; HSC Code paragraph 1.8) issued by the Administration.

.2 A permit to operate High Speed Craft issued by the Authority.

.3 Masters and all officers having an operational role serving on HSC should hold a valid Type Rating Certificate (TRC) as prescribed in the HSC Code paragraph 18.3.3.

30.5 Safety Requirements for Persons with Reduced Mobility on Passenger Ships used for Public Transport

.1 Passenger vessels and all high speed passenger craft, used for public transport, the keel of which was laid or which were at a similar stage of construction on or after 1 October 2004 which have to comply with Directive 2009/45/EC of the European Parliament and of the Council of 6 May 2009 on safety rules and standards for passenger ships, as amended, shall comply with safety requirements for persons with reduced mobility as established therein.

.2 Existing passenger vessels and existing high speed craft used for public transport shall, in addition to compliance with the requirements prescribed in 30.2, 30.3 and 30.4, comply with the requirements prescribed in Directive 2009/45/EC of the European Parliament and of the Council, as amended, and implement modifications as far as reasonable and practical in economic terms.

30.6 Requirements for commercial vessels employed as Water Taxi

.1 A Water Taxi is a commercial vessel operated in terms of the Water Taxi Services Regulations 2009.

.2 A Water Taxi shall be designed and built for purpose to an approved standard and/or recommendations of a Recognised Organisation.

.3 A Water Taxi shall have a maximum capacity of 13 persons (1 crew and 12 passengers).

.4 The design features of a Water Taxi shall include:

(a) Capability to operate at speeds from 0-40 knots;
(b) As a minimum, engines should comply with Stage III A emission standard as per EU Directive 2004/26/EC;
(c) Low draft and excellent manoeuvrability so as to be able to berth at landing places efficiently and without risk of damage;
(d) One person (single handed) operation;
(e) Comfortable seating atwarthships;
(f) Adequately space for luggage and personal items carried by passengers;
(g) Rugged and stable so as to be suitable for all weather conditions;
(h) Protection from sun and rain;
(i) Protection from the ingress of water;
(j) Able to cater for persons with reduced mobility.

.5 A Water Taxi shall have a hull and superstructure in white or yellow and the word TAXI written in BLACK on both sides and at the top, and shall be immediately recognisable.

31 SURVEY, CERTIFICATION, INSPECTION AND MAINTENANCE

31.1 General

31.1.1 All vessels covered by this Code will have to be surveyed and certified in accordance with standards and requirements set by the Code. Annex 1 lists of certificates to be issued.

The Authority may prescribe additional requirements for certification.

31.1.2 Survey and certification can be carried out only by Classification Societies recognised by the Administration and by authorised surveyors in terms of the Merchant Shipping Act or persons authorised by the Authority.

31.1.3 Requests for survey and certification must be made to the Authority, the appropriate Classification Society, Authorised Surveyor or other Certifying Authority as appropriate.

31.2 Initial Survey

31.2.1 General

31.2.1.1 A request for survey/examination and certification should be made by the owner direct to the Authority or a recognised Classification Society or an Authorised Surveyor.

31.2.1.2 In the case of a commercial vessel located outside Malta and for which survey and certification is required, a Classification Society Surveyor may be appointed to undertake the day-to-day surveys required and to act as a focal point between the shipbuilders/shiprepairers and the certifying authority.

31.2.1.3 Fees for the surveys conducted by surveyors of the Administration and other authorised organisations will be recovered directly from the owner by the Administration/organisations at the prevailing rates.

31.2.2 International Load Line Certificate or Assignment of Freeboard Certificate

31.2.2.1 When a vessel intended for commercial use is either in class or under survey to be classed with a Classification Society which is recognised by the Administration as an assigning authority for the load line rules, that Classification Society will be authorised to do the survey and the issue of the International Load Line Certificate (1966) or an Assignment of Freeboard Certificate.

31.2.2.2 In any other case, the owner will appoint a Classification Society or an Authorised Surveyor to issue an International Load Line Certificate or an Assignment of Freeboard Certificate.

31.2.2.3 Stability information for commercial vessels shall be approved by a certifying authority on freeboard marking.

31.2.2.4 Exemption from the requirements of the Code for load line marking, conditions of assignment and protection of the crew should not be envisaged.

31.2.3 Commercial Vessel Certificate (All Vessels)

The Authority will issue a Commercial Vessel Certificate certifying that the vessel complies with the provisions of the Code. (The form of the Certificate is in Annex 2).

A certificate should be valid for not more than 5 years from the date of examination/survey of the vessel out of the water by a recognised organisation or person.

A certificate shall be subject to an annual endorsement provided the vessel satisfies the annual examination/survey requirements prescribed in 31.4.

31.2.4 Passenger Ship Safety Certificate

Where applicable a Passenger Ship Safety Certificate shall be issued in lieu of a Commercial Vessel Certificate as prescribed in 31.2.3.

Vessels of 24 metres in length and over of steel hull or other equivalent material shall be surveyed and issued with either a Passenger Ship Safety Certificate in terms of Directive 2009/45/EC of the European Parliament and of the Council, as amended, or an International Passenger Ship Safety Certificate in terms of the SOLAS Convention.

31.2.5 Cargo Ship Safety Construction Certificate (Vessels of 50 metres in length and over or 500 GT and over)

The Classification Societies will survey ships and issue Cargo Ship Safety Construction Certificates.

31.2.6 Cargo Ship Safety Equipment Certificate (Vessels of 50 metres in length and over or 500 GT and over)

Surveys of safety equipment on vessels may be carried out by a person appointed by the Authority or an appropriate Classification Society.

31.2.7 Cargo Ship Safety Radio Certificate (Vessels of 300 GT and over)

The survey of radio equipment in accordance with the issue of a Cargo Ship Radio Certificate will be undertaken by a surveyor appointed by an appropriate certifying authority in relation to radio installations for cargo ships.

Vessels which do not require a Cargo Ship Radio Certificate shall comply with the requirements of the Wireless Telegraphy Ordinance (Cap 49).

31.2.8 Oil Pollution Prevention Certificate (Tankers of 150 GT and over and Vessels of 400 GT and over)

The survey for issue of the initial Oil Pollution Prevention Certificate will be undertaken by authorised surveyors.

31.2.9 Tonnage Certificate (Vessels to which the Code applies)

.1 The Administration, a recognised Classification Society or an Authorised Surveyor may undertake all surveys for the issue of a Tonnage Certificate.

.2 Vessels under 24.0 metres in length shall be issued with a Certificate of Survey (Tonnage Measurement).

31.2.10 Crew Accommodation

The approval of crew accommodation will be undertaken by the certifying authority in compliance with the standards defined in Chapter 25. If no certificate is required compliance will be notified by letter. Any request for exemption from a specified standard should be made to the Authority for a decision.

31.2.11 Minimum Safe Manning Document (Vessels to which the Code applies)

A minimum safe manning document should be kept on board the vessel at all times. The Authority will issue the minimum safe manning document.

31.2.12 Exemption from certain regulations

If an owner seeks an exemption from the application of specific safety regulation(s) formal application must be made to the Authority. The Authority will issue an exemption if and when appropriate.

31.3 Periodical Surveys/Examinations

31.3.1 International Load Line Certificate or Assignment of Freeboard Certificate, Cargo Ship Safety Construction Certificate and Commercial Vessel Certificate (Valid for 5 years in general)

Annual, intermediate and renewal surveys with respect to the International Load Line Certificates or Assignment of Freeboard Certificates, the Cargo Ship Safety Construction Certificates and the Commercial Vessel Certificates should be carried out to the satisfaction of the certifying authority.

No extension is permitted to the five-year period of validity of these certificates.

31.3.2 Cargo Ship Safety Equipment and Safety Radio Certificates, and Passenger Ship Safety Certificate (valid for 2 years and 1 year respectively)

31.3.2.1 Cargo Ship Safety Equipment Certificate, Safety Radio Certificate and Passenger Ship Safety Certificate annual and renewal surveys should be carried out either by the Administration or by a Classification Society Surveyor appointed by the Administration to act on its behalf, or by an appropriate certifying authority in relation to radio installations for cargo ships.

31.3.2.2 An application for an extension to the certificate shall be agreed only in cases when it appears proper and reasonable to do so.

31.3.2.3 At least once during a five-year period, a surveyor appointed by the Authority will visit the ship to survey its safety equipment and to conduct a general inspection to ensure that standards are being met.

31.4 Annual Examination/Survey

31.4.1 The owner should arrange for an annual examination/survey of a vessel to be carried out by an authorised person.

For the purpose of endorsing a Commercial Vessel Certificate following the prescribed annual examination/survey, the owner shall arrange for a survey to be conducted within

the period which is not to exceed thirty (30) days either side of the anniversary date related to the validity date prescribed in the Commercial Vessel Certificate. The annual survey within this prescribed time frame shall include an out of the water inspection as prescribed in .1, .2 and .3 below, as applicable.

The hull of a vessel should be examined out of the water as follows:

.1 Timber at intervals not exceeding 12 months;

.2 GRP at intervals not exceeding 24 months;

.3 Aluminium alloys or steel at intervals not exceeding 36 months; except that Passenger Vessels over 20 years shall be subject to an examination out of the water at intervals not exceeding 24 months.

On satisfactory completion of the annual examination/survey, the authorised person should enter details of the examination on the report form(s) and report the results of the examination to the certifying authority.

A vessel which has been accepted for single-handed operations should have its certificate endorsed "SUITABLE FOR SINGLE HANDED OPERATIONS". Such vessels will not be issued with a Minimum Safe Manning Document.

A vessel will not operate single handed if its certificate is not endorsed.

31.4.2 The authorised person carrying out the examination/survey should satisfy himself that:

.1 The form of construction, machinery installation and safety equipment is consistent with the standards specified in the Code.

.2 The vessel is in all respects satisfactory for the service for which it is intended, having regard to the period for which the Commercial Vessel Certificate is to be issued.

.3 Propeller shaft(s) (other than shaft(s) running in oil) should be drawn for examination at the initial survey and, thereafter, at intervals not exceeding 5 years.

Propeller shafts running in oil should be withdrawn for examination at intervals not exceeding 10 years, provided that an intermediate examination shows that wear has been insignificant.

.4 All observations, including survey repairs replacements or modifications are to be recorded in the survey report.

31.5 Procedure if a vessel, its machinery or safety equipment is deficient

31.5.1 When an authorised person determines that the condition of a commercial vessel, its machinery or equipment does not correspond substantially with the requirements of the Code or is such that the vessel is not fit for service, he should advise the Authority in writing, the master and the owner of the vessel of the corrective action required.

The Authority will suspend the validity of the certificate for the vessel. The master or owner shall deliver the certificate and certified copies to the Authority.

When satisfied that corrective action has been taken, the authorised person should inform the Authority in writing. The Authority shall restore the validity of the certificate and return the certificate and certified copies to the master or owner as appropriate.

31.6 Maintaining and Operating the Vessel

31.6.1 The Authority may examine a certified vessel at any time.

31.6.2 It is the responsibility of the owner to ensure that at all times a vessel is maintained and operated in accordance with the requirements of the Code, the arrangements as documented in the report form(s) and any conditions stated on the vessel's certificate.

If for any reason the vessel does not continue to comply with any of these requirements, the owner should notify the Authority immediately.

31.6.3 If a vessel suffers a collision, grounding, fire or other event which causes damage, the owner should notify the Authority immediately.

In addition the owner must comply with statutory requirements to report accidents. (See 31.8)

The nature and extent of repairs should be subject to the approval of the certifying authority. The owner should seek approval from the certifying authority prior to implementing any change or modification which is covered by the requirements of the Code.

31.7 Validity and Cancellation of Certificates

31.7.1 The validity of a certificate issued under the Code is dependent upon a vessel being maintained, equipped and operated in accordance with the documented arrangements contained in the appropriate report form(s). Proposals to change any of the arrangements should therefore be agreed in writing with the certifying authority before a change is implemented.

Copies of the written agreement detailing change(s) should be appended to the report form(s), which should be retained on board the vessel.

31.7.2 When a vessel is found not to have been maintained or equipped or operated in accordance with the arrangements documented in the appropriate report form(s), the certificate may be cancelled by the certifying authority which issued the certificate.

31.7.3 When a vessel is sold, the certificate issued by the certifying authority is cancelled automatically and the selling owner should return the certificate to the certifying authority for formal cancellation and records. A new certificate may be issued to the new owner on receipt by the certifying authority of the appropriate application form completed by the new owner. The certifying authority should decide the extent of any examination, if any, of the vessel which may be required before a new certificate is issued.

When a vessel has had its certificate cancelled, the certifying authority should report the circumstances to the Authority for action to be taken as deemed necessary.

31.8 Accident Investigations

The Administration with which the vessel is registered may carry out inquiries and investigations as to shipping casualties as prescribed in Part VII of the Merchant Shipping Act (Cap 234).

The master or owner of a commercial vessel involved in an incident involving injury or loss of life to persons on board or elsewhere, collision with other vessel or property,

damage to or loss of the vessel, damage to or loss of other craft, or damage to the marine environment or other property, shall immediately provide a verbal report of such incident to the Authority and within 24 hours a written report.

In the case of such an incident, the Authority may inspect the commercial vessel and suspend or revoke the licence.

Without prejudice to any other regulation:

.1 Where an incident which has been reported or observed is deemed by the Authority to be a significant accident or dangerous occurrence, the Authority may appoint a person(s) to carry out an inquiry to establish the circumstances and possible cause of the accident or dangerous occurrence.

.2 The master and owner of the vessel shall assist the person(s) making the inquiry in all aspects relevant to the inquiry.

.3 Upon conclusion of the inquiry, the person(s) appointed shall submit a report on his/their findings to the Authority.

32 PREVENTION OF MARINE POLLUTION

32.1 Vessels should comply with the requirements of MARPOL according to the regulations of the Administration.

32.2 In addition to 32.1 a vessel complying with the Code should meet international, national, regional and local requirements for the prevention of marine pollution which are applicable to the area in which the vessel is operating.

32.3 Responsibility for the vessel to be properly equipped and maintained to meet the requirements prevailing rests with the owner.

32.4 It is also the responsibility of the owner to ensure that the master receives up-to-date and adequate information on prevention of pollution in the area in which the vessel is to operate.

32.5 Requirements for preventing pollution of the sea

Sewage

When the direct overboard discharge of sewage is prohibited by administrations/authorities in the area of operation, the provision of "holding tanks" of sufficient capacity to store waste for discharge to shore facilities may be needed for a vessel to comply.

Garbage

The disposal of garbage into the sea is prohibited. Arrangements for the retention of garbage on board and for discharge to shore reception facilities should be provided. Arrangements should be varied as necessary to comply with special requirements which may be applied by administrations/authorities in the area in which a vessel operates.

.1 Every vessel of 12m or more in length overall should display placards which notify the crew and passengers of the disposal of garbage. Such placards shall be written in the Maltese, English and the working language of the crew.

.2 Every vessel of 400 GT and above and every vessel which is certified to carry 15 persons or more, shall carry a garbage management plan which the crew shall follow. The plan shall provide written procedures for collecting, storing, processing and disposing of garbage, including the use of equipment on board. It shall also designate the person in charge of carrying out the plan.

.3 The master shall maintain a record of garbage transferred ashore. Where a licensed receiver is used a receipt is to be issued. Such receipts must be kept on board the vessel for 12 months.

Oil

All vessels to which this Code applies shall prior and during cargo and bunkering operations, comply with the applicable requirements of the Dangerous Cargo Ships, Marine Terminals and Facilities and Bunkering Regulations, 1996 and any subsequent supplements and amendments.

Seals affixed by the Authority to certain overboard discharge valves, including machinery space bilges, sludge, slop or oily-water holding tank overboard valves, must be maintained in place and intact.

If for any reason they have to be removed or have been accidentally damaged, the Master of the vessel shall immediately inform the Authority giving the reason for such occurrence.

Means to prevent pollution by oil should be acceptable to administrations/authorities in the area in which a vessel operates.

32.6 Shipboard oil pollution emergency plan

All vessels should, where considered appropriate, have on board a shipboard oil and where applicable chemical pollution emergency plan. Plans are to be submitted to the Authority for approval.

The plan shall include crew training. Drills are to be carried out frequently to ensure the effectiveness of the plan. Records of drills are to be maintained in the vessel's logbook.

33 VESSELS' PLANS, SIGNS, INSTRUCTION MANUALS, NAME PLATES, LANGUAGE USED AND RECORD KEEPING

33.1 On board all vessels, name plates, signs, notices, plans and documents relating to the safety and operation of the vessel and its machinery and equipment should be drawn up in the official language of the flag state and in a language understood by the crew.

33.2 Vessels propelled by mechanical means should carry adequate information including drawings, plans and instruction manuals necessary for their safe operation and safety of life at sea.

33.3 The owner or master of the vessel shall be responsible for compliance with these provisions.

33.4 The owner or master of the vessel shall be responsible for ensuring that records are maintained on board to the satisfaction of the Authority.

33.5 The records described in 33.4 shall include records on the routine operation of the vessel, drills, inspections and waste disposal.

34 ISM CODE

34.1 Compliance with the ISM Code shall be as prescribed in Regulation (EC) No 336/2006 of the European Parliament and of the Council of 15 February 2006 on the implementation of the International Safety Management Code within the Community and repealing Council Regulation (EC) No 3051/95. This regulation shall apply to the following types of ships and to companies operating them:

.1 Ro-ro passenger ferries operating on a regular service;

.2 Passenger vessels, which are certified to carry more than 12 passengers and which are engaged exclusively on domestic voyages operating beyond sea areas of Class C and D as defined in Article 4 of Directive 2009/45/EC of the European Parliament and of the Council of 6 May 2009, as amended; and

.3 Cargo ships of 500gt and over and which are engaged exclusively on domestic voyages.

CERTIFICATION	SUBJECT AND CONVENTION	SURVEY AND CERTIFICATES TASKED TO	LIMITS	DETAIL & REMARKS
Tonnage Certificate	Tonnage ITC 1969	Certifying Authority	≥ 24 metres	
Certificate of Survey (Tonnage Measurement)	Tonnage ITC 1969	Certifying Authority	< 24 metres	
International Load Line Certificate or Assignment of Freeboard Certificate	Load line ILLC 66	Certifying Authority	All	Intact Stability & Subdivision Standard
Cargo Ship Safety Construction Certificate	Construction SOLAS 74	Certifying Authority	≥ 50 metres ≥ 500 GT	Construction
	Fire Protection SOLAS 74	Certifying Authority	≥ 50 metres ≥ 500 GT	Structural Fire Protection & Means of Escape
Cargo Ship Safety Equipment Certificate	Fire Appliances SOLAS 74	Certifying Authority	≥ 50 metres ≥ 500 GT	Fire Appliances
	Life-Saving Appliances SOLAS 74	Certifying Authority	≥ 50 metres ≥ 500 GT	Life-Saving Appliances
	Navigation Equipment	Certifying Authority	≥ 50 metres ≥ 500 GT	Navigation lights, sounds, signals etc.
Passenger Ship Safety Certificate	SOLAS	Certifying Authority	≥ 50 metres ≥ 400 GT	
High-Speed Craft Safety Certificate	SOLAS HSC Code	Certifying Authority	All	
Cargo Ship Safety Radio Certificate	Radio SOLAS 74	Certifying Authority	All	
Oil Pollution Prevention Certificate	Pollution MARPOL	Certifying Authority	Oil Tankers ≥ 150 GT Other Vessels ≥ 400 GT	
Minimum Safe Manning Document	Manning STCW/SOLAS	Authority for Transport in Malta – Ports and Yachting Directorate	All	
Exemption Certificate	Various	Authority for Transport in Malta – Ports and Yachting Directorate	All	Covers exemption from the regulations relative to the subject
Certificate of Survey & Survey Report	Various	Certifying Authority	< 50 metres < 500 GT	Covers aspects surveyed under the Code for which other certificates are not required
Commercial Vessel Certificate	Commercial Vessels Regulations	Authority for Transport in Malta– Ports and Yachting Directorate	All vessels to which the Code applies	Defines the terms and conditions under which vessel is permitted to operate

MALTA MARITIME AUTHORITY

COMMERCIAL VESSEL CERTIFICATE

Commercial Vessels Regulations, 2002

Cert. No. .....

Reference No:
Name of Vessel: Reg./Off. No:
Port of Registry: Gross Tonnage:
Name Address of Registered Owner:

Length Overall: Engine Type & Power:
Year of Build: Type of Vessel:
Hull Type: Hull Identification No.:
Length:

Maximum No. of Persons to be carried (including crew):

Area of Operation	Mode	Season	No. of Passengers

This is to certify that the above named vessel was examined under the direction of the Authority for Transport in Malta by:

(Surveyor) at: on:

and found to be in accordance with the requirements of the Code of Practice for the Safety of Commercial Vessels published by the Authority for Transport in Malta.

This Certificate will remain valid until **.....** subject to the vessel, its machinery and equipment being efficiently maintained, annual examinations and manning complying with the prescribed Regulations and Code of Practice and to the following conditions:

Issued on: for and on behalf of the Authority for Transport in Malta

Signature: .....

Name: .....

(STAMP)

``**NOTE:** This certificate does not exempt holder from the provisions of any Laws or Regulations in force.

Endorsement for Annual Surveys

This is to certify that an annual survey required by Chapter 31 of the Code was conducted and that this vessel was found to comply with the relevant requirements of the Code.

Name of Surveyor: .....

Place of Survey: .....

Endorsed by: .....
for and on behalf of the Authority

Date: Stamp:

Name of Surveyor: .....

Place of Survey: .....

Endorsed by: .....
for and on behalf of the Authority

Date: Stamp:

Name of Surveyor: .....

Place of Survey: .....

Endorsed by: .....
for and on behalf of the Authority

Date: Stamp:

Name of Surveyor: .....

Place of Survey: .....

Endorsed by: .....
for and on behalf of the Authority

Date: Stamp:

Annex 3

VESSELS WITH PASSENGERS ON BOARD – SAFETY BRIEFING

1 Before the commencement of any voyage the master should ensure that all persons on board are briefed on the stowage and use of personal safety equipment such as life jackets and lifebuoys, and the procedures to be followed in cases of emergency.

2 In addition to the requirements of 1 above, the master should brief at least one other person who will be sailing on the voyage regarding the following:-

.1 Location of liferafts and the method of launching;

.2 Procedures for the recovery of a person from the sea;

.3 Location and use of pyrotechnics;

.4 Procedures and operation of radios carried on board;

.5 Location of navigation and other light switches;

.6 Location and use of firefighting equipment;

.7 Method of starting, stopping and controlling the main engine; and

.8 Method of navigating to a suitable port of refuge.

Safety cards will be considered to be an acceptable way of providing the above information.

Annex 4

OPEN FLAME GAS INSTALLATIONS (see Chapter 17)

1 General Information

1.1 Possible dangers arising from the use of liquid petroleum gas (LPG) open flame appliances in the marine environment include fire, explosion and asphyxiation due to leakage of gas from the installation.

1.2 Consequently, the siting of gas-consuming appliances and storage containers and the provision of adequate ventilation to spaces containing them is most important.

1.3 It is dangerous to sleep in spaces where gas-consuming open-flame appliances are left burning, because of the risk of carbon monoxide poisoning.

1.4 LPG is heavier than air and, if released, may travel some distance whilst seeking the lowest part of a space. Therefore, it is possible for gas to accumulate in relatively inaccessible areas, such as bilges, and diffuse to form an explosive mixture with air, as in the case of petrol vapour.

1.5 A frequent cause of accidents involving LPG installations is the use of unsuitable fittings and improvised “temporary” repairs.

2 Stowage of Gas Containers

2.1 Gas containers should be stowed on the open deck or in a gas-tight enclosure (fitted with a drain) opening on to the deck, so that any gas, which may leak, can disperse overboard.

2.2 Stowage should be such that containers are positively secured against movement in any foreseeable event.

2.3 In multiple container installations, a non-return valve should be placed in the supply line near to the stop valve on each container. If a changeover device is used, it should be provided with non-return valves to isolate any depleted container.

2.4 When more than one container can supply a system, the system should not be used with a container removed.

2.5 Containers not in use or not being fitted into an installation should have a protecting cap in place over the container valve.

3 Fittings and Pipework

3.1 Solid drawn copper alloy or stainless steel tubes with appropriate compression or screwed fittings are recommended for general use for pipework in LPG installations.

3.2 Aluminium or steel tubing or any materials having a low melting point, such as rubber or plastic, should not be used.

3.3 Lengths of flexible piping (if required for flexible connections) should be kept as short as possible and be protected from inadvertent damage. Also, the piping should conform to an appropriate standard.

4 Open-Flame Heaters and Gas Refrigerators

4.1 Such appliances should be well secured so as to avoid movement and, preferably, be of a type where the gas flames are isolated in a totally enclosed shield where the air supply and combustion gas outlets are piped to open air.

4.2 In refrigerators in which the burners are fitted with flame arrestor gauzes, shielding of the flame may be an optional feature.

4.3 Refrigerators should be fitted with a flame failure device.

4.4 An open-flame gas refrigerator should not be fitted in a petrol-engined vessel.

4.5 Flueless heaters should be selected only if fitted with atmosphere-sensitive cut-off devices to shut off the gas supply at a carbon dioxide concentration of not more than 1.5 per cent by volume.

4.6 Heaters of a catalytic type should not be used.

4.7 On petrol-engined vessels, the flames of open-flame appliances should be extinguished whilst fuelling.

5 Flame Failure Devices

A gas-consuming device should be fitted, where practicable, with an automatic gas shut-off device, which operates in the event of flame failure.

6 Gas Detection

6.1 Suitable means for detecting the leakage of gas should be provided in a compartment containing a gas-consuming appliance or in any adjoining space or compartment into which the gas (more dense than air) may seep. Gas detecting equipment should be of an approved standard.

6.2 Gas detectors should be securely fixed in the lower part of the compartment in the vicinity of the gas-consuming appliance and other space(s) into which gas may seep.

6.3 A gas detector should be suitable for use in a marine environment and, preferably, be of a type which will be actuated promptly and automatically by the presence of a gas concentration in air of not greater than 0.5 per cent (representing approximately 25 per cent of the lower explosive limit) and should incorporate an audible and a visible alarm.

6.4 When electrical detection equipment is fitted, it should be certified in accordance with BS EN 50057 – Electrical apparatus for the detection and measurement of combustible gasses or BS EN 28846 – Electrical devices – Protection against ignition of surrounding flammable gases (i.e. ignition protected for the gas being used) or a recognised equivalent standard.

6.5 In all cases, the arrangements should be such that the detection system can be tested frequently whilst the vessel is in service.

7 Emergency Action

7.1 Given the need to be ever alert for gas leakage, a suitable notice should be displayed prominently in the vessel which details the action to be taken when a gas alarm occurs or a gas leak is suspected.

7.2 The information given should include the following:-

.1 All gas-consuming appliances should be shut off at the main supply from the container(s);

.2 NO SMOKING should be permitted until it is safe to do so; and

.3 NAKED LIGHTS SHOULD NEVER BE USED AS A MEANS OF LOCATING GAS LEAKS.

Annex 5

TRAINING and CERTIFICATION

Minimum Qualifications for Persons serving on Commercial Vessels operating within ports, internal and territorial waters of Malta

1.0 Introduction

1.1 The document gives guidance regarding the application of the Commercial Vessels Regulations, 2002 and provides details of the certification system devised for personnel serving on board commercial vessels operating within ports, internal and territorial waters of Malta.

1.2 The qualification system described below is intended to:

- enable personnel serving on board commercial vessels to obtain a certificate of competency in order that they may be able to continue with their current employment;
- provide a system of certification for new entrants wishing to serve on these vessels;
- where the full requirements relating to a certificate of competency are not considered practical or relevant such certificates may have operational limits than those prescribed and should have the word 'restricted' marked on them.

1.3 No person shall be permitted to serve on board a commercial vessel as master or crew member unless such a person is deemed to be suitably qualified.

1.4 Acceptable qualifications shall be those issued under the Commercial Vessels Regulations, 2002 or equivalent or higher certificates of competency and/or service issued under the Merchant Shipping (Training and Certification) Regulations 2001 or such other qualifications as may be recognised by the Authority for Transport in Malta.

1.5 Any person who hires or charters a vessel for personal use from a licensed operator need not have the qualifications as outlined in regulation 1.4 above. Such licensed operators must, prior to rental or chartering:

- provide to the hirer sufficient information about the operational characteristics of the vessel and its equipment to be hired or chartered;
- provide information on the boating safety instructions in compliance with existing regulations;
- provide information on the boating regulations peculiar to the area of rental or chartering;
- explain the common courtesies of operating a vessel and the effect on the environment and other water users; and
- ensure that the hirer is competent to operate the vessel hired or chartered.

1.6 Certificates of Competency issued under the Commercial Vessels Regulations, 2002 shall carry the endorsement *"valid for commercial vessels operating solely in territorial waters".*

2.0 Certificate Structure

2.1 The certificates of competency to be issued under this system, as detailed below, will be limited to service on commercial vessels operating between ports in and within the territorial waters of Malta.

- **General Purpose Hand**
  Person who assists the master and engineer as a general hand in the working of the vessel.

- **Boatman**
  A dual qualification to act as master and/or engineer of vessels less than 10 metres capable of carrying 12 passengers or less.

- **Boatmaster Grade 2**
  A dual qualification to act as master and/or engineer of vessels less than 12 metres in length and with engines up to 250 kW.

- **Boatmaster Grade 1**
  Master of vessels less than 24 metres in length.

- **Mate**
  Bridge Watchkeeper and Deputy Master.

- **Master**
  Master of vessels of 24 metres in length and over.

- **Engine Driver Grade 3**
  Engineer of vessels with propulsion machinery of maximum continuous power of less than 500 kW.

- **Engine Driver Grade 2**
  Engineer of vessels with propulsion machinery of maximum continuous power of less than 750 kW.

- **Engine Driver Grade 1**
  Engineer of vessels with propulsion machinery of maximum continuous power of less than 1500 kW.

- **Engineer**
  Chief Engineer of vessels with propulsion machinery of continuous power of 1500 kW and over.

2.2 Each certificate issued is to contain details of the capacities and limitations applicable.

3.0 Additional requirements for personnel serving on Tankers and Bunker Barges of 24 metres in length and over

3.1. The terms “bunker barge” and “tanker” shall have the same meaning as assigned to it in the Dangerous Cargo Ships, Marine Terminals and Facilities and Bunkering Regulations, 1996.

3.2 Tankers and Bunker Barges will require any officer serving as master, mate, engine driver or engineer to have:

3.2.1 Attended an approved Advanced Fire Fighting course;

3.2.2 Completed an approved tanker familiarisation course; and either

3.2.3 Have not less than three months service in vessels carrying the dangerous goods concerned and be familiar with safe operational practices; or

3.2.4 Completed 14 days shipboard training on the vessel in a supernumerary capacity.

3.3 Additional requirements for Masters

3.4 In addition to the requirements of 3.0 above, masters who wish to serve on Tankers and Bunker Barges must satisfy the following criteria:

3.4.1 Perform at least 16 port moves as follows:

(a) 6 outbound and 6 inbound trips including 4 in darkness; and
(b) 4 shifts from one berth to another, including 1 in darkness.

These moves are to be performed either:

(i) as master and employing a licensed pilot; or
(ii) assisting an authorised master.

All moves are to be equally distributed between the ports of Valletta and Marsaxlokk and are to be recorded in the appropriate Log Sheet as per Annex 7.

3.4.2 Attend a familiarisation visit to the Traffic Management Unit (TMU) and Vessel Traffic Service (VTS).

3.4.3 Upon satisfying 3.4.1 and 3.4.2 above, masters have to sit for an oral examination in local knowledge in the subjects as determined from time to time by the Authority.

3.5 A person may be exempt from any, or all of the additional criteria listed 3.4.1 to 3.4.3 above if:

3.5.1 holds a Commercial Vessel Master Certificate of Competency issued in accordance with the Commercial Vessels Regulations, and can prove appropriate experience on other vessels trading within Maltese ports and territorial waters; or

3.5.2 can prove regular and continuous service as master on a bunker barge or a tanker during the twelve months preceding the application date.

3.6 A person who at the time of the issue of this notice is already authorised and serving as master on a bunker barge or a tanker will upon application be issued with an authorisation in accordance with the condition as stipulated in this notice.

3.7 On successful completion of all the requirements of 3.4.3 above, masters will be issued with an Authorisation, which shall remain valid for a period of 5 years.

3.8 Authorisation will be renewed as long as the Master has served on a bunker barge or a tanker for at least 12 months within the validity period. Failure to comply will automatically invalidate the authorisation.

4.0 Additional requirements for personnel serving on board RO-RO Passenger Vessels

4.1 The following requirements shall apply to Masters, officers and other personnel serving on ro-ro passenger vessels:

4.2 Prior to being assigned shipboard duties on board ro-ro passenger vessels all personnel shall have completed the training required by Sections 4.4 to 4.8 in accordance with their capacity, duties and responsibilities.

4.3 Personnel who are required to be trained in accordance with 4.4, 4.7 and 4.8 shall, at intervals not exceeding five years, undertake appropriate refresher training.

4.4 Crowd management training

Personnel designated on muster lists to assist passengers in emergency situations on board ro-ro passenger vessels shall have completed crowd management training as specified in section A-V/2, paragraph 1 of the STCW Code.

4.5 Familiarisation training

Masters, officers and other personnel assigned specific duties and responsibilities on board ro-ro passenger ships shall have completed familiarisation training as specified in section A-V/2, paragraph 2 of the STCW Code.

4.6 Safety Training for personnel providing direct service to passengers in passenger spaces

Personnel providing direct service to passengers in passenger spaces on board ro-ro passenger vessels shall have completed the safety training specified in section A-V/2, paragraph 3 of the STCW Code.

4.7 Passenger safety, cargo safety and hull integrity training

Masters, officers and other personnel assigned immediate responsibility for embarking and disembarking passengers, loading, discharging or securing cargo, or closing hull openings on board ro-ro passenger ships shall have completed approved training in passenger safety, cargo safety and hull integrity as specified in section A-V/2, paragraph 4 of the STCW Code.

4.8 Crisis management and human behaviour training

Masters, officers and other personnel having responsibility for the safety of passengers in emergency situations shall have completed approved training in crisis management and human behaviour as specified in section A-V/2, paragraph 5 of the STCW Code.

5.0 Additional requirements for personnel serving on Passenger Vessels of 24 metres in length and over other than RO-RO Vessels

5.1 The following requirements shall apply to Masters, officers and other personnel serving on passenger vessels of 24 metres in length and over other then ro-ro passenger vessels:

5.2 Prior to being assigned shipboard duties on board passenger vessels all personnel shall have completed the training required by Sections 5.4 to 5.8 in accordance with their capacity, duties and responsibilities.

5.3 Personnel who are required to be trained in accordance with 5.4, 5.7 and 5.8 shall, at intervals not exceeding five years, undertake appropriate refresher training.

5.4 Crowd management training

Personnel designated on muster lists to assist passengers in emergency situations on board passenger vessels shall have completed crowd management training as specified in section A-V/3, paragraph 1 of the STCW Code.

5.5 Familiarisation training

Masters, officers and other personnel assigned specific duties and responsibilities on board passenger ships shall have completed familiarisation training as specified in section A-V/3, paragraph 2 of the STCW Code.

5.6 Safety Training for personnel providing direct service to passengers in passenger spaces

Personnel providing direct service to passengers in passenger spaces on board ro-ro passenger vessels shall have completed the safety training specified in section A-V/3, paragraph 3 of the STCW Code.

5.7 Passenger safety

Masters, officers and other personnel assigned immediate responsibility for embarking and disembarking passengers, loading, discharging or securing cargo, or closing hull openings on board passenger vessels shall have completed approved training in passenger safety as specified in section A-V/3, paragraph 4 of the STCW Code.

5.8 Crisis management and human behaviour training

Masters, officers and other personnel having responsibility for the safety of passengers in emergency situations shall have completed approved training in crisis management and human behaviour as specified in section A-V/3, paragraph 5 of the STCW Code.

6.0 Additional requirements for personnel serving on board high speed craft

6.1 The following requirements shall apply to Masters, officers and other personnel serving on board high speed craft (HSC).

6.2 Masters and officers having an operational role on HSC shall hold a valid Type Rating Certificate (TRC) as specified in the IMO HSC Code paragraph 18.3.3.

6.3 Ratings and other personnel serving on board HSC shall undergo familiarisation training.

6.4 The TRC prescribed in 6.2 shall be for the particular craft and route on which personnel are expected to serve and be revalidated at intervals not exceeding two years.

For revalidation, holders of a TRC must provide evidence of at least 3 months qualifying service in the preceding two years.

6.5 Type Rating Instructors (TRI) and Type Rating Examiners (TRE) should be suitably qualified and experienced in the operation of the craft on which they will be instructing and examining.

7.0 Proficiency in survival craft, rescue boats and fast rescue boats (Vessels of 24 metres in length and over)

7.1 Every person designated to launch or take charge of survival craft, rescue boat or fast rescue boat shall have a certificate of proficiency in such craft/boats as applicable.

8.0 Qualification Criteria

8.1 All applicants for certification must provide evidence of qualifying service on vessels of appropriate size/power, to the level of the examination to be undertaken.

8.2 All required evidence of service must be presented in the form of testimonials. These must be provided by responsible persons preferably holding a deck or engine certificate of competency or a person holding a managerial position within the company served.

8.3 The testimonial must contain a statement confirming the candidate's ability to speak, read and write in Maltese and English language. This ability will be confirmed during the examination.

9.0 Medical Fitness

9.1 All candidates must produce a valid medical and eyesight fitness certificate as described in Code of Practice for the Safety of Commercial Vessels indicating an acceptable level of medical fitness and that the candidate is not suffering from any disability or disease which could make it unsafe for him to be in charge of a vessel or any persons on board.

Provided that the certificate has been issued within six months of the date of application for the examination.

10.0 Ancillary Training Courses

10.1 Every candidate must produce evidence of the prescribed ancillary training courses. It is recommended that candidates undertake all required ancillary training courses prior to attending the examination, as the fact that ancillary training has yet to be undertaken will not be accepted by the examiner as an excuse for weaknesses found to exist during the course of the examination.

Personnel serving on board commercial vessels may be required to undertake refresher training where deemed necessary.

11.0 Application Procedure

11.1 Application forms shall be obtained from authorised maritime training centres or from the Licensing and Small Ships Registration Department of the Authority for Transport in Malta. Completed forms should be accompanied by the appropriate fee, evidence of ancillary training and medical fitness, and testimonials must be submitted to Licensing and Small Ships Registration Department of the Authority for Transport in Malta, attention Marine Administrator. Applicants eligible to attend the examination will be issued with a Notice of Eligibility.

12.0 Examination Procedure

12.1 Examination syllabuses will be published by the Authority.

12.2 The examination will be conducted by an examiner appointed by the Authority for Transport in Malta.

12.3 Examinations consist of written, oral and practical parts as appropriate. Candidates are expected to demonstrate the ability to apply the knowledge outlined in the examination syllabus by appropriate responses and reactions to a range of routine, non-routine and contingency scenarios as presented by the examiner or the examination paper for the level of competence.

During the course of an oral examination the examiner may require certain questions to be answered in writing or by a practical demonstration. Such requirements will be restricted to those deemed necessary to establish the competence of the candidate in the subject and will not detract from the basically oral nature of the examination.

13.0 Certificates of Competency

13.1 Following success at the examination, in order to obtain a certificate of competency an applicant must satisfy all additional requirements in relation to the certificate being issued:

- Age
- Required seagoing experience
- Medical Fitness
- Ancillary Courses

13.2 The results of the examination shall remain valid for a period of 12 months.

13.3 Certificates of Competency shall be valid for a period of 5 years.

13.4 Persons wishing to serve on board commercial vessels shall submit their certificate for revalidation.

For revalidation, candidates must be able to show evidence of continuing fitness for service and provide evidence of at least 12 months (which need not be continuous) qualifying service in the preceding 5 years.

14.0 Further Information

14.1 Further information if required is available from the Licensing and Small Ships Registration Department, Ports and Yachting Directorate of the Authority for Transport in Malta.

Annex 6

INSURANCE REQUIREMENTS

1.1 Where such a policy relates to a specified vessel or to specified vessels a separate certificate of insurance shall be issued in respect of each such vessel. Where such a policy does not relate to any specified vessel or vessels such number of certificates of insurance shall be issued as may be necessary to enable the requirements of the regulations as to the production of evidence that a vessel is not being used in contravention thereof to be complied with.

1.2 Every certificate of insurance shall:-

.1 be duly authenticated by or on behalf of the insurer by whom it is issued;

.2 be issued not later than four days after the date on which the policy is issued or renewed.

1.3 .1 Every certificate of insurance shall be printed and completed in black on white paper or similar materials;

.2 No certificate of insurance so issued shall contain any advertising matter either on the face or on the back thereof, provided that the name and address of an insurer by whom a certificate is issued, or a reproduction of his seal or any monogram or similar device, or the name or address of an insurance broker, shall not be deemed to be advertising matter for the purpose of this paragraph if it is printed or stamped at the foot or on the back of such certificate of insurance.

1.4 Any person applying for a licence or for the renewal of a licence in respect of the vessel shall produce to the Authority for Transport in Malta a certificate of insurance indicating that on the date when the licence comes into operation there will be in force a policy in relation to the use of the vessel by the applicant and such certificate of insurance shall constitute for the purposes of regulation 19(3)(k) of the regulations evidence that on the date when the licence or renewal come into operation there will be in force the necessary policy of insurance.

Provided that there may be produced in lieu thereof:-

.1 in the case where the vessel is one of two or more vessels owned by the same person in respect of which a policy or policies of insurance have been obtained by him from the same insurer, a separate certificate of insurance shall be issued for each vessel.

1.5 Every insurer by whom a policy is issued shall keep a record of any certificates of insurance issued in connection therewith and of the following particulars relative thereto:-

.1 the full name and address of the person to whom the policy is issued;

.2 in the case of a policy relating to a specified vessel or to specified vessels the registration number of each such vessel;

.3 the date on which the policy comes into force and the date on which it expires;

.4 the conditions subject to which the persons or classes of persons specified in the policy will be indemnified;

.5 such records shall be kept for a period of one year from the date of expiry of the policy.

1.6 Any insurer by whom records of documents are required by this Code of Practice to be kept, shall without charge furnish to the Authority for Transport in Malta on request any particulars thereof.

1.7 Where to the knowledge of an insurer a policy issued by him ceases to be effective without the consent of the person to whom it was issued otherwise than by effluxion of time or by reason of his death, the insurer shall forthwith notify the Authority for Transport in Malta of the date on which the policy ceased to be effective.

1.8 .1 Where with the consent of the person to whom it was issued a policy is transferred or suspended or ceases to be effective otherwise than by the effluxion of time such person shall forthwith return any relative certificates of insurance to the insurer by whom they were issued and a new policy shall not be issued to that person, nor shall the said policy be transferred to any person, unless and until the certificates have been returned to the insurer and he is satisfied that they have been lost or destroyed.

.2 Where any insurer by whom a certificate of insurance has been issued is satisfied that the certificate has become defaced or has been lost or destroyed he shall, if requested so to do by the person to whom the certificate was issued, issue to him a fresh certificate, provided that in the case of a certificate of insurance which has become defaced a fresh certificate shall not be issued unless and until the defaced certificate has been returned to the insurer.

.3 No insurer shall be satisfied that any certificate of insurance has been lost or destroyed unless the person to whom the policy was issued makes and delivers to the insurer a declaration on oath to the effect that the certificate has been so lost or destroyed.

ANNEX 7

LOG SHEET - TO SERVE AS MASTER ON A BUNKER BARGE OR TANKER OPERATING SOLELY IN MALTESE TERRITORIAL WATERS
issued under the Commercial Vessels Regulations (S.L.499.23)

Ports and Yachting Directorate

Malta Transport Centre, Marsa MRS 1917 Malta. Tel: +356 21222203 Fax: +356 22914599 info.tm@transport.gov.mt www.transport.gov.mt

Transport Malta

Applicant's Name: ..... Ship's Name: ..... LOA: ..... GT: ..... DWT: .....

Date	Time	Day/Night	From	To	Pilot/Authorised Master	
					Name	Signature

Sheet .... of ....

Signature & Stamp of Ship Operator/Manager .....